

Cultural Aspect of Conflict Behaviour in Construction -A Case Study from Turkey

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Abstract: *Although much research has been conducted to identify the influence of culture on conflict management and resolution behaviours in organizational settings, no study has been done yet in the construction industry particularly in considering the influence of individual level individualistic and collectivistic values. Despite the key role of self-construal in explaining or predicting behaviour in interpersonal conflict, it has not received enough attention in construction management. Reflecting this necessity, the objective of this exploratory study was to establish, through the application of the Rahim Organizational Inventory (ROC II) instrument, how the cultural values of professionals of construction businesses relate to the application of different conflict-handling styles through self-construal. Data were collected using questionnaire surveys from construction professionals working in contracting firms. The findings illustrate the importance of self-construal type as an individual-level cultural variable in explaining the differences in the style of handling interpersonal conflict in the context of the construction industry.*

Keywords: *self-construal, interpersonal conflict, conflict management styles, culture, construction industry*

I. INTRODUCTION

The construction industry is well known to be linked with high levels of work-related stress leading to conflict and dispute. Researchers have reported high levels of interpersonal and interorganizational conflicts in the construction industry [1-7]. For this reason, it is important to understand how individuals handle stressful interpersonal relationships in conflict situations. This lends support to the view that understanding the dynamics of interpersonal relations is essential to the successful completion of construction projects. Given the human nature and the stress of meeting deadlines and tight schedules, it is crucial for construction researchers to address key issues related to the human behavioural aspects of conflict management in the construction industry.

The majority of mainstream literature on conflict resolution tends to focus on to what extent cultural values explain differences in conflict behaviour [8]. However, despite this trend, there seems to be a limited number of published studies related to the subject in project-based industries such as construction. Although much work has been done on the frequency of conflict and dispute within the construction industry [9-12], not much has focused on the relationship between cultural values and individual behaviours [1,2]. This reflects the research tradition relating to performance measurement of projects (i.e. standardly determined by cost, time and quality) [13]. That being said, ‘human, cultural and psychological factors still attract relatively little attention in the construction literature’[14]. Furthermore, when human factors are included in research relating to project performance issues, they are predominantly

operationalized at the project or organizational level of analysis [13]. It is noteworthy that construction management researchers are seldom using the individuals as the unit of analysis. However, it can only be enjoyed through individual level constructs to add new insights and perspectives to critical performance question in construction management. This is because individual-level constructs in terms of individuals’ perceptions, values and behaviour can have a significant effect on organizational-level decisions and performance (e.g. [15,16]).

This study aims to bridge this research gap by using individual-level self-construals that provide some insight into the role of cultural values when explaining or predicting behaviour in interpersonal conflict in construction. Contributions of this paper are intended to be twofold: First, it is a taxonomic contribution to explain individual differences in conflict styles in construction management. A second contribution is reconsideration of the effect of individual-level constructs on the human agents within construction organizations. While carried out in a single country, this study may have practical and theoretical implications for research into conflict style preferences in cultures that are relatively high in collectivism and power distance.

II. CONFLICT STYLES

The term ‘Conflict style’ refers to characteristic modes of managing disputes in various settings [17]. Conflict styles are, in the words of Gilkey and Greenhalgh [18], “patterns in individual behaviour that reappear in various situations” through the mechanism of “predispositions” toward particular courses of conduct. The typological

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classification of conflict style has concerned scholars for decades. Mary Parker Follet [19] argued that there are three primary (i.e. dominating, integrating and compromising) and two secondary (i.e. avoiding and suppressing) conflict resolution behaviours. Another one of the first conceptual schemes for classifying conflict revolved around a simple dichotomy involving either cooperation or competition [20]. Deutsch defined conflict as incompatible interaction between two individuals, where one is interfering, obstructing or in some other way making another party's actions less effective. Since then, a number of scholars have attempted to develop typologies of conflict styles, which depend on different taxonomies. (e.g. [21,22]). Blake and Mouton (1970) [21] proposed a two-dimensional mode based on (a) concern for people, and (b) concern for production in an attempt to classify classifying conflict management styles. They identified five modes of handling conflict. They identify and name five modes of handling conflict: (1) smoothing, (2) forcing, (3) withdrawal, (4) compromising, and (5) problem solving. Thomas and Kilmann [22] later reinterpreted this framework by considering each part's desire to satisfy their own or other's concerns, and came up with following five styles of conflict resolution: (1) avoiding, (2) competing, (3) collaborating, (4) accommodating, and (5) compromising.

Similar to the approach of Blake and Mouton [21], Rahim and Bonoma [23] and Rahim [24] differentiated the styles of handling interpersonal conflict by two basic dimensions: (1) concern for self, and (2) concern for others. Based on these two dimensions, Rahim [25] classifies conflict styles into (1) integrating (high concern for both self and others), (2) compromising (intermediate for both self and others), (3) avoiding (low for both self and others), (4) dominating (high for self and low for others), and (5) obliging (low for self and high for others). These five styles are identified from the perspective of their relative effectiveness in creating an atmosphere that can give rise to positive results in a conflict. Rahim [25] further consolidated these styles according to the integrative (integrating-avoiding) and distributed (dominating-obliging) dimensions in order to study the correlation between power, conflict management styles, and job performance in organizations.

Additionally, Rahim [26] indicates that insights may be gained by reclassifying the five styles of handling interpersonal conflict according to the terminology of game theory. Integrating style can be reclassified to a positive-sum or nonzero-sum (win-win) style, compromising to a mixed (no win/no lose) style, and obliging, dominating, and avoiding to zero-sum or negative-sum (lose-win, win-lose, and lose-lose respectively) styles.

III. CULTURE AND ITS IMPLICATIONS FOR CONFLICT STYLE

Some scholars claim that culture is always likely to be an influence on human behaviour i.e. [17],[27],[28],[29],[30],[31]. It is therefore essential to understand how cultural values affect conflict behaviour. The critical question here is whether conflict behaviour is culture-free or culture-specific

Hofstede [27] identified individualism-collectivism as a fundamental dimension along which cultures vary. Individualism represents cultures in which people tend to emphasize their individual identity over a broader group identity. Collectivism is the tendency toward collaboration and following social norms rather than focusing on one's own needs [28]. Despite the popularity of Hofstede's cultural model, some critics have argued that his conceptualization of culture and its impact on people's behavior might be incorrect.

