

ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL OF SCIENCE
ENGINEERING AND TECHNOLOGY

**CULTURAL ASPECTS OF CONFLICT-STYLE IN CONSTRUCTION:
INSIGHTS THROUGH MINDFULNESS**



Ph.D. THESIS

Feriha Füsün BABAOĞLU

Department of Architecture

Project and Construction Management Programme

OCTOBER 2020

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**İNŞAAT SEKTÖRÜNDE ÇATIŞMA STİLİNİN KÜLTÜRLE İLİŞKİSİ
VE BİLİNÇLİ FARKINDALIK ETKİSİ**

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To my brother,



FOREWORD

The research study outlined herein commenced in Spring 2015, at Istanbul Technical University Project and Construction Management Programme, Department of Architecture.

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It is my fervent hope that, in turn, I can learn to better implement the skills described here, at managerial stage, where they matter in the whole life, but most, in personal growth.

July 2019

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CULTURAL ASPECTS OF CONFLICT-STYLE IN CONSTRUCTION: INSIGHTS THROUGH MINDFULNESS

SUMMARY

This research study stems from the opinion that, there is a need for those individuals and parties who use the services of the Turkish construction industry, both building and civil engineering, and those that are engaged in one or other facets of it, to be involved with individual level implications of the problem of conflict and its management. Conflict is akin to construction project, given its complex and multi-cultural nature. The aim is to deepen our understanding of the relationship of culture and the possible effects of mindfulness to conflict management, in the construction industry.

Culture is operationalized as integrated ‘learned patterns of behavior’. The construction sector is well known to be linked with high levels of work-related stress leading to conflict and dispute. Given the human nature and the stress of meeting deadlines and tight schedules, there are high levels of interpersonal and interorganizational conflicts being reported by researchers in the construction industry. So, understanding the dynamics of human behavioral aspects of conflict management is vitally important for successful completion of projects. It is also essential for construction researchers to take aim at key issues related to the human behavioral aspects of conflict management. Conflict is natural and an inescapable phenomenon of human interaction and ‘learned patterns of behavior’ is affecting and can be affected by this interaction. Although numerous studies have been done to look at the effects of culture on conflict management and resolution of behavior in organizational settings; however no studies were found in the construction sector that especially investigate the impact of individual level individualistic and collectivistic values, namely ‘self-construal’ and individual ‘mindfulness’ construct.

The premise of this explanatory study is to assess the influence of individual-level cultural values: (individualism / collectivism, namely self-construal) and mindfulness construct as variables to provide deeper insights and explanations to conflict behavior which is defined as individual conflict-style. Self-construal has significant role in explaining or predicting behavior in interpersonal conflict; but it did not receive enough attention by researchers in construction management field. This is also the first research study considering mindfulness construct in construction management field. To fill in this gap, conflict management styles of 185 professionals working for a global roll-out project, in Turkey have been analyzed using Thomas-Kilmann Conflict Mode Instrument. Self-construal has been evaluated by using Balanced Integration-Differentiation self-construal scale. Mindfulness scores are gathered by five factor mindfulness questionnaire (5FMQ). The findings indicate that self-construal type as an individual-level cultural variable and mindfulness is important in explaining the differences in handling types of interpersonal conflict in construction industry.

Objectives of the research are:

- to explain effects of individual's differences in conflict styles in construction management,
- to understand the relationship between conflict style and pre-existing 'learned patterns of behavior': whether conflict handling style is culture-free or culture-specific,
- to understand the effects of mindfulness construct between self-construal (learned patterns of behavior) and conflict-style,

The study focuses on the individual element of social sub-system in the organization, to their self-construal (individualism/collectivism) values and mindfulness, their relation to interpersonal conflict-style at the individual level.

Conflict Management literature is reviewed together with Conflict-styles and implications of culture/self-construal and mindfulness for Conflict styles.

This study offers self-construal and mindfulness as alternative means to better understand, explain and manage the differences in individual conflict-styles adopted by construction professionals. By use of a combined questionnaire survey analysis, firstly the general information, secondly individual self-construal thirdly mindfulness and finally the conflict-style of professionals are identified. Conflict styles are the dependent variables, whereas self-construal's and mindfulness are the independent variables.

The results are presented by use of statistics and structural equation modelling (SEM) methods. After summarizing the conclusions, recommendations for industry practice are given.

İNŞAAT SEKTÖRÜNDE ÇATIŞMA STİLİNİN KÜLTÜRLE İLİŞKİSİ VE BİLİNÇLİ FARKINDALIK ETKİSİ

ÖZET

Bu araştırma projesi, Türk inşaat endüstrisinde yer alan bireylerin ve çok çeşitli grupların veya bu gruplarla bağlantılı olanların, çatışma ve yönetiminde bireylerin ne kadar önemli rol oynadığına dikkatlerini çekmek ve ilgilenmelerini sağlamak ihtiyacından doğmuştur.

Çalışmanın öncelikli amacı, bireyler seviyesinde kültürel değerleri benlik kurgusu ve bilinçli farkındalık değişkenleri üzerinden ele alarak kişisel çatışma stillerini değerlendirmek ve böylelikle daha derin bir anlayış geliştirebilmektir.

İnşaat sektöründe çalışanlar veya bu alanda araştırma çalışmaları yapanlar, proje performansını ele alırken, çoğunlukla teknik konulara eğilmişler ve ne yazık ki insan faktörünü çoğu zaman arka plana atmışlardır.

İnşaat endüstrisi ürünün niteliği açısından diğer endüstrilerden oldukça farklılaşmaktadır. İnşaatta ürün tektir ve yerine özgüdür. Tasarım her seferinde yeniden başlar ve seri üretim söz konusu değildir. Proje ekipleri her proje için bir kereliğine belirli bir süre için bir araya gelirler. Böylece sonuç olarak, inşaat endüstrisi üretimsel ve organizasyonel yönlerden diğer endüstrilerden farklılaşır. İnşaat endüstrisindeki organizasyonel araştırmalarda kullanılmak üzere, birçok farklı konsept geliştirilmiştir. Bunlardan biri olan sosyo teknik konsept insan ilişkileri akımıyla gündeme gelmiş, sosyal sistem içinde yer alan şahısların önemi organizasyonun teknik sistemi ile bir arada vurgulanmıştır. Bu yaklaşımla çevresel, psikolojik ve teknik faktörler bir araya getirilmiştir. Binaların insanlar için, insanlar tarafından ve insanlara hizmet amacıyla tasarlandığı düşünülürse, sosyal sistemin önemliliğini göz ardı etmek imkansızdır. Bütün bina yapım süreci sosyal sistem tarafından etkilenir ve bu süreç de dönüşümlü olarak sosyal sistemi etkiler. Buna çatışmaların yönetimi de dahildir.

İnşaat projelerinin çoklu kültüre sahip ve çok karmaşık yapısına bakıldığında, çatışma kaçınılmazdır. Çatışma Yönetimi insanların birbiriyle çelişen ihtiyaçları, ya da hedefleri sebebiyle yaşadıkları iletişim sorunlarını ve olumsuz duygu durumları bulunduran anlaşmazlıklarını çeşitli yollarla çözümlemeleridir. Çatışmalar bireylerin tercih ettikleri yönetim stiline göre olumlu veya olumsuz sonuçlanabilir. Literatürde tarif edilen beş çatışma stili vardır ve bunlar temel olarak iki boyut üzerinden değerlendirilerek ele alınırlar. Bu iki boyut bir eksende çıkarıcılık diğer eksende ise işbirlikçilik eğilimi ile tarif edilir. Bunların farklı şekillerde dengelenmesiyle oluşan beş stil şöyledir rekabet, kaçınma, uzlaşma, iş birliği, uyum.

Bu çalışmada, kültür, bütünlük ‘öğrenilmiş davranış kalıpları’ olarak işlevselleştirilmiştir. İnşaat sektörü, taşıdığı yüksek iş stresi ile bilinir ve bu sebeple çatışmalara ve anlaşmazlıklara çokça sahne olur. İnsan doğasını, uyulması gereken sıkı iş programlarını ve teslim tarihlerine yakın yüksek stres ortamlarını değerlendirerek, araştırmacılar inşaat endüstrisinde, kişiler ve organizasyonlar

arasında yüksek seviyeli birçok çatışmalar olduğunu rapor ederler. Bu sebeplerle, çatışma yönetimini insan davranışları etkileşimi açısından ele alarak anlamak projelerin başarıyla sonuçlanması açısından oldukça önemlidir. İnşaat sektöründe araştırma yapan araştırmacıların da çatışma yönetimi ile ilgili konulara yaklaşımlarını insan davranışlarıyla birlikte değerlendirmeleri oldukça gereklidir. Çatışma insanların etkileşimde kaçınılmaz ve doğal bir olaydır ve öğrenilmiş davranış kalıplarının yani kültürün, bu etkileşimde etkisi vardır. Kültürün çatışma yönetimine etkilerini ve organizasyonlardaki kişisel davranışsal çözümlerini inceleyen çok sayıda çalışma olmasına karşın, inşaat sektöründe özellikle bireysel düzeyde bireysel ve çoğulcu benlik değerleri üzerinden ele alan yani benlik kurgusu ve farkındalık üzerinden değerlendiren herhangi bir çalışma bulunmamaktadır.

Bireycilik ve toplulukçuluk, davranış ve yönetim alanında yapılan birçok kuramsal ve deneysel çalışmalarda kullanılan, temelinde kültürel değerler olan farklılaşma boyutlarındandır.

Literatürde, bireyci (kendileşmiş) toplumlarda kişiler arası bağların zayıf olduğunu, toplulukçu (ilişkiselleşmiş) toplumlarda ise, kişinin doğduğu andan bu yana güçlü bir şekilde iç grubuna bağlı olduğunu ve kişinin hayatı boyunca bu bağlılığı korumaya çalıştığını belirlemektedir.

Bireyler düzeyinde kültür, öğrenilmiş davranış kalıpları olarak işlevselleştirilmiş, bireyci veya toplulukçu benlik kurgusunun bireysel çatışma yönetimi stilinin seçiminde etkileri incelenmiştir. Türkiye gibi birçok farklı kültüre tarih boyunca ev sahipliği yapmış olan ve kültürlerle köprü olan bir ülkede, hem bireyselci hem de toplulukçu kültürün etkileri olabilir. Bu iki değer bir arada farklı dengelerde bulunabilir. Benlik kurgusuna ilişkin İmamoğlu'nun geliştirmiş olduğu Dengeli Ayrışma-Bütünleşme Modeli bu çalışmada tercih edilen modeldir. Bu model ayrılmış öğelerin birbirlerine karşılıklı olarak bağımlı olması gerekliliğini savunur ve bu bağımlılığın sonucunda ortaya çıkan bütünleşmiş yapının, dengeli bir yapı olduğu görüşünü temel alır. Bu çalışmada yukarıda belirtilen 4 farklı benlik tipinden (Özerk-Ayrık, Özerk-İlişkisel, Bağımlı-Ayrık ve Bağımlı-İlişkisel) 3 tanesi ele alınmış, bağımlı ayrık benlik tipi çalışma alanı dışında tutulmuştur.

Farkındalık da tıpkı benlik kurgusu gibi bireysel bir kurgudur. Bilinçli farkındalık, bireyin içinde bulunduğu anda, kendisinde ve çevresinde olanları olduğu gibi deneyimlemesini, ve dikkatini ana vererek anda olmasını ve tüm fark ettiklerini yargılamadan ve reaksiyon göstermeden kabul etmesini ifade eder. Bilinçli farkındalık çeşitli yöntemlerle geliştirilebilir.

Bilinçli farkındalık sayesinde bireylerin güçlü duygu durumlarını ve çatışmaları daha etkin bir şekilde yönetebilecekleri belirtilmektedir. İş hayatında bilinçli farkındalık üzerine yapılan araştırmalarda, farkındalığı yüksek bireylerin objektif durum değerlendirmeleri yaparak pozitif bir duygusal tonla, çözüme yönelik alternatif yapıcı yaratıcı öneriler geliştirebilecekleri ifade edilmektedir. Bu çalışmada bireylerin mevcut farkındalık seviyeleri beş faktör üzerinden değerlendirilerek ölçülmüş ve tercih ettikleri kişisel çatışma stilleri ile ilişkisine bakılmıştır. Bu beş faktör şunlardır: gözlemleme, tanımlama, farkına vararak davranma, tepkisiz olma, yargısız olma. Halihazırda literatürde inşaat sektöründe bilinçli farkındalık ve çatışma yönetimi konusunda herhangi bir araştırma çalışması bulunmamaktadır.

Bu araştırma projesi kapsamında açıklayıcı niceliksel bir çalışma sürdürülmüştür. Organizasyondaki bireylerin kişisel düzeyde çatışma stilleri, bireysel kültürel değerleri (ki bu çalışmada bireysel veya çoğulcu benlik kurgusu olarak ele alınmıştır)

ve bilinçli farkındalıkları anketlerle ölçülmüştür. Öncelikle, benlik kurgusunun ve bilinçli farkındalığın hem birbirleri hem de çatışma stilleri üzerinde etkili olduğu gözlenmiştir. Öte yandan, önemli bir başka bulgu ise hem bireysel hem de çoğulcu benlik kurgusunun bir arada etkili olduğudur. Önemli bir diğer bulgu ise, kültürün çeşitliliği ve genellemelerden uzak olduğudur.

Çalışma beş bölümden oluşmaktadır.

Birinci bölümde araştırmanın konusu, amacı ve önemi belirtilerek böyle bir araştırmaya ihtiyaç duyulma nedenleri ve araştırma ile elde edilmek istenen sonuçlar ortaya konulmuştur.

İkinci bölümde araştırmanın kavramsal çerçevesi çizilmiş ve araştırmada kullanılan değişkenler belirtilmiştir. Çatışma yönetimi, çatışma yönetimi stilleri, kültür ve özerk-ilişkisel benlik kurgusu, bilinçli farkındalık konuları araştırılarak, anılan değişkenler ile ilgili yaklaşımlar ve boyutlandırmalar çerçevesinde, daha önce aynı değişkenlerin kullanıldığı benzer çalışmalar incelenmiştir.

Üçüncü bölümde araştırmanın yöntemi açıklanmıştır. Araştırmanın modeli, soruları ve hipotezleri ortaya konularak, hipotezlerin dayandığı kuramsal gerçekler irdelenmiştir. Araştırmanın evreni, örnekleme, sınırlılıkları, araştırmada kullanılan değişkenlerin işlemselleştirilmesi, ölçüm araçları, veri toplama araçları ve bu araçların doğrulanmasına yönelik analizlerle, verilerin analizinde kullanılan yöntem ve araçlar bu bölümde ifade edilmiştir.

Dördüncü bölümde araştırma verileri analiz edilmiş ve elde edilen bulgular açıklanmıştır. Örneklemin demografik özellikleri, örnekleme yönelik betimleyici ve ilişkisel istatistikler ile hipotez testlerinin sonuçları ve değişkenler arası ilişkilerin analiz bulguları sunulmuştur.

Beşinci ve son bölümde araştırma bulguları değerlendirilerek araştırmanın sonuçları ortaya konulmuştur.



1. INTRODUCTION

This research stems from the opinion that considering the globalization and the global companies doing business across boundaries, there is a need of multicultural interaction with people and their initial cultural environments for the individuals and parties who use the services of the construction industry. This is a requirement for both building and civil engineering, and those that are engaged in one or other facets of it, who are to be involved with social implications of the problem of conflicts and disputes.

Conflict is a natural and an unavoidable part of the human interaction. Thus, this study is an attempt to investigate the management of these conflicts on an individual level by acknowledging the potential effects of culture on attitudes and behavior of social system individuals. Perspectives are from the point of view of a systems approach to the social sub-system at individual level with special regard to self-construal and the potential effects of mindfulness construct on individual conflict-style.

Conflicts have been considered particularly given that they have been associated as one of the major causes of poor cost and time performance. The construction industry is well-known to be linked with high levels of work-related stress leading to conflict and dispute. 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 behavioral aspects of conflict management in the construction industry. This investigation mainly sought to determine the influences of culture and the mindfulness construct on individuals' preference of conflict handling style. It is important to understand how individuals handle stressful interpersonal relationships in conflict situations and to recognize the dynamics of interpersonal relations and possible effects of culture and mindfulness construct essential to the successful completion of construction projects.

Most of the studies on conflict resolution tend to focus on to what extent cultural values explain differences in conflict behavior. However, surprisingly, despite this

trend, there seems to be a limited number of published studies related to the subject in project-based industries, such as construction, which remained under-researched. Meanwhile, it should also be noted that mindfulness is an untouched concept in construction management field despite its trending fashion in business.

With all the considerations that should be considered, it is not surprising that, it is often overlooked that buildings are demanded by people, designed by people, made by people and used by people, usually for a human purpose.

1.1 Purpose of Thesis

In this research, the aim is to contribute to a better understanding of the influences of culture and mindfulness on conflict style in construction industry, particularly considering the influence of individual level individualistic and collectivistic values (self-construal) and the possible effects of mindfulness construct applied as lenses to individual conflict handling style. The objective of this explanatory study is to establish, by use of

Thomas Kilmann Inventory (TKI) instrument to identify individual conflict handling styles, how the cultural values of professionals of construction businesses relate to the preference of different conflict-handling styles through individual self-construal orientation, and mindfulness construct.

1.2 Scope and Objectives of This Research

The social system individuals of the building process were investigated with particular attention to their conflict styles. This study is focused on individuals as units of analysis. After the literature review, it was proposed that self-construal is an alternative mean to better understand, explain and manage the differences in individual conflict-styles adopted by construction professionals and individual mindfulness construct has a mediator affect. Using a combined questionnaire survey analysis, firstly, the demographic structure, secondly, individual self-construal, thirdly, mindfulness, and fourthly, the conflict-style of individuals are identified. In this research, conflict styles are the dependent variables, whereas gender, occupation, work experience, age and self-construals and mindfulness are the independent variables.

In this study, conflict is operationalised as the interaction of interdependent people who perceive opposition of goals, aims, and values and who see the other party as potentially interfering with the realization of these goals. There is a large number of research on management of conflict and dispute frequency according to traditional performance measures determined by time cost and quality, and few of them focused on conflict in relation to culture (learned patterns of behaviour) and individuals, in construction projects. Although some research has been conducted to identify the influence of culture (learned patterns of behaviour) 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 (self-construal) 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. This research aims to bridge this gap by also bringing a brand new “Mindfulness” concept together to construction management literature.

Objectives of the research are:

- to explain effects of individual’s differences in conflict styles in construction management,
- to understand the relationship between conflict style and pre-existing ‘learned patterns of behaviour’: whether conflict handling style is culture-free or culture-specific,
- to understand the effects of mindfulness construct between self-construal (learned patterns of behaviour) and conflict-style,

How these objectives were developed and operationalised are the subject of Chapters 2 and 3.

1.3 Organization of the Thesis

This thesis starts with the literature review about conflict management and its environment in the building process and focuses on the individual element of social sub-system in the organization, to their self-construal (individualism/collectivism) values and mindfulness construct and their relation to interpersonal conflict and conflict handling styles.

Conflict Management literature is reviewed together with Conflict-styles and is followed by implications of culture/self-construal for conflict styles and the mediator effects of mindfulness construct. An overview of methodology, findings and discussions for future research is presented (see Figure 1.1.).



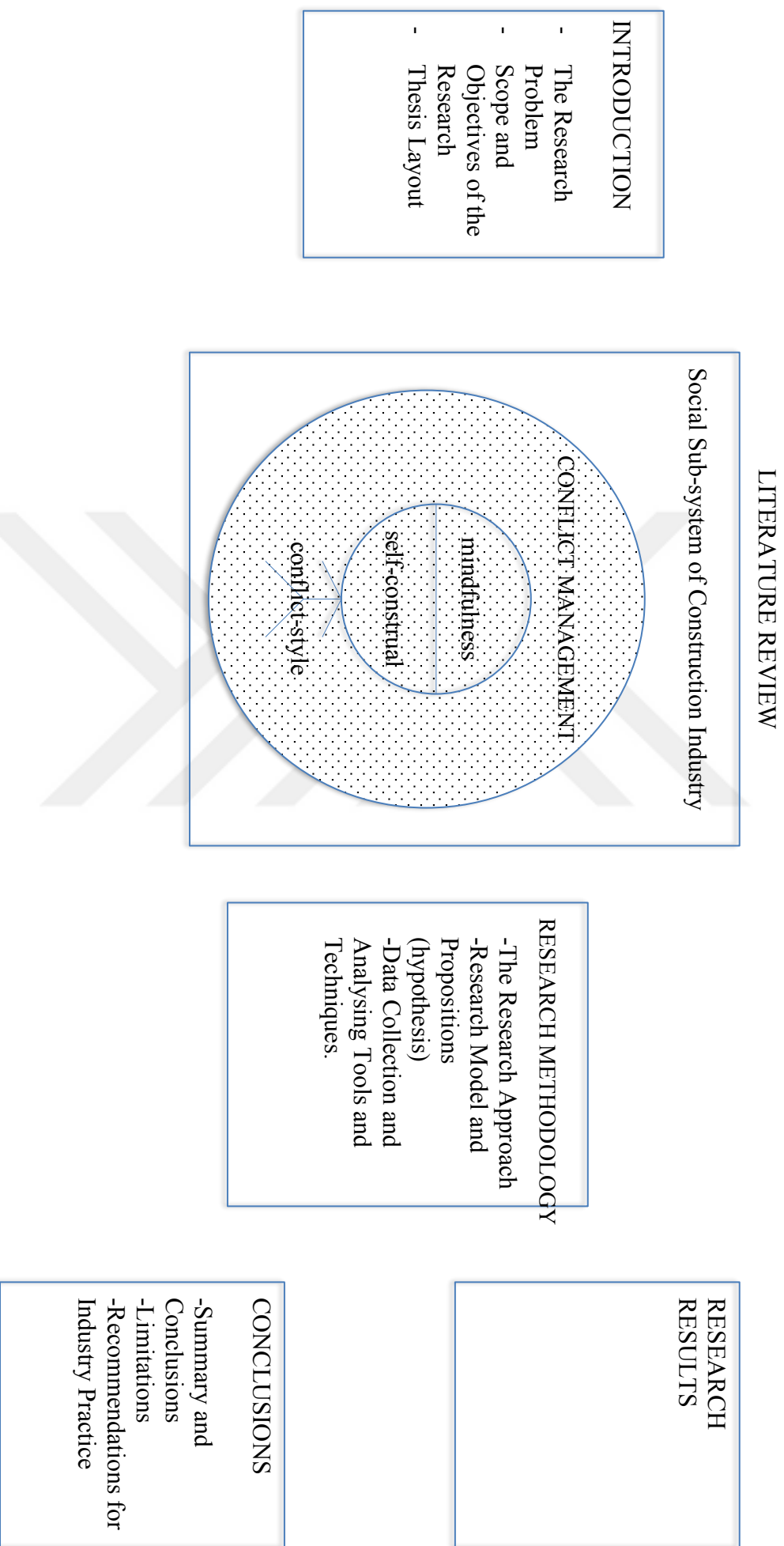


Figure 1.1 : Thesis Layout.