When applied to individual-level, the individualism-collectivism dimension may have limitations associated with extending culture-level correlations to individual-level behaviour. This stems from the view that in a same culture, individuals may not always behave in a strict individualist or collectivist way and that it is essential to use the individuals as the unit of analysis [29]. However, there are examples that when culture is included in research regarding differences in preferences for conflict management styles they tend to be operationalized at the national level, except Cai and Fink's study [30] which dealt the issue at individual level (e.g. [31,32]). On the other hand, Walker [33] emphasizes that despite its difficulties and complexities, it is at the individual level analysis that the success or failure of construction businesses may lie.

Bearing in mind the existing gap in construction management literature, this study addresses this issue by applying the individualism/collectivism values to conflict behavior at the individual level within the Turkish construction industry.

IV. SELF-CONSTRUAL

Often a significant predictor of conflict is how much an individual identifies himself as a unique individual or as a member of a larger social group. Singelis [34] broadly defined this act of identification as self-construal. Self-construal is the individual-level equivalent of the cultural variability dimension of individualism-collectivism [35,36]. Markus and Kitayama [37] propose two distinct types of self-construal: independent and interdependent. Independent self-construal means viewing oneself as unique and independent, whereas interdependent self-construal, on the other hand, involves seeing oneself as interrelated with others. In investigating self-construal, the independent self has been found to correlate with cultural individualism, while the interdependent self has been found to relate to cultural collectivism [36]. Therefore, it would be expected that individuals from a collectivist culture would focus on more compromise, trying to keep harmony, and maintaining face. In contrast, within individualistic cultures, individuals tend to give greater importance to satisfying personal needs and prefer a dominating style.

In an investigation of the relation between self-construal and conflict management styles, Oetzel's [37] survey data showed the independent self to be positively associated with dominating and the interdependent self with avoiding, obliging, integrating, and compromising.

In addition, the self was found to be a better predictor for conflict behavior than the situation, in line with other findings (e.g. [38]). Ting-Toomey et al. [8] studied the effects of ethnic background, gender, and individual types on conflict styles among US ethnic samples. They concluded that individual-level variables such as self-construal better explain differences in conflict management styles than gender or ethnic background. Because conflict styles seem to reflect cultural differences, this paper aims to provide insight into the relationship between individual level individualism collectivism and conflict styles within the context of construction industry.

V. PREVIOUS STUDIES

There has been a considerable research on conflict and conflict management in organizational settings, yet few published works relate directly to the construction industry in general or conflict management behaviour of construction professionals in particular. For example, the study by Tjosvold, Cho, Park, Liu, Liu, and Sasaki's [40] study on subcontractors in East Asia revealed that the interdependence of the parties leads to collaborative approaches, which turns the conflict into a functional result, enabling the main contractors to gain benefit from conflict among subcontractors. This research found that competition and avoidance were obstacle to collaboration in that setting.

Using Rahim's model, Loosemore, Nguyen, & Denis [41] undertook a study to identify conflict resolution styles of 300 site managers involved in a broad range of commercial, domestic, and industrial developments and found that integration was site managers 'preferred' conflict resolution style. However, these results need to be interpreted with caution because, as acknowledged by Loosemore et al. [41], there is considerable anecdotal evidence to support the use of the dominating style rather than the integrating style. In a similar study also related to project managers, Thamhain and Wilemon [42] found that, of the five approaches (confrontation, compromise, smoothing, forcing, and withdrawal), confrontation is the most commonly adopted style for dealing with conflict. In addition to these five distinct styles, Moore [43] identified five personal styles for handling conflict in project environments: (1) win-lose (high concern for personal goals and low concern for relationships), (2) yield-lose (low concern for personal goals and high concern for relationships), (3) lose-leave (low concern for both personal goals and relationships), (4) compromise (moderate concern for both personal goals and relationships), and (5) integrative (high concern for both personal goals and relationships). Liu and Zhai [44], in their study of a sample of facility managers in Hong Kong, examined the relations between personal traits and conflict-resolution styles using Rahim's conflict style model and two of the big five personality traits, namely extraversion and agreeableness. They found evidence that extraversion correlates positively with the integrating and compromising styles and that the integrating style is the

most commonly adopted style among facility managers in Hong Kong.

Tsai and Chi [45], in their study on Chinese workers' conflict resolution approaches in public works in Taiwan, found a correlation between the orientations of Hofstede's cultural dimensions power distance, femininity versus masculinity, and conflict management styles at the individual level. The authors indicate that the conflict-management style might differ based on different business and industrial sectors, the kind of technology being used, and the background culture of the managers. Their results give support to the view that people in construction management tend to adjust their attitudes to handle conflicts with his/her supervisors and peers differently in a certain institutional system. Ock and Han [46], using a case study of the Korean construction industry, analysed conflict resolution approaches and their physiological effects, and demonstrated the importance of cultural transition in conflicts. Tuyet Vu and Carmichael [47] examine the relation between culture and the way conflict is handled in a construction context. The study compared the conflict resolution styles of Australian and Vietnamese cultures, namely, Australian expatriates and Vietnamese professionals, working in the Vietnamese construction industry. They found that, despite predictive cultural differences between the two groups, they tend to adopt a similar integrative or collaborative conflict resolution style when working together.

Grisham [48] in his paper on the importance of cross-cultural leadership in avoiding and resolving conflict on construction projects, addressed the intertwining of process, personality, and culture in conflict resolution and suggested that an understanding of personality (of self and others) and culture may facilitate the more effective resolution or management of conflict.