2. LITERATURE REVIEW

2.1 The Construction Industry

2.1.1 Introduction

Throughout the world, construction industry plays an important role in the production of goods and services and their employment of millions of people. The growth in world population and changing social behavior, considering the globalization and the global companies doing business across boundaries, seem likely to place greater pressure on the construction industry to perform more efficiently in the future.

It is pointed out by the members of the society at each opportunity that the construction sector always bears the brunt of government attacks on inflation, cannot cope with government reflationary policy as its demand is derived from the demand for other product and services, it is mostly financed by borrowed money, and, it is the easiest part of planned capital expenditures to be cut. Design for each new building begins afresh with each new project. The product is unique, the construction teams are temporary and gathered once for each new project. Among other industries, the construction industry is far separate with its production, organization and especially social sub-system.

2.1.2 Approaches to organizational research

2.1.2.1 Introduction

There are several concepts developed about the organizational research within the construction industry. Organizations as an open socio-technical system, human relations, contingency, system approaches, and sociological and scientific methods of analysis are some of the approaches to management research. With the human relations movement, the importance of the people in the social system of the work organizations were emphasized.

2.1.2.2 Social system

The building process is an open system, the social system is that element or sub-system concerned with people who affect and are affected by the system as a whole. With all the considerations that have to be taken into account, it is not surprising that, it is often overlooked that buildings are demanded by people, designed by people, made by people and used by people, usually for a human purpose. An approach integrating environmental, socio-psychological and technical factors; known as the socio-technical system approach was sought by The Tavistock Institute (Emery & Trist, 1981). The emphasis upon socio-technical sub-systems enables the researcher focus on proposed changes (like ‘conflicts’ in this research), attempting to simultaneously modify both the social and technical aspects of the organization to the benefit of both work satisfaction and productivity. The building process is an open system, the social system is that element or subsystem who affect and are affected by the system as a whole.

2.1.2.3 Individual impacts within project organization and construction management research

When an individual enters to an organization, he brings his complicated needs and attitudes to the organization (Bumin, 1990). Individuals directly affect the attainment of the organization's objectives in organizational life.

It is noteworthy that construction management researchers are seldom utilizing the individuals as the unit of analysis. However, it can only be derived through individual level constructs to add novel insights and views to critical performance criteria in the field. Because individual constructs like individuals’ perceptions, values and behavior can significantly affect organizational choices and efficiency (e.g. Dickson & Weaver, 1997; Waldman & Yammarino, 1999).

As it has been emphasized by Phua (2012), there is a research gap in construction management research literature, in terms of individual-level of analysis. Research in this area traditionally relates to performance measurement of projects and generally used measures are determined by quality, time and cost. Various theories have been used for this purpose: transaction cost theory (Williamson, 1991), dependency of resource theory (Pfeffer & Salancik, 1978), institutional theory (DiMaggio & Powell, 1983; Oliver, 1991) and theory of social exchange and agency (Jensen & Meckling,

1976; Cook & Emerson, 1978). Such theories suggest that decisions are based on the economic efficiency associated with restricted objective choices. Nevertheless, there is a growing acceptance that an in-depth understanding of the dynamics of performance issues can only be achieved objectively, if individual-level concepts are also taken into consideration (Liu & Walker, 1998).

In studies focusing on performance issues, if human factors (perceptions, values, behaviors) are incorporated into the project, they are mostly analyzed at the project or organizational level (Phua, 2012). There is relatively small number of studies on human, cultural and psychological factors related to construction management. The importance of “soft management” in construction literature is commonly increased, but still, the language and conceptual tools to understand and effectively address the factors are poor (Nicolini, 2002).

According to Nicolini (2002), further research is needed in project management at the micro level on social and human processes and social factors of projects. He developed a provisional theoretical framework model and acknowledged with his research that there is impact on Project performance of good “project chemistry”. “Project chemistry” means the emotional, behavioral and psychological results of interaction and also communication. He also notes that it is likely to be influenced by aspects, like, the technological treatments or commercial applications beyond the reach of team members. It is based on a comprehensive study that brings a relationship between group performance as well as group activities (Cohen & Bailey, 1997).

This study aims to contribute to bridging the researches in Construction Management field by using individual-level self-construals and mindfulness constructs to provide some insight into the role of cultural values (learned patterns of behavior) when explaining or predicting conflict-style in construction.

2.2 Conflict and Conflict Management

Conflict is defined as antagonistic interaction of two individuals, where one is restraining, obstructing or in another way reducing the effectiveness of the other (Deutsch, 1949). Conflict is an inevitable consequence of human interaction. It exerts a natural influence on individuals, is endemic to groups and individuals;

indeed, it is a fundamental part of the social process. It must be visualized as a relationship between or amongst two or more sides, which can in fact be individuals, groups or organizations. The presence of conflict within any organization is somewhat inevitable since an organization represents a collection of individuals (Griffith and Goodwin, 2012).

The construction sector is well known to be linked with high levels of work-related stress leading to conflict and dispute, and interpersonal conflict can be an important issue for fields such as construction, which are under high work stress (Lingard & Francis, 2005). Given the human nature and the stress of meeting deadlines and tight schedules, there are high levels of interpersonal and inter-organizational conflicts being reported by researchers (i.e., Gardiner & Simmons, 1992, Fenn et al., 1997; Brockman, 2013) in the construction industry.

Conflicts arising due to disagreements between sides in construction projects are important issues for the industry. Conflict can be controlled to a level that can prevent a potential dispute (Fenn et al., 1997). In a project, many conflicts can take place which can be regarded as the usual generation of project process from development of a conceptual brief into a detailed design (Gardiner et al., 1994).

Conflict management has been considered as it had been developed into an important field for organizational behavior (Kazan, 1997). There is greater acceptance of conflict as an organizational phenomenon and emphasis over its management. Considering the globalization and the global companies doing business across boundaries there is a growing interest in management in a cross-cultural context (Adler & Graham, 1989). This is not yet evident within the conflict management literature and especially in construction industry (Kiggundu, 1983; Kazan, 1997). Today, globalization in work environment is expanding rapidly, and so, conflict management needs a better understanding across cultures (Ma, 2007).

Construction projects gather a number of disciplines, skills, teams and people of broadly ranging backgrounds and experience which lead to conflict (Gardiner & Simmons, 1992). When an individual enters into an organization, he brings his complicated needs and attitudes to the organization (Bumin, 1990). Individuals directly affect the attainment of the organization's objectives in organizational life which emphasize the importance of interpersonal conflicts.

In this study, conflict is operationalized as the interactive relation of interconnected people who discern the opposing aims, goals, and values and who understand the other side as having the potential to prevent the achievement of these goals (Putnam & Poole, 1987). There is a large number of research on management of conflict and dispute frequency according to traditional performance measures determined by time cost and quality, and few of them focused on conflict in relation to culture (learned patterns of behavior) and on individuals, in construction projects.

2.3 Conflict-Styles

Conflict is operationalized as the interactive relation of interconnected people (Poole and Putnam, 1987).

Conflict style refers to the typical modes of managing disputes in various settings (Ting-Toomey et al., 2000). Conflict styles can be described as “patterns in individual behavior that reappear in various situations” (Gilkey & Greenhalgh, 1986). Conflict styles provide an overall behavioral orientation with regards to conflict. Individuals have a predominant conflict style, but it can be arranged according to the conditions (Hocker & Wilmot, 1995). Thus, conflict style is a mixture of personal characteristics like personality and cultural background, and is also situational.

Loosemore et al. (2000) draw from the managerial grid Blake & Mouton (1964) first used classifying approaches to managing interpersonal conflicts. Blake and Mouton (1964, 1970) pointed out the similarities and differences among five styles of conflict management theoretically, proposing that the styles changed in two dimensions: concern for people and concern for production. Their ideas were further developed by Thomas (1976) and Rahim & Bonomo (1979). The dual concerns model is the dominant model in literature. According to this model, individuals select varying strategies or styles to deal with management of conflict based on some different variations of two primary concerns: first one is called concern for the self (assertiveness) and the second concern for the others (cooperativeness).

Thomas & Kilmann (1976) model is one of the best-known dual-concern models. This model identifies five different conflict-handling styles with two dimensions: assertiveness and cooperativeness. Assertiveness indicates the extent to which an

individual attempt to satisfy his or her own concerns, and cooperativeness indicates the extent to which an individual attempt to satisfy another person's concerns.

Theoretical Interrelations Among Five Styles of Conflict Management in Terms of Two Dimensions

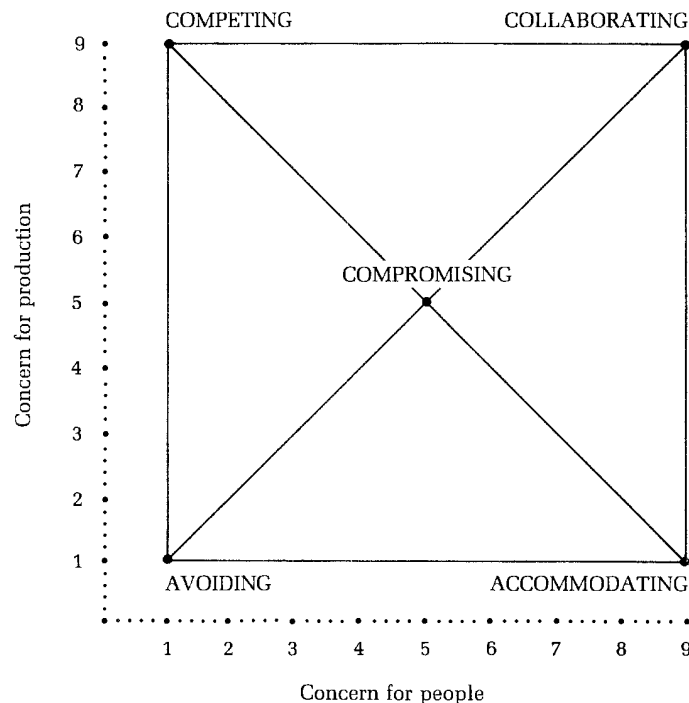


Figure 2.1 : Theoretical Interrelations Among Five Styles of Conflict Management in Terms of Two Dimensions (Source: Van De Vliert & Kabanof, 1990).

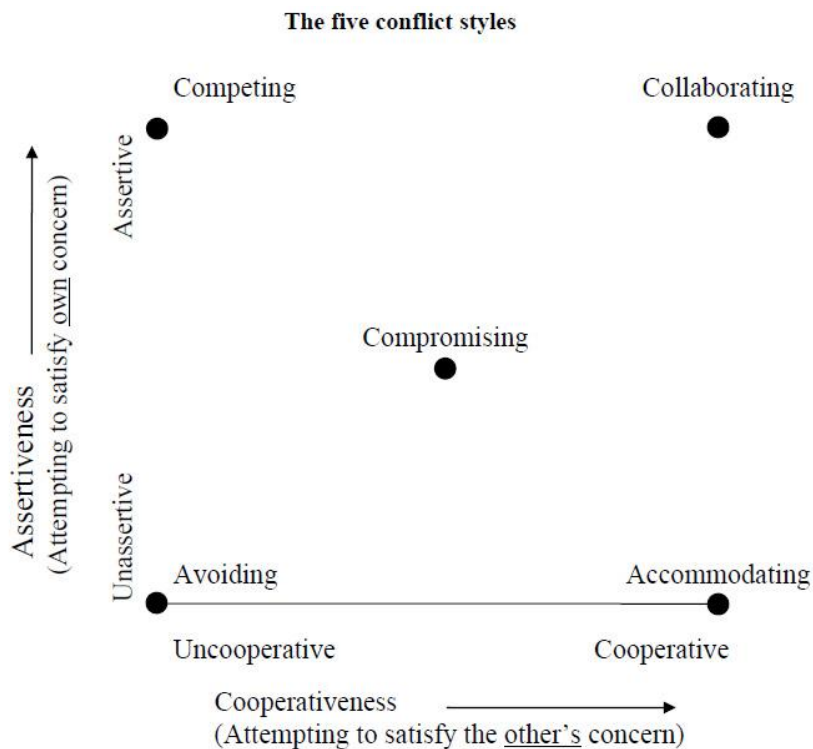


Figure 2.2 : Two-dimensional taxonomy of conflict handling modes (adapted from Thomas & Kilmann, 1974, p. 11).

Five distinct styles of managing the conflicts specified by TKI (Thomas & Kilmann, 1976):

The competing style: The characteristics of this style are assertiveness and uncooperativeness. In this style, individuals claim their own position at the expense of other person's concerns. Also, they use all kinds of power to take possession of one's position as well. Basically, attempting to win is justified in this model by all means.

The accommodating style: The characteristics of this style are unassertiveness and cooperativeness. This style can be described as the contrary of the competing style. In this mode, an individual puts another's concerns ahead of his/her own concerns. Self-sacrificing is another aspect of this style where the individual accords other person's will despite his/her own will or surrendering to other's perspective.

The avoiding style: The characteristics of this style are unassertiveness and uncooperativeness. In this style, the individual does not show any effort to satisfy his/her own or other's concerns and avoids accepting the existence of the conflict. This style is observed in diplomatic conflicts in which the individuals take a step back and gain time to assess the situation carefully, and sometimes by avoiding a threat.

The collaborating style: It is both pretentious and cooperative (unlike avoidance). The collaborating consists of trying both persons to work with each other to fully resolve their concerns. This means coming up with an alternative solution satisfying the concerns of both parties by assessing the source of worries causing the conflict on both sides.

The compromising style: this style is characterized by the harmony of assertiveness and cooperativeness. Finding an appropriate solution to satisfy both individuals as much as possible is the key point in this style. This style can be considered in the middle of competing and accommodating styles where accommodating is more advantageous, and competing is less advantageous than compromising. It contradicts with the avoiding style in terms of not addressing the conflict, yet it does not dig into the issue as much as collaborating. In this style, separating the diversities and focusing on the concessions to find a middle way are the key points.

According to Rahim (1992), conflict styles are categorized depending on the two conceptual extents: concern for self and concern for others. The first one indicates the level of satisfaction (high or low) of an individual's own conflict interests, while the second one indicates the level at which one person satisfies the conflict interests of another (high or low). The combinations of two conceptual dimensions result in five conflict-handling styles: collaborating, compromising, dominating, accommodating, and avoiding. In brief, the collaborating style shows high level of self-concern and concern for others and expresses the will to find a solution. It is the combination of the individual's own aims and other's formed by the negotiations on the issue. The compromising style aims to reach a common ground through concessions given by both parties. Neither self-concerns nor concerns for others are privileged in this style. The dominating style is identified as having a high concern for self and none for the others. In this style, all ways are suitable for the individual to dominate the conflict. On the contrary, the accommodating style is defined as having a high concern for others and none for the self. It focuses on satisfying the need of another individual at the cost of self-concerns. Lastly, the avoiding style means denying the existence of conflict and avoiding the whole situation.

These five approaches are recognized by Tsai & Chi (2009) as effective means of conflict resolution. However, previously Van De Vliert & Hordijk (1989) argued about only four approaches drawing upon Pruitt & Rubin (1986). According to Van De Vliert and Hordijk, there is no need to postulate a fifth central style as compromising, and that compromising is conceptually close to collaboration according to their findings. Moore (2014) explains an alternative integrative (collaborative) diagnosis in which parties educate each other about the needs, interests, and concerns that would need to be addressed in order to achieve a satisfactory solution to the specified conflict. This interactive process Moore explains, is strongly in relation to the individuals. It is in fact a stretched collaborative style of the individuals involved and demonstrates a perfect example which values individual level input. Hence it is clearly seen that approach to conflict is in relation to individuals' intentions which define their conflict-styles.

Assessment of Conflict-style:

For the purpose of the current study, the preferred assessment tool is the Thomas Kilmann Inventory (TKI) to assess individuals' conflict management styles. TKI is

claimed to measure the inclinations and choices declared by individuals (self-reported preferences) themselves in their use of the five conflict styles as previously proposed by several Dual Concerns models. Research on the Dual Concerns Model was highly problematic until the development of the TKI measure. The inconsistencies in results indicated that problem is potentially related to the tendency of the subjects to behave in a socially acceptable manner instead of expressing their real choices of the conflict management styles (Shell, 2001). For example, people tend to choose collaborating style instead of avoiding consciously, because avoiding a conflict is not perceived as a good behavior in society. On the contrary, in the TKI model, the modes are exemplified in thirty paired chains and the subjects are obliged to select one of the statements between pairs. In the TKI, paired phrases related to five styles are given to subjects and although the statements are equally preferable or unpreferable, they are forced to decide between them. This methodology reveals TKI is highly useful, as it gives no clues in relation to social acceptability of the statements and it does not prompt subjects to make their choices based on what they would do in a given conflict, relationship, or social setting.

Another beneficial aspect of TKI assessment tool is that it is build up to prevent any distort in the responses given by the subjects. For this, a bunch of research studies were used to develop 30 A/B pair of statements, in which A and B statements are matched in a way that they are equally preferable. Then, the question “How do you usually respond when you find your wishes differing from those of another person?” asked to the subjects and they are required to choose either A or B statements in 30 pairs. With equally preferable options, a respondent cannot manage to select a statement according to social acceptability. Therefore, they are forced to response depending on their genuine behavior in such proposed conflict. The competency and efficiency of developers’ approach used to design this tool was approved later by the findings of the researches: “For those early assessments, more than 90% of people’s results could be explained solely by the social desirability of the five modes. For the TKI assessment, we were able to reduce this response bias to 17%. Quite a difference!” (Thomas & Kilmann, 1977).

Another major characteristic of the TKI is that it is concentrated on a person’s behavior in a conflict, rather than focusing on his or her personality traits. Therefore, the TKI provokes the subjects to choose modes depending on their natural

inclination, instead of analyzing the most socially acceptable practices in any disagreement (Shell, 2001). Hence, TKI enables to identify the overriding conflict style of the individuals which then can be tailored by individuals according to states.

TKI rates high marks from users for its simple administration and ability of revealing individual differences in modes of Conflict Management. Particularly by assessing conflict intentions of individuals rather than styles makes TKI a unique instrument (Womack, 1988). For that reason, TKI steps forward with its less self-bias reflection in comparison to other self-report scales.

2.4 Culture and its Implications on Conflict-Style

According to Hoebel (1972), “Culture is the sum total of integrated learned behavior patterns which are characteristics of the members of a society and which are therefore not the result of biological inheritance.”

“Culture is a collective programming of the mind that distinguishes the members of one group or category of people from another” (I. Choudhury, Texas A&M University).

Culture is supposed to have an influence on human behavior when considered as its environment. It is therefore essential to understand how cultural values affect conflict handling behavior. The critical question here is whether conflict handling behavior is culture-free or culture-specific.

According to Triandis (1972), Culture serves as a socially shared knowledge schema giving meaning to incoming stimuli and channeling outgoing reactions.

We are approaching conflict as “the interaction of interdependent people who perceive opposition of goals.”. By the integration of “learned patterns of behavior” which is brought by conflicting parties into this interaction, conflict-style is defined, proposedly.

A composite measurement technique is developed by Hofstede (1997) to assess the differences between the cultures of different societies:

- Power distance index: It shows the level of inequality in society.
- Uncertainty avoidance index: It shows the level of intimidation in a society which is exposed to uncertain or vague conditions.

- Individualism index: It shows how individualistic a society is. Individualism is observed in people who are responsible of taking care of solely themselves and their close family members, and do not have a close relationship with the rest of the society. The collectivism, the other end of the spectrum, is a strict social structure in which inter-group distinctions (such as relatives, organizations, etc.) are experienced and their groups are expected to connect with them in return for absolute loyalty.
- Masculinity index (Achievement vs. Relationship): It measures how assertive and ambitious a society is based on traits such as possession of wealth and ignoring the rest of the society (achievement). On the other hand, the opposite of these behaviors is defined as the femininity (relationship) with traits such as cooperation and social awareness.

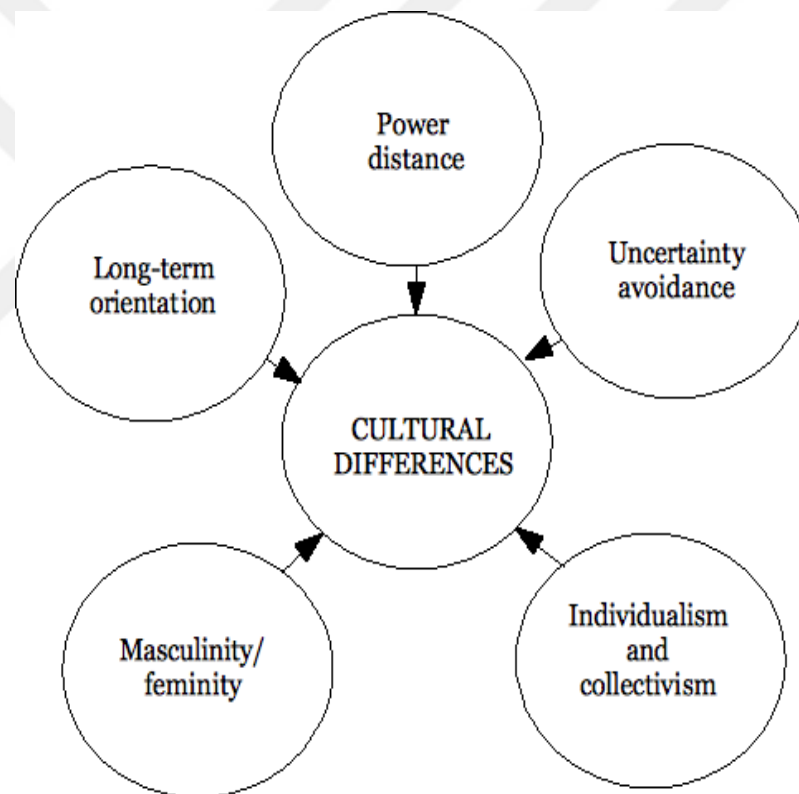


Figure 2.3 : Five-dimensional model of culture.