In a study essentially aimed at investigating the relation between emotional intelligence and the conflict-resolution styles of project managers and engineers (PMEs) in the Thai Construction Industry, Sunindijo and Hadikusumo [49] found that respondents with high emotional intelligence frequently use the accommodating conflict-resolution style because of the collectivist nature of Thai culture, which tends to uphold harmony among people. On the other hand, their findings also confirm that project managers and engineers with high emotional intelligence are flexible in adjusting their conflict resolution styles, contrary to their sociocultural norms, to satisfy all parties involved. This means that there appears to be no alignment between the most frequently observed of conflict behaviour of PMEs and the values of high power distance and collectivism prevalent in the Thai society.

Although previous research provides empirical evidence for both cross-cultural differences and intracultural differences in styles of conflict management within the context of the construction industry, there appears to have been no research in this area to date considering the influence of individual-level individualistic and collectivistic values. As indicated by Gudykunst [50], individual-level cultural values seem to

have an impact on the selection of conflict resolution styles. As a result of a survey analysis, this study offers self-construal as an alternative means to explain the differences in conflict styles adopted by construction professionals.

VI. RESEARCH METHODOLOGY

The construction industry has an organizational culture that brings together people with different cultural values, personality type, educational level, business skills, and experience. Within the scope of this study, conflict-resolution approaches of construction employees in the Turkish construction industry were investigated with respect to the significance of the conflict resolution approaches in relation to individual level cultural values, age, gender, educational background, and number of years of experience in the industry.

Participants were asked to respond according to how they typically react conflict with their peers (horizontal work relation). The research questions focused on the influence of ingroup membership on conflict styles. Adding the phrase 'in this situation' also modified the items measuring self-construal.

A Data Collection and Sampling

Numerous studies have been conducted to develop instruments to assess individuals' conflict management styles (e.g., [22, 25, 51, 52]). Among these instruments, Rahim Organizational Conflict Inventory II (ROCI-II) [25] was chosen as the tool to measure conflict styles in this study. This instrument contains 28 items and is designed to measure avoiding, obliging, dominating, compromising, and integrating. All the items were measured on a five-point scale ranging from strongly agree (5) to strongly disagree (1). In administering the questionnaire, the participants were instructed to think of how they typically handle a disagreement or conflict with their peers. Rahim's [25] conceptualism of conflict management styles is used in this study not only because of its validity but also because of its compatibility with the dimension of collectivism/individualism [17]. The criterion validity of the instrument is supported by a number of studies [53-56].

The research questionnaire was designed to gather data on (1) demographic structures, (2) approaches to conflict solving, and (3) self-style (dependent and independent) of the participants. In the first part, the participants were asked to provide the following information: gender, age, occupation, education level, and number of years of experience in the construction sector. In the second part, the participants were asked to complete the (ROCI-II) Inventory, translated to Turkish by psychologist Canan Ergin from Hacettepe University and by Kamil Kozan faculty member at St. John Fisher College. The participants responded to 28 statements by selecting from a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree), by considering the behaviors they had exhibited in the dispute they had experienced most recently. Based on the answers to the Inventory,

participants' behaviors were categorized into five forms of conflict resolution: dominating, integrating, compromising, obliging, and avoiding. For this study, the Cronbach alpha coefficients were as follows: avoiding (six items, 0.73), integrating (seven items, 0.76), dominating (five items, 0.77), obliging (six items, 0.74), and compromising (four items, 0.69).

The determination of the participants' self-construal was accomplished using a questionnaire developed by Singelis [34], which has also been utilized by Wasti and Erdil [57]. This questionnaire consisted of 30 questions including 15 for independent self-construal and 15 for dependent self-construal. Participants responded to each statement by selecting from a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The items for each dimension were summed and used to place the participants in one of the following categories: Biconstrual, independent, dependent, and ambivalent. Consistent with Kim [35], a median split was adopted as the basis for creating high and low categories for independent and interdependent self-construals. The median values for interdependent and independent self-construals were 3.67 and 3.60, respectively. The reliability coefficients for the interdependent and independent self-construal subscales were 0.73 and 0.71 respectively.

A total of 160 individuals in the construction industry agreed to participate in the study. The questionnaires were sent electronically to construction professionals working in construction firms that were randomly selected from a list of Turkish Contractors Association. Approximately 12% of the returned questionnaires were incomplete, so they could not be included in the analyses. The sample therefore consisted of 141 participants (40 females and 101 males). On the average, the respondents were 34 years old, with the youngest being 25 and the oldest being 72. As for occupation, 23% of the participants were architect-interior designers, 38% were civil engineers, and 39% were from other professions (such as mechanical engineer, electrical engineer, and environmental engineer). In the sample, 67% had been working in the industry for more than 20 years.

All the data gathered through the questionnaire were analysed using the statistics package SPSS 22.0 for Windows. The dependent variables were the conflict-resolution styles (dominating, integrating, compromising, obliging, and avoiding), and the independent (descriptive variables) variables were age, work experience, gender, occupation, and self-construal.

VII. FINDINGS AND DISCUSSION

Before discussing the findings of the study, a brief description of the cultural context in Turkey in general and the Turkish construction industry in particular is in order. Turkish culture has long been described in terms of Hofstede's measures as collectivist. It has also scored high in uncertainty avoidance, power distance, and conservatism [58-60]. However, Turkey is a country where marked intranational variations exist because of the increased frequency of cross-cultural linkages and

contacts in this age of globalization. Goregenli [61], for example, found that the Turkish culture embodies strong individualist elements alongside a generally collectivist orientation. Similarly, Simsek and Oge [62] suggest that collectivism is gradually replaced by individualism in the Turkish society.

A short review of cultural studies in construction illustrates that the overriding image of the industry is given by a vast of cultural descriptors, many of which denote negativity, including macho, uncompromising, uncaring, opportunistic, short-term, conflict/disputes and claims-oriented [63]. This is also the case for the Turkish construction industry.

The construction industry also comprises an array of distinct subcultures such as organizational and professional cultures. Oney-Yazici, Giritli, Topcu-Oraz, & Acar [64], in their study of organizational culture, found that the Turkish construction industry has been dominated by firms with a mixture of clan and hierarchy cultures. This finding is consistent with the earlier observations of the Turkish society. Trompenaars and Hampden-Turner [59] found Turkey to have the steepest hierarchy in its organizations. Turkish organizations have also been described as the family-type. It is to note that without focusing on the cultural profile of organizational members, it is not possible to ascertain the influence of the cultural characteristics of individuals on organizational issues associated with success or failure of project teams and construction related firms

VIII. RESULTS OF STATISTICAL TESTS

A series of paired samples of t tests were conducted to examine the participants' conflict management preferences, the results of which are given in Table 1. As can be seen from the table, there are significant differences in the frequency at which participants preferred to use a particular conflict management style. Dominating (M = 3.67, SD = 1.09) and integrating (M = 3.78, SD = 0.84) styles are the most preferred conflict resolution styles (no difference between the two styles). The next preferred styles are compromising (M = 3.24, SD = 0.89) and obliging (M = 3.16, SD = 1.11) (no difference between the two styles). Finally, avoiding (M = 3.03, SD = 0.89) is the least preferred style.

Table 1. Means and Standard Deviations of the Conflict Styles

TABLE I
Means and Standard Deviations of the Conflict Styles

	Dominating		Avoiding		Compromising		Obliging		Integrating	
Main effect										
Occupation	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Designers	3.89	1.23	3.25	0.93	3.32	0.91	3.41	1.02	3.69	0.98
Civil Eng.	3.63	1.08	2.96	0.91	3.11	0.82	2.95	1.13	3.68	0.79
Others	3.57	1.01	2.96	0.85	3.33	1.00	3.17	1.13	3.93	0.83
Gender										
Male	3.67	1.005	3.00	0.903	3.23	0.770	3.20	1.069	3.83	0.919
Female	3.66	1.109	3.10	0.808	3.29	1.015	3.00	1.070	3.66	0.725
Age										
≤30 years	3.81	0.138	3.16	0.902	3.34	0.858	3.38	1.133	3.82	0.841
31-40 years	3.61	0.147	2.89	0.114	3.20	0.970	2.88	.977	3.63	0.810
41-50 years	3.54	0.317	2.92	0.314	2.92	0.590	3.07	1.394	3.95	0.850
≥51 years	3.28	0.391	2.96	1.192	3.14	1.121	3.01	1.187	4.01	0.870
Work experience										
≤5 years	3.43	1.15	3.05	0.99	3.35	0.90	3.30	1.30	3.85	0.99
6-10 years	3.94	1.01	3.09	0.78	3.35	0.84	3.23	.90	3.64	0.75
11-20 years	3.56	0.97	3.00	0.95	2.97	1.19	3.04	1.21	3.84	0.71
≥21 years	3.67	0.90	2.90	0.70	3.01	0.61	2.75	.90	3.78	0.82
Self-construal type										
Biconstrual	4.35	0.93	3.41	0.82	3.50	1.00	4.07	0.84	4.18	0.79
Independent	3.51	1.02	2.81	1.03	3.04	0.93	2.83	1.25	3.87	0.90
Interdependent	3.64	1.12	3.25	0.62	3.21	0.94	2.70	0.69	3.44	0.72
Ambivalent	3.03	0.85	2.61	0.81	3.13	0.63	2.62	0.83	3.49	0.71

Such preferences suggest that when a task relation at stake is horizontal (between peers), the Turkish employees in the sample tend to approach interpersonal conflict in a confrontational (e.g., dominating) rather than nonconfrontational (e.g., avoiding) manner. This is inconsistent with previous literature suggesting people from collectivist cultures tend to prefer less direct and nonconfrontational styles such as avoiding, whereas people from individualist cultures tend to prefer more direct and confrontational (e.g., dominating) styles (see among others: [8, 56, 65-68]). Earlier observations of Turkish society are in line with this collectivist trend.

In two separate studies, Kozan [67,69] found that Turkish employees are more avoidant toward peers, which reflects the role of collectivism in suppressing competition among peers and in encouraging avoidance of conflicts instead. However, Ma, Erkus, & Tabak [70], in a more recent study, ranked integrating and dominating as the most favorable and obliging and avoiding as the lowest among conflict styles in Turkey, contrary to expectations. Also, Cai and Fink [30], in their study, found that individualists rather than collectivists preferred avoiding. They also found that collectivists prefer compromising and integrating more than individualists, whereas individualism-collectivism had no significant linear effect on preference for the obliging style.

These contradictory findings may be due to the practice of treating cultures as uniform entities. Indeed, Turkish culture has long been described in terms of Hofstede's measures as collectivist. It has also scored high in uncertainty avoidance, power distance, and conservatism [58-60]. However, Turkey is a country where marked intranational variations exist because of the increased frequency of cross-cultural linkages and contacts in this age of globalization. Goregenli [61], for example, found that the Turkish culture embodies strong individualist elements alongside a generally collectivist orientation. Similarly, Simsek and Oge [62] suggest that

collectivism is gradually replaced by individualism in the Turkish society. The high preference for integrating can be expressed in terms of a social desirability bias, which is present in self-reported data [22]. Because of this bias, a high preference for integrating is common in self-reports of conflict behavior in the West and some non-Western cultures such as Jordan and Turkey [24, 32]. The integrating style, which has a high concern for the self as well as the other party, has also been described as problem-solving, collaboration, solution-orientation, win-win, or a positive-sum style. Reported field studies show that an integrating style is useful in achieving the highest levels of joint gain for the parties involved in construction dispute negotiation (e.g., [71]). The Colorado Bar Association [72] points out that both integrating and compromising styles of resolution are effective in managing conflicts in project environments. Furthermore, Singh and Johnson [73] found that the integrating style is the most frequently claimed type of approach in civil engineering and construction projects when dealing with peers and subordinates.