Individualism-collectivism was emphasized as a principal dimension by Hofstede (2001), in which cultures diverge from each other. The cultures in which people describe themselves with individual identities rather than embracing the identity of the group or society are considered to be individualistic. Collectivism is dominated by cooperation and social norms rather than individual needs (Dsilva & Whyte, 1998).

It is clearly suggested with the research in the literature that conflict-handling behavior is affected by cultural orientations. Ting-Toomey & Kurogi (1998) explain that cultural group belonging (nationality, ethnicity, sex etc.) of an individual are the primary sources of knowledge for him or her to learn about conflict styles. The two opposed main concepts used to describe such cultural differences are individualism and collectivism (Hofstede, 1991; Hui & Triandis, 1986; Triandis, 1995). Individualism, as a weak social structure, is formed by individuals who act independently from the collective group and prioritize their personal objectives (Triandis, 1995). Collectivism is a strong social structure that is composed of interdependent individuals who see themselves as part of one or more collectives (family, colleagues, tribes, nation) and who are willing to prioritize the goals of the collectives rather than their own personal goals (Triandis, 1995). The theory of face-negotiation is developed by Ting-Toomey (1988) to construct the theoretical relationship between cultural variables such as individualism-collectivism, conflict styles and facework behaviors using the concept of face. Facework and face theory focus on problems of self-respect and other consideration issues. Collectives often use others oriented face saving styles, such as avoiding and obliging to maintain relational harmony; on the other hand, individualists often use a self-focused face-saving style, such as dominating to protect their own interests. (Cocroft & Ting-Toomey, 1994; Ting-Toomey et al., 1991; Trubisky, Ting-Toomey, & Lin, 1991). Individualist and masculine orientations are related with preferred dominating style according to He et al. (2001). According to another study by He et al, (2002) cultures which involve high power distance, collectivism and femininity would favor accommodating or avoiding approaches. The findings of above studies', Lewicki et al. (1992), Sternberg & Dobson (1987) are presented in Table 2.1. Besides, the table correlates with Hofstede's five dimensions and the conflict management styles. Collectivism fosters to employ collaborating and accommodating approaches, individualism increases the use of dominating and avoiding approaches solely because of their focus on relatedness and self-fulfillment conjointly (Tsai & Chi, 2009).

Table 2.1 : Influences of Cultural Orientations to Conflict Styles (Tsai & Chi, 2009).

Cultural dimensions	Value driven orientation	CLB	DOM	CMP	AVD	ACM
High power distance	Status	-	-	-	-	X
Low power distance	Equality	-	X	-	-	-
High uncertainty avoidance	Harmlessness	-	-	-	X	-
Low uncertainty avoidance	Pursuit	X	-	-	-	-
Collectivism	Relatedness	X	-	-	-	X
Individualism	Self-fulfillment	-	X	-	X	-
Masculinity	Achievement	X	X	-	-	-
Femininity	Harmony	-	-	-	X	X
Long-term orientation	Flexibility	-	-	X	-	-
Short-term orientation	Steadiness	-	-	-	-	-

Note: X defines that the specific cultural dimension most likely enhances the tendency of the pointed dealing while the influence on the tendency of others is uncertain or less clear.

In this study, the focus is on the self-construal (individualism/collectivism) values to conflict handling behavior at the individual level.

2.5 Self-Construal and Conflict-Style

Self-construal is the individual-level equivalent of the cultural variability dimension of individualism-collectivism (Kim, 1994).

Markus & Kitayama (1991) suggest that there are two different types of self-construal which are independent and interdependent. While having a feeling of uniqueness and being a singular individual is related to being independent, interdependent self-construal means viewing oneself as interrelated with others.

The perception of self as an individual or as a part of society is an important factor to predict the conflict style. This act of self-identification is defined as self-construal by Singelis (1994). Singelis & Brown (1995) contend that self-construal is an optimal mean to define the impact of culture on behavior because it is associated with values and rules set by the society and also the interactions of individuals with their culture.

Hofstede (2001) covered much of the established preference for classifications of culture in his work. According to his study, cultures differ through individualism-collectivism dimension which is one of the most essential dimensions. In

individualistic cultures, individual identity prevails the identity of the group to which the individual belongs. However, in collectivistic cultures, an individual's needs and concerns have less importance compared to the group's resulting in the inclination to obey the rules of the society (Dsilva & Whyte, 1998).

In investigating self-construal, the independent self has been determined to relate to cultural individualism, while the interdependent self has been determined to be found to relate to cultural collectivism (Gudykunst et al., 1996). Thus, in collectivistic cultures, individuals are likely to focus more on reconciliation, trying to maintain harmony, and maintaining face. On the contrary, individuals from individualistic cultures are expected to pay more attention to satisfying personal needs and prefer a dominating style. However, despite strict classifications, it is claimed that each individual embodies both dimensions balanced in themselves not depending on the cultural identity but the individual himself/herself (Gudykunst et al., 1996; Kim, 1994; Singelis, 1994).

Of relevance to the influence of self-construal on conflict style, Oetzel's (1998) two stage experimental survey data consisting of 86 European American and 62 Japanese international participants shows that the understanding of self as independent is correlated with dominating, while as interdependent is with avoiding, accommodating, collaborating, and compromising styles. Besides, it is shown that investigating the self is better than the situation itself to foresee how an individual acts in a conflict, which is compatible with other results (e.g. Oetzel, 1998). Also, the same way, Ting-Toomey et al. (2001) inspected the influences of individual types on conflict styles among US samples. Their research aimed to provide insight into the relationship between the conflict styles and the balance of individualism-collectivism at individual level. In this study, one of the purposes was to establish the impact of self-construal on the dependent variables of the research which are the conflict styles, and this is done via a survey containing several questions. The sample consisted of 662 participants. They concluded that individual-level variables like self-construal better explained differences in conflict styles. Hence it can be seen that self-construal is a fundamental individual dimension along which learned patterns of behaviors vary and explain differences in conflict styles.

According to Voyer & Franks (2014), ‘Self-construal concerns how individuals understand who they are in relation to the broad set of cultural influences in which they live’.

Looking at conflict-style from “learned patterns of behaviors” perspective (culture-free or culture-specific), individual’s understanding of their self-identity comes into the picture, as in Voyer & Frank’s (2014) definition. This definition brings an individual interpretation dimension to self-construal which separates it from generalizations and classifications like Hofstede’s. This means that, individual’s self-construal is unique, dynamic and independent from generalized, classified or unified terms of learned patterns of behaviors.

Assessment of self-construal:

The essence and premises of self-construal are investigated by Voyer & Franks (2014) and based on this investigation, it is described as a process through which an individual goes, instead of a type of knowledge based on his/her self-perception. Thus, it is suggested that self-agency (self-individualism) is the most fitting viewpoint to evaluate the distinction between independent and interdependent self-construal. How people perceive their actions which are either based on solely themselves or depending on the others, is the concern of this viewpoint. The complex nature of self-construal is noted as essential, considering the individuals’ demand and use of a combination of both individualism and collectivism (Imamoglu, 2003; Baumeister & Leary, 1995; Kagitcibasi, 2005).

Terms that are used to imply individualism and collectivism hold a central position in the literature on self-construal (e.g. Guisinger & Blatt, 1994; Markus & Kitayama, 1991). However, the debate on the nature of the relationship between these key orientations will continue. Otherwise, they are assumed to represent bipolar opposites such as individualism/collectivism (Triandis, 1988) or interdependence/independence (Markus and Kitayama, 1991). To the contrary, they are assumed to exist together in complementary nature (Guisinger & Blatt, 1994; Helgeson, 1994; Imamoglu, 1987, 1998; Ryan, 1991; Sato, 2001).

Individuals use and need of both types of dimension has been the basis of BID model developed by Imamoglu (1998) and referring to its balanced and integrative approach it has been the preferred instrument in this research.

Evaluating an abstract construct such as “self” in an absolute way is a challenging task. Several methods have been applied by researchers studying on this issue (Triandis et al., 1990). For example, two systems were created to evaluate these terms: The Self-Construal Scale and the Twenty Statements Test (Singelis, 1994; Kuhn and McPartland, 1954). These scales represent bipolar conceptualization of unidimensionality (Imamoglu, 1998). However, it is not possible to identify the people of a specific community as solely individualistic or collectivistic reference to uniform definitions of culture of a particular society (Kashima, 1987; Sinha & Tripathi, 1994).

BID Model developed by Imamoglu (1995, 1998) basis on the need for both types of self-construal. It gives a wider perspective for a deeper comprehension of self-construal types and their complementary nature for positive, creative conflict-styles. The model assumes that individuals require and utilize the both types of self-construals (individualism/collectivism) simultaneously. This is all to say, differentiation and integration complement each other in harmony by their discrete natures instead of being two forces acting against one another. This situational and complimentary view also supports the context dependence of conflict-style in terms of application of the best-fit style to the conflict situation, as the individuals will be flexible to process and apply a case-sensitive, situational conflict-style.

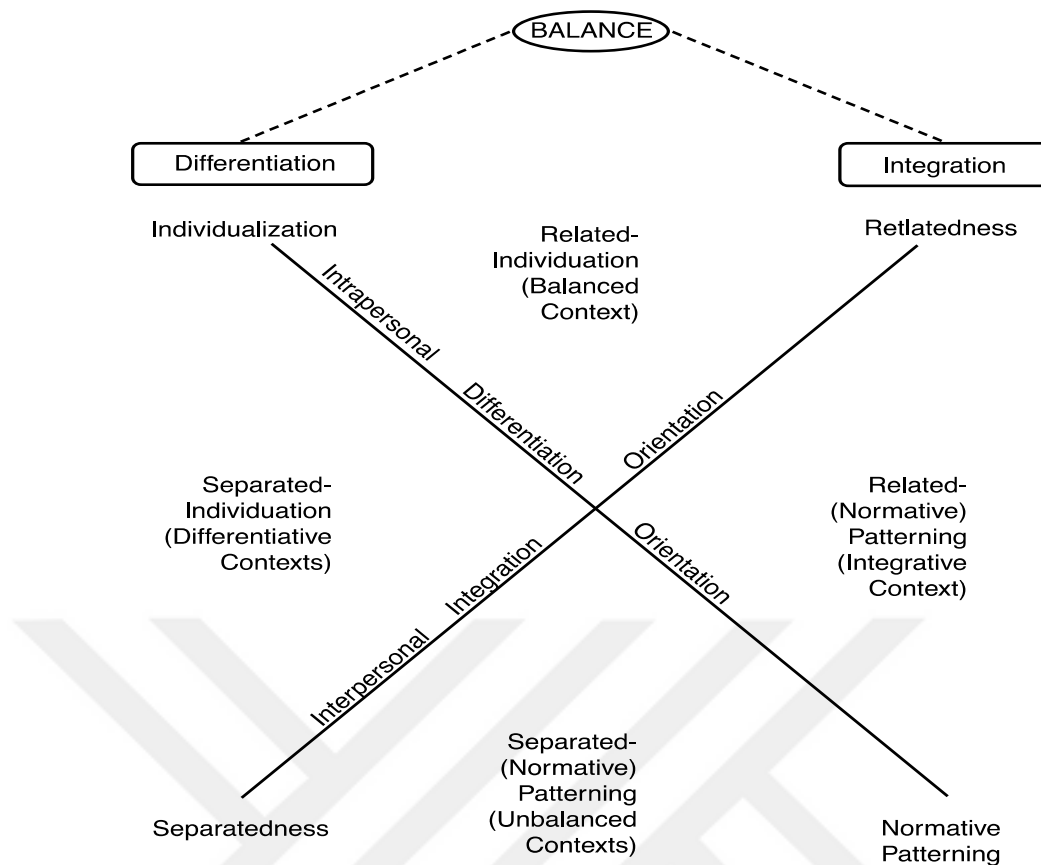


Figure 2.4 : BID Model.

When intrapersonal differentiation and interpersonal integration orientations are considered as separate dimensions, their combinations give rise to the following four types of self-construals:

1-Integrative 2-Differentiative 3-Balanced 4-Unbalanced.

Thus, by use of BID scale, we have a larger number of styles depending on and balancing two dimensions of self-construal and it enables to look at self-construal of an individual in a scale that is out of the box of bipolar unidimensional cultural classifications.

2.6 Conflict Management and Conflict-Style in Construction Literature

There is considerable research on conflict and conflict management in organizational settings, yet few published works relate directly to the construction industry in general. There are also very few publications on conflict-style of construction professionals in particular. In emphasizing the individuals' impact on constructive

conflict-style and conflict management behaviors of professionals, there is a set of studies in construction industry.

For example, Tjosvold et al. (2001) hypothesized that interdependence induces a cooperative conflict approach which results in useful productive conflict. The theory of cooperation and competition had been applied to investigate conflict management by use of questionnaires on subcontractors in East Asia. They revealed that the interdependence of the parties leads to collaborative approaches. This turns the conflict into a functional result, enabling the main contractors to gain benefit from conflict among subcontractors. Once again, the generalizability of traditional views is not available when the findings are based on individual data.

While the interdependence is thought to cause avoiding conflict approach in classic perspective, the results show that the subjects considering themselves greatly interdependent act cooperatively. Results suggest that the subcontractor takes notice of disputes more cooperatively to the degree that contractors and subcontractors are mutually dependent. The research found that competition and avoidance styles applied by individuals were obstacles to collaboration in that setting.

As another research example focusing on individuals, using Rahim's model and psychometric tests, Loosemore et al. (2000) adapted socio-cultural system characteristics profile by Likert & Likert. Main idea of the research was to focus on building management skills for productive conflict rather than trying to avoid it. They identified conflict styles of site managers related to a wide range of developments in trade, domestic and industrial areas and found that integration was site managers' preferred conflict resolution style with a slight difference. However, the results need to be interpreted with caution because, as acknowledged in the study, there is considerable anecdotal proof to support the use of dominating style rather than the collaborating style. Contrary to what is portrayed by conflict reduction views, these findings indicate that there is a degree of good will in relations in traditionally procured projects, and an urge to work together to pursue mutually beneficial solutions in long-term, and control of a dispute is possible in a constructive and productive way in construction. Hence it can be seen that this is strongly in relation to the individual's self-construal values which in this case presumably include both individualism and collectivism at high degrees simultaneously.

Again, with emphasizing individual level constructs in their research, Liu & Zhai (2010), examined the relations between personal traits and conflict-resolution styles using conflict style model from Rahim and two of the big five traits of personality questionnaires, to a group of facility managers in Hong Kong, namely extraversion and agreeableness. They found evidence that extraversion correlates positively with the collaborating and compromising styles and that the collaborating style is the most usually adopted style among facility managers in Hong Kong.

These two styles are more contributive to positive conflict, showing effective dealing with conflict. This research also uses individuals as unit of analysis and suggests that one of the essential points in the recruitment of project team members is their personality. As it is clear to realize that individuals' self-construal can be another important variable in team design considering its relation to conflict approach.

Similar to our approach, Tsai & Chi (2009), used TKI (Thomas Kilman Inventory) on Chinese workers' conflict resolution approaches in public works in Taiwan. They have also explored Hofstede's cultural orientation. Their findings are in correlation with the 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 conflict style with his/her supervisors and peers differently in a certain institutional system. Tsai and Chi attempt to benefit from a correlation between cultural orientations and people's conflict management styles to resolve disputes. This correlation, however, is in our opinion mostly due to homogeneous nature of Chinese culture, which may in any time near future can be less homogeneous in this age of globalization. Another recommendation would be to look at the self-construal values of individuals while there is a need to see the basis of the flexibility of their ability to adjust their conflict style. Thus, it may well be depending on individual self-construal levels and integration of self-construal values in this research would eliminate cultural generalizations and treating culture as a uniform identity and give live sections as findings.

Vu & Carmichael (2009) have correlated concerns with ours, in terms of conflict style and learned patterns of behavior. They examine the relation between culture (in

terms of Hofstede's individualist-collectivist/power distance/uncertainty avoidance) and the way conflict is handled (by use of Rahim's questionnaire) in a construction framework. The study compared the conflict resolution styles of the workers in Vietnamese construction industry belonging to either Australian or Vietnamese cultures. They found that, even though the distinction 'based on Hofstede's unified terms' between these cultures seem to be easily anticipated, they tend to show a comparable integrative or collaborative behavior while they are working together. According to their findings, the interplay between two different cultures appears to breakdown the handicaps of categorization and the biased way of looking at cultures as unified identities. Vu & Carmichael (2009) recommend developing a quantitative point of view to further research including individuals' use of dimensions of self-construal value as an element playing role in the imposition of cultural traits and their relationship. Hence, by the end of their research, including self-construal as a factor in explaining relationship between conflict style and pre-existing 'learned patterns of behavior' is a recommendation for future research. Their advice is valued and respected during our research process.

Sunindijo & Hadikusumo (2014) approached the project managers and engineers (PMEs) in Thai Construction Industry to a two-sectioned questionnaire survey study and essentially aimed at investigating the relative interaction of emotional intelligence and the conflict-resolution styles. They have particularly considered the influence of socio-cultural norms (individualist/collectivist learned patterns of behavior). Sunindijo & Hadikusumo (2013) showed that collaborating style and high score of emotional intelligence are correlated with each other and they reasoned this result with the collectivistic characteristic of Thai culture likely to create a society in balance and harmony. Their findings confirm that project managers and engineers with high emotional intelligence are more skilled in terms of adjusting their conflict resolution styles and due to their awareness toward the concerns of the parties, they can decide the time to use collaborating style instead of using avoiding or accommodating styles which are easier to apply. The capability of the adjustment is shown to be independent from their sociocultural norms, regardless of the culture in their society. It should be considered that the individual is the main focus of this development and the goal is to render individual self-development to the fullest extent and to find individual achievement. However, the conflict style findings may

well be in relation to the self-construal values before the emotional intelligence scores. This research seems to have a weak approach of treating learned patterns of behaviors as unified and generalized entities.

Although previous research provides some empirical evidence for both cross-cultural differences and intracultural variations in conflict management styles within the context of the construction industry, and provides some insights into individual level impact on conflict management, there appears to have been no research in this area to date evaluating the impact of individualistic and collectivistic values in the preference of conflict-style at individual-level. The existing researches which is very limited on individual level in construction management literature, hold a uniform and straight forward approach to learned patterns of behaviors according to predictions in the existing literature.

2.7 An Overview to Learned Patterns of Behavior, Self-Construal and Conflict Styles in Construction Industry in General and in Turkey

Turkish culture has long been described as collectivist, in terms of Hofstede's measures. It has also been referred to as scored high in uncertainty avoidance, power distance, and conservatism by Ronen (1986) and Trompenaars (1998) in their books on multinational management and cultural diversity in global business, respectively. Although Turkish culture exhibits the collectivist pattern in a high proportion of settings, studies tend to suggest that Turkish Society cannot be used as an exemplar of the position of collectivism: social cognition and behavior of Turkish people is not guided by pure collectivism (Kagitcibasi, 1997; Simsek & Oge, 2009).

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 (1995), for example, in her research, used a questionnaire composed of a total of 316 subjects, and aimed to determine the extent to which social behaviors related to individualism and collectivism in Turkish culture. She found that in the categories of social behavior, each group differed significantly in their individualism/collectivism, and Turkish culture embodies strong individualistic elements in addition to a typically collectivist orientation. Similarly, Simsek and Oge (2009) suggest that collectivism is gradually replaced by individualism in the Turkish society.

The high preference for collaborating can be expressed in terms of an inclination to social desirability, referred to as ‘social desirability bias’, which implies in self-reported data (Thomas & Kilmann, 1976). Because of this inclination, a high preference for collaborating is common in self-reports of conflict behavior in the West and some non-Western cultures such as Jordan and Turkey (Rahim 1983; Kazan 1997). The collaborating 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 collaborating style is useful in achieving the highest levels of joint gain for the parties involved in construction dispute negotiation (e.g., Cheung et al, 2006). The Colorado Bar Association (1995) points out that both collaborating and compromising styles of resolution are effective in managing conflicts in project environments. Furthermore, Singh and Johnson (1998) found that the collaborating style is the most frequently claimed type of approach in civil engineering and construction projects when dealing with peers and subordinates.

A brief review of cultural studies in construction reveals that the industry's overarching picture is provided by a vast array of cultural descriptors, many of which denote negativity, like macho, uncompromising, opportunistic, short-term, conflict / disputes and claim-oriented (Tijhuis & Fellows, 2012). A large number of studies have also shown that the construction industry is a male-dominated industry with a strong male culture (Sommerville et al., 1993; Dainty et al., 2000; Chandra & Loosemore, 2004; Fielden et al., 2000 etc.). Given the stress of meeting deadlines and tight schedules, not dealing with differences (avoidance style) is a luxury that project participants can seldom afford (Posner, 1986). Additionally, relations in the industry are characterized as being combative and adversarial (Cox & Thompson 1997; Saad et al., 2000). It is also the situation proposed for the construction sector in Turkey. In two separate studies, Kozan (1989, 2002) found that Turkish employees are more avoiding toward peers, which reflects the role of collectivism in suppressing competition among peers and in encouraging avoidance of conflicts instead. However, Ma et al. (2010), in a more recent study, ranked collaborating and dominating as the most favorable and accommodating and avoiding as the least preferred, among conflict styles in Turkey, contrary to expectations. Also, Cai & Fink (2002), in their study, found that individualists rather than collectivists preferred

avoiding. They also discovered that collectivists prefer to compromise and collaborate more than individualists, while individualism-collectivism did not have any substantial linear impact on accommodating style preference.