Moreover, the participants in our sample tend to express a direct conflict style such as dominating in managing conflict. Previous studies (e.g., [74]) contended that while people commonly make use of dominating style they prefer accommodating or avoiding approaches to deal with conflicts with equally ranked peers. Hence our finding contradicts most of the studies on Turkish sample (e.g., [32,67,75]). However, Ma et al. [70] found that Turkish people are more likely to use confrontational styles, integrating and dominating, to resolve conflict instead of compromising and avoiding as expected in a collectivist culture.

The results of our study also indicate that the avoiding style is the least preferred choice in the construction industry, which suggests that construction professionals are not afraid of conflicts. Perhaps, they feel that avoiding conflict is not necessary because the group is strong enough to handle [38]. This finding contradicts those studies that argue that the avoiding style is more prevalent in collectivist cultures and endorses research supporting the opposite view (i.e., [30]).

These results may be explained by several factors. One factor may be the characteristics of Turkish culture. Although Turkish culture exhibits the collectivist pattern in a high proportion of setting, studies tend to suggest that Turkish Society can not be used as an exemplar of the position of collectivism as a cultural syndrome: social cognition and behavior of Turkish people is not guided by pure collectivism [61, 76]. As mentioned earlier, Turkish culture embodies strong individualistic elements alongside a generally collectivist orientation. The results of our study reflect these characteristics of Turkish culture. A second possible explanation for findings may lie in what the instrument was being used to measure, or it may lie in the specific characteristics of the construction industry.

Many researchers have showed that the construction industry is a male-dominated industry with a strong masculine culture [77-80]. The finding that avoiding is the

least popular choice is indicative of the masculine orientation of the construction industry, which results in the greater usage of the integrating and dominating styles. Given the stress of meeting deadlines and tight schedules, not dealing with differences (avoidance) is a luxury that project participants can seldom afford [81]. Additionally, relations in the industry are characterized as being antagonistic and confrontational [82, 83]. Thus, the findings are consistent with the view that construction is an industry dominated by masculine values and attributes.

Moving on to the specific issue of self-construal, the data were analysed with a multivariate analysis of variance (MANOVA). In this analysis, conflict styles were the dependent variables, whereas gender, occupation, work experience, age, and self-construals were the independent variables. The means and standard deviations are displayed in Table 2. Bartlett's test of sphericity (86,252 with 14 df, $p = 0.000$) indicated that a MANOVA was appropriate.

TABLE II.
Paired- sample of t test

Conflict management styles	Mean	Std Dev.	t	df	Sig. (2-tailed)
Dominating-avoiding	0.64	1.25	6.08	140	0.000
Dominating-compromising	0.42	1.29	3.90	140	0.000
Dominating-obliging	0.52	1.25	4.95	140	0.000
Dominating-integrating	-0.11	1.28	-1.05	140	0.296
Avoiding-compromising	-0.22	1.09	-2.35	140	0.020
Avoiding-obliging	-0.12	0.94	-1.48	140	0.141
Avoiding-integrating	-0.75	1.54	-7.74	140	0.000
Compromising-obliging	0.10	1.20	0.97	140	0.332
Compromising-integrating	-0.54	0.97	-6.57	140	0.000
Obliging-integrating	-0.64	1.08	-6.97	140	0.000

The multivariate main effects for occupation, age, gender, and work experience were not significant. The results indicate significant main effects for the self-style types. Wilks' lambda = 0.486, $F = 6.819$, $p = 0.000$, $R^2 = 0.203$. Univariate ANOVAs were conducted at 0.05 as follow-up tests to the significant MANOVA. The results of four of the univariate tests were significant: dominating ($F = 4.608$, $p = 0.007$, $\eta^2 = .231$), avoiding ($F = 7.323$, $p = 0.000$, $\eta^2 = 0.373$), obliging ($F = 14.525$, $p = 0.000$, $\eta^2 = 0.486$), and integrating ($F = , p = 0.003$, $\eta^2 = 0.263$). Post hoc comparisons of the means with Tukey tests ($p = 0.05$) show that biconstruals reported using dominating more than interdependents, independents, and ambivalents. Also, biconstruals tend to use avoiding and obliging styles more than independents, interdependents, and ambivalents. Also, interdependents tend to use avoiding more than interdependents. In addition, biconstruals reported using integrating more than interdependents and ambivalents.

The findings support the view that self-construal types better explain conflict styles than individual variables such as gender, age, occupation, and work experience [8, 84]. Individuals with high scores for both independent and interdependent self-construals exhibit a wide range of

behaviors, which include dominating, avoiding, obliging, and integrating. In contrast, respondents with low scores for both these types of self-construals have a limited range of conflict styles. Furthermore, respondents did not differ in their preference for using the compromising style. This finding highlights the lack of consistent evidence to support the idea that cultural differences influence the adoption of the compromising style. In line with Van de Vliert and Kabanoff [85] view, compromising and integrating can be combined because compromising is sometimes viewed negatively. Similarly, Ma et al. [69] findings suggest that compromising and integrating are not viewed differently. Thus, these results call for a reassessment of the typology of conflict-handling styles.

IX. CONCLUSION

The construction industry is said to be characterized by adversarial relations. This can be attributed to the fact that the project-based nature of the industry is conducive to the germination and manifestation of intense conflict, which has been identified as a major reason for poor performance. For this reason, the central aim of this study was to provide insights into the conflict-resolution styles used by construction professionals to resolve conflict. Using a survey study, we investigated the effects of variables, such as gender, age, working experience, occupation, and self-construal, on conflict-resolution styles within the context of the construction industry.