These contradictory and very different findings may be due to the practice of treating cultures as uniform entities.

The construction industry also comprises an array of distinct subcultures such as organizational and professional cultures. Oney-Yazici et al. (2007), in their research on organizational culture, on 134 firms and 826 respondents over a questionnaire survey, determined that the Turkish construction sector was dominated by a combination of clan and hierarchical cultures. This finding is in line with the Turkish society's previous observations. The framework for cross-cultural interaction applied to general business and management by Trompenaars and Hampden-Turner (1998) included a large-scale study of 8,841 managers and company workers from 43 countries. They found that Turkey in its organizations had the steepest hierarchy, and Turkish organizations were also defined as the family-type.

Therefore, it is essential to concentrate on the individual cultural identities of the members of the organization, as it is not possible to ascertain the influence of the individuals' generalized learned patterns of behaviors on any organizational issues in terms of performance and management.

It is also useful to apply a balanced and integrated self-construal scale where there are integrated and complementary effects in a society. As mentioned earlier, together with a strongly traditional collectivist outlook, Turkish society embodies powerful individualistic components that are balanced by individuals.

2.8 Mindfulness

Mindfulness is defined in basic terms as 'a receptive attention to and awareness of present events and experience' (Brown et al., 2007, p.212; Brown & Ryan, 2003).

In recent years, mindfulness is surging within organizational science research (Good et al., 2016) and there has been a growing interest on the construct of mindfulness issues. Its practice has become more popular and research on mindfulness has increased exponentially. Organizations like Google, Aetna, LinkedIn, Ford, Intel, Mayo Clinic and the U.S. Army use mindfulness trainings to improve workplace

functioning. Emerging evidence across multiple fields suggests that mindfulness is fundamentally connected to many aspects of workplace functioning (Gelles, 2015; Good et al., 2016). But despite growing interest, mindfulness has received little attention from industrial-organizational community (Hyland et al., 2015).

Its origins go back to the Buddhist religious tradition for thousands of years. Especially the word "mindfulness" comes from the Pali word "sati," that implies awareness, attention and remembrance (Bodhi, 2000). A common definition of mindfulness is a way to pay attention to the current moment, consciously and without judgement (Kabat-Zinn, 1990). Many scientists proposed related meanings of the word mindfulness. Baer (2003), for example, describes mindfulness as 'the non-judgmental observation of the ongoing stream of internal and external stimuli as they arise'. A general point for these different descriptions is that mindfulness is intentional particularly on the attentional aspects of mindfulness (e.g., Brown and Ryan, 2003). Bishop et al. (2004) has another model that indicates that mindfulness consists of two elements: attention and awareness of experience. Hyland et al. (2015) focuses on mindfulness concepts that emphasize an accessible, responsive state of mind free from judgmental evaluation.

Furthermore, mindfulness was also defined as a range of skills which can be learned via practices such as meditation and therapeutic treatments such as commitment and acceptance therapy (Hayes et al., 1999), therapy of dialectical behavior (Linehan 1993), MBSR (Kabat-Zinn, 1982, 1990), and MBCT (Segal et al., 2002).

These practices and therapies were found to be very useful (Hyland et al., 2015).

The current research chooses trait approach to mindfulness because the focus is on the content of mindfulness as an individual phenomenon, rather than the function of meditation practices.

2.8.1 Mindfulness in organizational research

In literature, mindfulness has been frequently studied as an individual phenomenon or as an interrelated set of practices at an organizational level (Sutcliffe et al., 2016; Weick et al., 1999). Studies have shown that mindfulness influences the efficiency of workers and organizations (Dane, 2011), decisions (Hafenbrack et al., 2014), retention (Dane & Brummel, 2014), creativity (Vogus & Welbourne, 2003) and quality and safety (Vogus & Sutcliffe, 2012).

In their integrative review (Good et al., 2016) theorize mindfulness, simply as; mindfulness is a "receptive attention to and awareness of present events and experiences" (Brown et al., 2007, p.212; Quaglia et al., 2015).

To understand its workplace functioning, together with this classical understanding, Good et al. (2016) refer to mindfulness as it contrasts conceptual processing which is fundamental to institutional life (Walsh, 1995) and experiential processing (Brown et al., 2007; Teasdale, 1999) which is hallmark of mindfulness. And then, Good et al. (2016) summarize: conceptual processing includes interpreting stimuli in a way which is abstract, evaluative and biased towards self-concerns (Leary, 2004; Watkins, 2008), providing awareness and attention to these reactions with a level of mental range or disengagement from self-relevant assessments. Hence comes the capability to attend occurrences as concrete phenomena instead of biased, personal, learned approaches or oncoming projections.

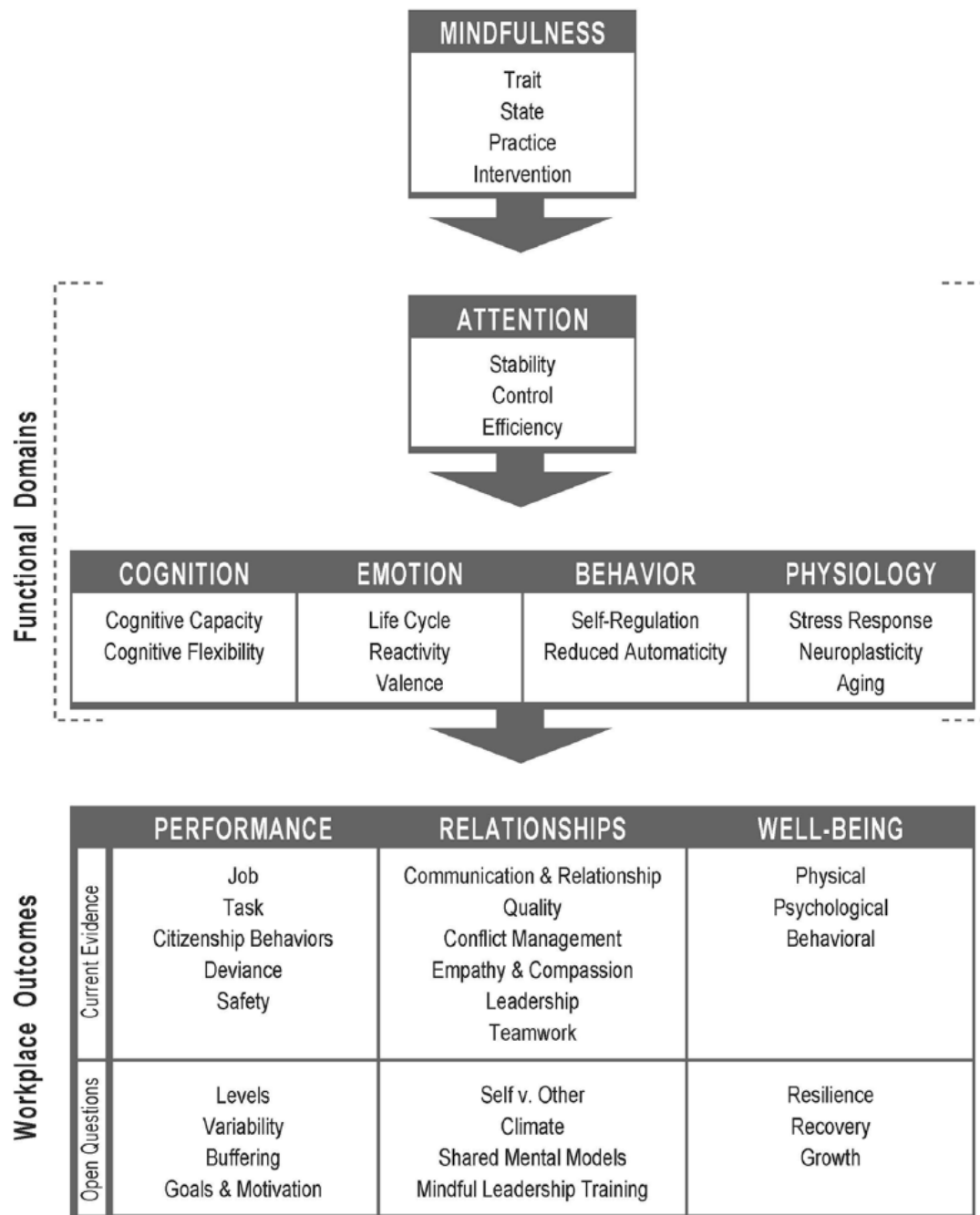


Figure 2.5 : Integrative Framework for Mindfulness to Workplace Outcomes.

Referring to integrative framework developed by Good et al. (2016), relating mindfulness to workplace outcomes as given above at Figure 2.5, the focus of this article is mindfulness at workplace through functional domains of attention-behavior-relationships where conflict management is given as a current evidence and inter and intra-individual process (similar to it has also been referred to for conflict style by Rahim, 2002).

2.8.2 Structure and elemental content of mindfulness:

Mindfulness involves “paying attention to what is happening in the moment, and observing stimuli without judgment or evaluation, and without assigning meaning” (Glomb et al., 2011, p.118). Therefore, mindfulness has two elemental dimensions: (1) attention to, and awareness of, what is perceived in the present; and (2) receptive, open, and nonjudgmental experiential processing (e.g., Brown & Ryan, 2003; Davidson & Kaszniak, 2015; Good et al., 2016).

Individual mindfulness is intrapersonal, and has been considered as a trait, a state, or a practice (Brown & Ryan, 2003; Glomb et al., 2011). Operationalization of mindfulness in literature is in two basic ways; questionnaires and mindfulness practices, which are respectively trait mindfulness and mindfulness training. In individual mindfulness, the “unit of agency” is the individual (Morgeson & Hofmann, 1999). State and trait individual mindfulness is commonly inferred from self-reports (Davidson, 2010).

In this research, mindfulness is operationalized by Five Factor Mindfulness Questionnaire (5FMQ), when discussing results, the term mindful individuals is used to describe those with higher self-reported mindfulness scores, and the term mindfulness is used when referring to the cognitive phenomenon itself.

Assessment of Mindfulness

Measurement of the mindfulness construct differs from knowledge-based surveys (Moscardo & Pearce, 1986) to validate questionnaires, for instance; Kentucky Inventory of Mindfulness Scale (KIMS), the Cognitive and Affective Mindfulness Scale (CAMS) of Feldman et al. (2004), the Freiburg Mindfulness Inventory (FMI) of Buchheld et al. (2001) and the Mindfulness Attention Awareness Scale (MAAS) of Brown & Ryan, (2005). The detailed review of these divergent inventories of mindfulness to date shall be referred to as Baer et al. (2006) and Bergomi et al. (2013).

Even though previously mentioned self-report surveys have been created to quantify trait mindfulness, there is no agreement about the identification and nature of mindfulness especially for analysts from various societies (Brown et al., 2007). This can be attributed to the view that mindfulness usually seems to be difficult to identify and conceptualize (Brown & Ryan, 2003).