This study contributes to the field in the following ways. First, the findings illustrate the importance of the type of self-construal as an individual-level variable in explaining differences in the styles of handling interpersonal conflict in the context of construction. The findings indicate that stereotypical variables, such as age, gender, occupation, and experience, do not provide satisfactory explanations of conflict behavior. This signifies the influence of culture on conflict-resolution styles because self-construal is the individual-level equivalent of individualism and collectivism. Second, the findings also help to demonstrate the importance of considering both independent and interdependent self-construal dimensions simultaneously. This study extends Ting-Toomey's [8] work, including the self-construal types, which have been derived from the combination of the two self-construal dimensions. Kim [34] argue that using the two dimensions together helps to avoid dichotomizing individuals as either independent or interdependent. Third, this study shows that construction professionals in Turkey tend to use confrontational conflict strategies, contrary to expectations as Turkey is generally viewed as a collectivist culture. It is often presumed that samples drawn from different cultures will either be interdependent or independent in their behaviour [86]. In contrast, the findings of this study provide support for the assumption that a sample drawn from a collectivist culture is not necessarily more interdependent than a sample drawn from a relatively individualistic culture (e.g., [75, 87]). This raises the issue of whether it is actually appropriate to treat a culture as a uniform entity

and highlights the need for relevant measures to support this assumption. Finally, this study extends previous research on the relations between self-construal types and the choice of conflict resolution styles in dealing with interpersonal conflict in the construction industry.

Lastly, it should be noted that the results of this study are limited and constrained by the measures adopted to gauge self-construal and conflict management styles. They should be treated with some caution. Possible limitations include the particular sample employed, which was a convenience sample and which therefore may differ from a general population sample, and the measurement of conflict style preference by self-report rather than by observation of actual behavior. A further limitation could be the fact that this study only investigated conflict-handling styles toward equally ranked peers. However, this study verifies the applicability of the conflict theory in the construction management and extends its range of validity.

REFERENCES

- [1] P. D. Gardiner, J. E. L. "Simmons, Analysis of conflict and change in Construction projects". *Construction Management and Economics*, 10 (6), 459-478, 1992.
- [2] P. Fenn, D. Lowe, C. Speck, "Conflict and dispute in construction". *Construction Management and Economics*, 15 (6), 513-518, 1997
- [3] Iyer and Jha, "Factors affecting cost performance: Evidence from Indian construction projects." *International Journal of Project Management*, 23(4), pp:283-295, 2005.
- [4] H. Ng, F. Pena-Mora, T. Tamaki, "Dynamic conflict management in large-scale design and construction projects", *Journal of Management in Engineering*, 23(2), 52-66, 2007.
- [5] R. Phillips, "Project conflict: Cost, causes, and cures", *Public Utilities Fortnightly*, 115 (10), 35-39, 1985.
- [6] J. Spittler, G. "Jentzen, Dispute resolution: Managing construction conflict with step negotiations", *Trans. Am. Assoc. Cost*, 1(1), 9-19, 1992.
- [7] J. Brockman, "Interpersonal Conflict in Construction: Cost, Cause, and Consequence", *J. Constr. Eng. Manage.*, 140 (2), 2014.
- [8] S. Ting-Toomey, J.G. Oetzel, K. Yee-Jung, "Self-construal types and conflict management styles", *Communication Reports*, 4(2), 87-104, 2001.
- [9] M. Kumaraswamy, "Conflicts, claims and disputes", *Engineering, Construction and Architectural Management*, 4 (2), 95-111, 1997.
- [10] N.K. Acharya, Y.D. Lee, "Conflicting factors in construction projects: Korean perspective", *Engineering Construction and Architectural Management*, 13 (6), 543-566, 2006.
- [11] S. Mitkus, T. Mitkus, "Causes of Conflicts in a Construction Industry: A Communicational Approach", *Procedia - Social and Behavioral Sciences*, 110, 777 - 786, 2014.
- [12] P. Love, P. Davis, J. Ellis, S.O. Cheung, "Dispute causation: identification of pathogenic influences in construction", *Engineering, Construction and Architectural Management*, 17 (4), 404-423, 2010.
- [13] F.T.T. Phua, "Construction management research at the individual-level of analysis: current status, gaps and future directions", *Construction Management and Economics*, 31 (2), 167-179, 2013.
- [14] D. Nicolini, "In search of project chemistry", *Construction Management and Economics*, 20, 167-177, pp.169, 2002.
- [15] P.H. Dickson, K.M. Weaver, "Environmental determinants and individual-level moderators of alliance use", *Academy of Management Journal*, 40(2), 404-425, 1997.
- [16] D.A. Waldman, F.J. Yammarino, "CEO charismatic leadership: Levels-of-management and levels-of-analysis effects", *Academy of Management Review*, 24, 266 -285, 1999.
- [17] S. Ting-Toomey, K. Yee-Jung, R. Shapero, W. Garcia, T. Wright, J.G. Oetzel, "Cultural/ethnic identity salience and conflict styles", *Int. J. Intercult. Rel.*, 23, 47-81, 2000.

- [18] R. Gilkey, L. Greenhalgh, "The role of personality in successful negotiating", *Negotiation Journal*, 2(3), 245-256, 1986.
- [19] M.P. Follet, "Dynamic Administration. The collected papers of Mary Parker Follet", in Harper and Brothers, Eds: Henry C. Metcalf and L. Urwick, New York, 1940.
- [20] M. Deutsch, "A theory of cooperation and competition", *Human Relations*, 2, 129-151, 1949.
- [21] R.R. Blake, J.S. Mouton, "The fifth achievement" *J. Appl. Behav. Sci.*, 6(4), 413-436, 1970.
- [22] K.W. Thomas, R.H. Kilmann, "The Thomas-Kilmann Conflict Mode Instrument", Xicom: Tuxedo Park, NY, 1976.
- [23] M.A. Rahim, T.V. Bonoma, "Managing Organizational Conflict: A Model for Diagnosis and Intervention" *Psychological Reports*, 44(2), 1323-1344, 1979.
- [24] M.A. Rahim, "Rahim Organizational Conflict Inventories: Professional Manual", Consulting Psychologists Press: Palo Alto, CA, 1983.
- [25] M.A. Rahim, "Managing Conflict in Organizations", 3rd Ed., Quorum Books: Westport, 2001.
- [26] M.A. Rahim, "Managing Conflict in Organizations", 4th edition, New Brunswick, NJ: Transaction Publishers, 2011.
- [27] G. Hofstede, "Culture's Consequences: Comparing Values, Behaviors", *Institutions and Organizations Across Nations*. 2nd Edition, Thousand Oaks CA: Sage Publications, 2001.
- [28] M.U. Dsilva, L.O. Whyte, "Cultural differences in conflict styles: Vietnamese refugees and established residents", *Howard Journal of Communications*, 9, 57-56, 1998.
- [29] G.D. Gregory, J.M. Munch, "Reconceptualizing Individualism-Collectivism in Consumer Behavior", *Advances in Consumer Research*, 23, 104-110, 1996.
- [30] D. Cai, E. Fink, "Conflict style differences between individualists and collectivists", *Communication Monograph.*, 69, 67-87, 2002
- [31] S.C. Schneider, J.L. Barsoux, "Managing across cultures", *Prentice Hall/Financial Times*, 2003.
- [32] K. Kozan, C. Ergin, "Preference for third party help in conflict management in the United States and Turkey: An experimental study", *J. Cross Cult. Psychol.*, 29 (4), 525-539, 1998.
- [33] A. Walker, "Organizational Behavior in Construction", Chichester: Wiley-Blackwell, 2011.
- [34] T.M. Singelis, "The measurement of independent and interdependent selfconstruals", *Pers. Soc. Psychol. B.*, 20(5), 580-591, 1994.
- [35] U. Kim, "Individualism and collectivism: Conceptual clarification and elaboration". In U. Kim, H, 1994.
- [36] W.B. Gudykunst, Y. Matsumoto, S. Ting-Toomey, T. Nishida, K-S. Kim, S. Heymen, "The influence of individualism, self-construals, and individual values on communication styles across cultures", *Human Communication Research.*, 22(4), 510-543, 1996.
- [37] H.R. Markus, S. Kitayama, "Culture and the self: implications for selves and theories of selves", *Personality and Social Psychology Bulletin*, 20(5), 568-579, 1991.
- [38] J.G. Oetzel, "Explaining individual communication processes in homogeneous and heterogeneous groups through individualism-collectivism and self-Construal", *Hum. Commun. Res.*, (2), 202-224, 1998.
- [39] J. Oetzel, S. Ting-Toomey, T. Matsumoto, Y. Yokochi, X. Pan, J. Takai, R. Wilcox, "Face and facework in conflict: A cross cultural comparison of China, Germany, Japan and The United States", Paper presented to *The International Communication Association, International and Intercultural Division*, Acapulco, Mexico, 2000.
- [40] D. Tjosvold, Y.H. Cho, H.H. Park, C. Liu, W.C. Liu, S. Sasaki, "Interdependence and managing conflict with sub-contractors in the construction industry in East Asia", *Asia Pac. J. manage.*, 18, 295-313, 2001.
- [41] M. Loosemore, B.T. Nguyen, N. Denis, "An investigation into the merits of encouraging conflict in the construction industry", *Constr. Manage. Econom.*, 18, 447-456, 2000.
- [42] H.J. Thamhain, D.L. Wilemon, "Diagnosing conflict determinants in project management", *IEEEET. Eng. Manage.*, 22(1), 35- 44, 1975.
- [43] C.W. Moore, "Collecting and Analyzing Background Information. In *The Mediation Process: Practical Strategies for Resolving Conflict*", 2nd Edition. San Francisco: Jossey- Bass Publishers. 114-140, 1996.
- [44] A. Liu, X. Zhai, "Influences of Personality on the Adoption of Conflict-Handling Styles and Conflict Outcomes for Facility Managers". *J. Leg. Aff. Dispute Resolut. Eng. Constr.* 3, special issue: Construction Dispute Negotiation, 101-108, 2011.
- [45] J.S. Tsai, C.S.F. Chi, "Influences of Chinese cultural orientations and conflict management styles on construction dispute resolving strategies", *J. Constr. Eng. Manage.*, 135 (10), 955-959, 2009.
- [46] J. Ock, S. Han, "Lessons learned from rigid conflict resolution in an organization: construction conflict case study", *J. Manage. Eng.*, 19(2), 83-89, 2003.
- [47] A. Tuyet Vu, D.G. "Carmichael, Cultural difference and conflict management-a Vietnamese-Australian and construction industry case study", *Int. J. Const. Manage.*, 1-9, 2009.
- [48] T. Grisham, "Conflict: Philosophy and Culture", *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, 5(1), pp.13-21, 2013.
- [49] R. Sunindijo, B. Hadikusumo, "Emotional Intelligence for Managing Conflicts in the Sociocultural Norms of the Thai Construction Industry", *J. Manage. Eng.*, 30(6), 04014025, 2014
- [50] W.B. Gudykunst, "Bridging differences: Effective intergroup communication", Sage Publication: Thousand Oaks, 2004.
- [51] J. Hall, "Conflict Management Survey", Teleometrics, Inc: Austin, Texas, 1969.
- [52] Putnam, L. L., & Wilson, C. E, "Communicative strategies in organizational conflicts: Reliability and validity of a measurement scale", In B. M. Doran (Ed.), *Communication yearbook 6*, Beverly Hills, CA: Sage, 629-652, 1982
- [53] C. Conrad, "Communication in conflict: Style-strategy relationships. Communication", *Monograph*, 58 (2), 135-155, 1991.
- [54] G.S. Hammock, D.R. Richardson, "Aggression as one response to conflict", *Journal of Applied Social Psychology*, 22(3), 298-311, 1991.
- [55] C.W. Lee, "Relative status of employees and styles of handling interpersonal conflict: An experimental study with Korean managers", *Int. J. Conf. Manage.*, 1(4), 327-340, 1990.
- [56] S. Ting-Toomey, G. Gao, P. Trubisky, Z. Yang, H.S. Kim, S.L. Lin, T. Nishida, "Culture, face maintenance, and styles of handling interpersonal conflict: A study in five cultures", *Int. J. Confl. Manage.*, 2(4), 275-296, 1991.
- [57] S.A. Wasti, S. Eser Erdil, "Bireycilik ve toplulukculuk degerlerinin olculmesi: Benlik kurgusu ve INDCOL olceklerinin Turkce Gecerlemesi" (Measurement of individualism and collectivism: validation of the self construal scale and INDCOL in Turkish), *Yonetim Arastirmalari Dergisi*, 7, 39-66, 2007.
- [58] S. Ronen, "Comparative and Multinational Management". Wiley, New York, 1986.
- [59] F. Trompenaars, C., "Hampden-Turner, Riding the waves of culture: Understanding cultural diversity in global business", (2nd ed.) McGrawHill: New York, 1998.
- [60] H. Kabasakal, M. Bodur, "Leadership, values and institutions: The case of Turkey", Research Papers. Bogazici University: Istanbul, 1998.
- [61] M. Goregenli, "Kulturumuz acisindan bireyselcilik-toplulukculuk egilimleri: Bir baslangic calismasi" (Individualism-collectivism orientations in the Turkish culture: A preliminary study), *Turk Psikoloji Dergisi*, 10, 1-14, 1995.
- [62] M.S. Simsek, H.S. Oge, "İnsan Kaynakları Yonetimi", 2nd edition, Nobel yayinlari, Ankara, 2009.
- [63] W. Tjshuis, R. Fellows, "Culture in international construction", Spon Press: London, 2012.
- [64] E. Oney-Yazici, H. Giritli, G. Topcu-Oraz, E. Acar, "Organizational Culture: The Case of Turkish Construction Industry", *Journal of Engineering, Construction and Architectural Management*, 14, 519-531, 2007.
- [65] S.M. Elsayed-Ekhouly, R. Buda, "Organizational conflict: a comparative analysis of conflict styles across cultures", *International Journal of Conflict Management*, 7(1), 71-81, 1996.
- [66] J.L. Holt, C.J. DeVore, "Culture, gender, organizational role, and styles of conflict resolution: A meta-analysis", *International Journal of Intercultural Relations.*, 29, 165-196, 2005.
- [67] M.K. Kozan, "Cultural influences on styles of interpersonal conflicts: Comparisons among Jordan, Turkish and US managers", *Human Relations.*, 42(4), 789-799, 1989.

- [68] Morris, M.W., Williams, K. Y., Leung, K. Larrick, R. Mendoza, M.T., Bhatnagar, D., Li, J., Kondo, M., Luo, J., and Hu, J. 1998. Conflict management style: Accounting for cross-national differences. *Journal of International Business Studies*, 29, 729-748, 1998
- [69] M.K. Kozan, "Subcultures and Conflict Management Style". *Manage. Int. Rev.*, 42(1), 89- 104, 2002.
- [70] Z. Ma, A. Erkus, A. Tabak, "Explore the impact of collectivism on conflict management styles: A Turkish study", *International Journal of Conflict Management*, 21(2), 169-185, 2010.
- [71] S.O. Cheung, T.W. Yiu, S.F. Yeung, "A study of styles and outcomes in construction dispute negotiation", *Journal of Construction Engineering and Management*, 132(8), 805-814, 2006.
- [72] Colorado Bar Association, Manual on alternative dispute resolution, The Alternative Dispute Resolution Committee of the Colorado Bar Association: Denver, 1995.
- [73] A. Singh, H.M. Johnson, "Conflict management diagnosis at project management organizations", *J. Manage. Eng.*, 16(4), 155-174, 1998.
- [74] R. Kahn, D. Wolfe, R. Quinn, J. Snoek, R. "Rosendhal, Organizational stress: Studies in role conflict and ambiguity" Wiley: New York, 1964.
- [75] B. Cingoz-Ulu, R.N. Lalonde, R.N. "The role of culture and relational context in interpersonal conflict: Do Turks and Canadians use different conflict management strategies?", *International Journal of Intercultural Relations.*, 31(4), 443-458, 2007.
- [76] Ç. Kagıtcıbası, "Individualism and collectivism". In, *Handbook of cross-cultural psychology*, Eds.: J.F. Berry, M.H. Segall, C. Kagıtcıbası. (pp.1-49). London: Allyn and Bacon, 1997.
- [77] J. Sommerville, P. Kennedy, L. Orr, "Women in the UK Construction Industry", *Const. Manage. Eco.*, 11, 285-291, 1993.
- [78] A. Dainty, B. Bagilhole, R. Neale, "A grounded theory of womens career underachievement in large UK Construction companies", *Construction Management and Economics.*, 18, 239-250, 2000.
- [79] S.L. Fielden, M.J. Davidson, A.W. Gale, C.L. Davey, "Women in construction: the untapped resource", *Construction Management and Economics*, 18, 113-121, 2000.
- [80] V. Chandra, M. Loosemore, "Womens self-perception in the construction industry", *Construction Management and Economics*, 22 (9), 947-956, 2004.
- [81] B.Z. Posner, "What's all the fighting about? Conflicts in project management", *Engineering Management, IEEE Transactions on Engineering Management*, 33 (4), 207-221, 1986.
- [82] A. Cox, I. Thompson, " 'Fit for purpose' contractual relations; determining a theoretical framework for construction projects", *European Journal of Purchasing and Supply Management*, 3, 127-135, 1997.
- [83] M. Saad, M. Jones, P. James, "A review of the progress towards the adoption of supply chain management (SCM) relationships in construction", *European Journal of Purchasing and Supply Management*, 8, 173-183, 2002.
- [84] T.M. Singelis, W. Brown, "Culture, self, and collectivist communication: Linking culture to individual behavior", *Hum. Commun. Res.*, 21(3), 354-389, 1995.
- [85] E. Van de Vliert, B. Kabanoff, "Toward theory-based measures of conflict management", *Acad. Manage. J.*, 33, 199-209, 1990.
- [86] A.K. Uskul, M. Hynie, R.N. Lalonde, "Interdependence as a mediator between culture and interpersonal closeness for Euro-Canadians and Turks", *Journal of Cross- Cultural Psychology*, 35, 174-191, 2004.
- [87] D. Oyserman, "The lens of personhood: Viewing the self, others, and conflict in a multicultural society", *J. Pers. Soc. Psychol.*, 65, 993-1009, 1993.