The FFMQ is a self-report measure of 39 items created by Baer et al. (2006) using a factor analytics approach to coordinate things from the MAAS, FMI, KIMS, CAMS and MQ.

The FFMQ is the most integrated trait measure with its inclusion of all available five sub-scales of the mindfulness construct: to observe, identify, act with understanding, not to judge the inner experience and not to respond to the inner experience. A unique strength of the FFMQ is its containment of a number of mindfulness measures that allowed the researchers to access all of the considerations which each measure accessed, resulting in a five-factor model which is presently the most comprehensive multi-faceted trait mindfulness assessment.

2.9 Mindfulness and Conflict Management

Given the human nature and the stress of meeting deadlines and tight schedules, and with its constantly changing environment, the project management organization is apt to suffer from conflict (Singh and Johnson, 1998). Interpersonal conflict at workplace is stated as one of the top occupational stressors (Brockman, 2013). Intrinsically, conflict is not only an inter- and intra-individual process but also in which a person interacts with himself/herself (Rahim, 2002). It is important to understand how individuals analyze and self-regulate stressful interpersonal relationships in conflict situations. It is also crucial to understand which individual dynamics are essential to the successful completion of construction projects. Researchers from a number of scientific areas indicate that mindfulness can profit a range of human functioning that is significant to organizations (Good et al., 2016).

In terms of understanding the connection between mindfulness and conflict, Horton-Deutsch and Horton (2003) displayed a number of meaningful findings in their research of grounded theoretical methods. For instance, the development of mindfulness has allowed persons to cope with powerful emotions and to handle interpersonal disputes. First, they began to be cognizant of themselves and their positions in a conflict situation. They were also able to be more present and more objective with others. The authors suggest that as conflict causes to an extraordinary time and energy loss, it is crucial to seek alternate solution ideas for efficient conflict resolution methods.

Mindfulness gives consistency and control, an increasingly positive emotional tone, and less reactivity. Concentrating on the present moment (Smallwood & Schooler, 2015) gives attentional stability to maintain the task objectives, to reduce distraction from task thoughts and activities (Good et al., 2016) and to allow people to consider greater nuances in member behaviors (Morrison et al., 2013; Slagter et al., 2011).

Via present-centered attention and experiential, non-judgmental processing, mindfulness ensures perceptual and effective functionalities which can limit the intensity of opposition and adverse thoughts experienced in conflict (Glomb et al., 2011; Good et al., 2016).

As a result, we understand that individual mindfulness is a protection against dysfunctional conflict. We therefore understand that personal mindfulness (mindful individuals) is related to conflict-styles.

2.10 Mindfulness in Construction Literature

There is yet no research in relation to mindfulness and conflict management in construction management field. A few studies in relation to ‘mindfulness’ and construction industry are as follows.

The main concepts that HRO (High-Reliability Organization) scholars first adopted are collective mindfulness (Weick & Sutcliffe 2007; Vogus and Sutcliffe 2012) and mindfulness (Langer, 1997; Sternberg, 2000). Such concepts used by the researchers are used in high-risk organizations to explain error avoidance and error coping. Those concepts were subsequently embraced in other domains of science. Manufacturers (Gebauer and Kiel-Dixon, 2015), business schools (Ray et al., 2011), house framing crews (Mitropoulos and Cupido, 2009) and airport builders and operations (Brady and Davies, 2010), for instance. These concepts were used to anticipate disruptions and failures which involve undesired circumstances. In the case of utility construction, stakeholders intend to implement their projects on time and within the budget, which is why they want to organize their operations effectively in order to prevent process disruptions.

HRO is based on research into high-risk sectors and is relatively new to construction management. One commonly concept used by HRO is called as “mindfulness” (Weick et al., 1999; Weick and Sutcliffe, 2007). In principle, mindfulness includes a

set of values which describe how groups could enhance their performance's reliability. Concepts related to mindfulness also focus on containing unexpected and unwanted circumstances.

The HRO lens was applied by Olde Scholtenhuis et al. (2013) first time to the organization and coordination of 'mainstream' construction projects, by doing so, opened discussions to end the recurrent dispute over the application of HRO theory and concepts in the construction sector, and referred to other theories of cross-fertilization in construction management.

Olde Scholtenhuis et al. (2016) used mindfulness as a lens in their ethnographic action research in order to test how 4D affects the coordination of utility construction work. Since the concentrate of the mindfulness lens is on coping with errors throughout these processes, it provides the pragmatic objective of studying integration of the construction scheme (Olde Scholtenhuis & Dorée, 2014). This research assumes that 4D also helps to cope effectively with errors, and thus it has been hypothesized which 4D promotes mindful behavior in works of utility reconstruction. They focused on organizational mindfulness, operations and construction processes and how 4D supported mindfulness.

Yean Yng Ling et al. (2007) indicate mindfulness as a success factor in their concept that they developed for managing cross-cultural encounters in terms of perceived cultural variations among Chinese architecture and foreigners, engineering and construction professionals/practitioners because of different cultural backgrounds. According to their research, the significance of mindfulness in intercultural encounters is emphasized consistently by the majority of the interviewees.

Liang & Leung (2015), studied the individual effects of mindfulness characteristics on the release of stress kinds for construction professionals. The research indicated stress that could lead to significant negative outcomes for individuals, organizations and society, and determined the effect of mindfulness characteristics on the stress of construction specialists. Mindfulness-based stress reduction (MBSR) has been used for teaching individuals to improve mindfulness to release stress. Although it has been approved, that mindfulness can release stress; the relative contribution of each mindfulness characteristic to stress reduction remains a mystery. Their research

improves the knowledge of stress management in the construction sector via the use of mindfulness construct.

Liang et al. (2016), studied, through stress, the direct or indirect impacts of mindfulness characteristics on the performance of construction workers in terms of health and safety. The purpose of their research was to summarize the characteristics of mindfulness and to frame them in a theoretical framework, and to improve a mindfulness – stress – productivity model to make clear the complex interactions among individual mindfulness, stress and performance characteristics for construction workers. They have included ten factorial characteristics from all measures. The model demonstrates that certain mindfulness features can reduce the stress of construction workers and enhance their performance: (1) observation may minimize intended stress; (2) observation and attention may alleviate emotional stress and impair organizational performance; (3) awareness reduces physical stress, and it hinders performance of safety; (4) awareness straightly increases performance of security; and (5) definition and analysis enhance the performance of the work directly. At the same time, this research reveals that the mindfulness attitude group has no impact on the stress output of construction workers. In addition, a mindfulness feature and decentering impair the safety performance of construction workers, that it doesn't do in other professions.

This research is noteworthy in construction management to frame all of the features of mindfulness defined in three theoretical areas. It examined that their personal impacts in the construction industry on stress and performance for construction workers. This also enhances our susceptibility to characteristics of the mindfulness that influence human well-being and performance in the context of occupational health and safety.

Basing on the literature review; it was proposed that self-construal is an alternative means to better understand, explain and manage the differences in individual conflict-styles adopted by construction professionals and individual mindfulness construct has an effect on the individual learned-patterns of behavior and conflict-style.



3. RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research strategy and methodology adopted in the study. Data collection and assessment tools and techniques are detailed.

3.2 The Research Approach

3.2.1 Introduction

The role of self-construal and possible effects of mindfulness construct in explaining or predicting behavior in the management of conflict have not received sufficient interest in construction management literature, yet.

The objective of this explanatory study is to assess the influence of individual level cultural values: (individualism/collectivism, namely self-construal) and mindfulness construct as variables to provide deeper insights and explanations to conflict behavior in construction industry which is defined as individual conflict-style.

In this quantitative research study; measuring tools are well-tested questionnaire surveys which are being used in scientific researches for many years. A research model is developed basing on hypothesis after literature review. Conflict-styles are the dependent variables, whereas self-construals and mindfulness construct are the independent variables. Demographics like gender, occupation, work experience and age are also evaluated. Factor analysis, Structural equation modeling are referred statistical methodologies for representing, estimating, and testing a network of relationships between variables.

3.2.2 Sample size and the selection

This research is aimed at analyzing the conflict-resolution approaches of individuals who are project/construction management professionals working for construction and fit-out projects of a global retail company in Turkey. These include Owner Project Management and Construction Management Professionals together with their

contractors and material suppliers who are working on the project/construction management teams, and consist of architects, engineers and other management staff. All technical procedures and standards are being the same, the project/construction management social system has been investigated on individual basis.

252 people have been contacted by e-mail messages some followed by phone calls and meetings and with help of the company learning and development department, 185 professionals returned complete questionnaires for evaluation.

The study examines project/construction management social system individuals' conflict-style in relation to individual level individualist/collectivist values which is self-construal, age, gender, educational background, number of years and experience in the industry followed by additional questions in relation to teamwork, team atmosphere and conflict approach.

3.3 Data Collection Method

Data is collected by use of well-tested questionnaire surveys which are being used in scientific researches for many years as detailed in Chapter-2.

The research bases on one demographic plus three well-tested questionnaires (BID-scale, 5FMQ and TKI) and consists of four parts:

1. General information (Demographic structures).
2. Cultural characteristics (Individual Self-construal type).
3. Mindfulness construct.
4. Conflict handling-style.

By use of questionnaire survey analysis, this study offers individual's self-construal and mindfulness as alternative means to explain the differences in conflict styles adopted by construction professionals.

3.4 Implication of Questionnaire Surveys

3.4.1 General information (Demographic structures)

Firstly, the participants provided the following information: gender, age, occupation, education level, and the number of years of experience in the construction sector. Followed by additional questions in relation to teamwork, team atmosphere, and conflict approach.

3.4.2 Cultural characteristics /Individual self-construal type (BID-scale)

In the second part, the determination of the participants' self-construal was accomplished by using BID questionnaire developed by Olcay Imamoglu (1998).

Balanced Integration–Differentiation (BID) Scale, is a self-construal scale with two subscales. One of the subscales, The Inter-relational Orientation, is composed of 16 elements concerned with interpersonal integration (i.e., possession and appreciation of tight emotional bonds between a person and the others). 11 items are reversely coded. As the score gets higher in this scale, relatedness feelings are observed more, while separateness feelings are demonstrated by a low score. Among samples of adults and university students, .80 and .91 have been stated as Cronbach's alpha values for this subscale, respectively (Gezici & Güvenç, 2003; Imamoglu, 2003). On the other hand, there are 13 elements related to intrapersonal differentiation toward individuation (i.e., counting on the inner capacity and concerns as a developmental frame of reference instead of placing the self to a standardized frame of reference) in the Self-Developmental Orientation subscale. 6 elements are reversely coded. People getting higher scores in this subscale are likely to develop themselves toward individuation, while the ones with low scores are likely to develop toward the standardized pattern. Among samples of adults and university students, .81 and .74 have been stated as Cronbach's alpha values for this subscale, respectively (Gezici & Güvenç, 2003; Imamoglu, 2003). On the other hand, there are 13 elements related to intrapersonal differentiation toward individuation (i.e., relying on one's inner qualities and interests as a developmental frame of reference instead of placing the self to a standardized frame of reference). 6 items are reversely coded. People getting higher scores in this subscale are likely to develop themselves toward individuation, while the ones with low scores are likely to develop toward the standardized pattern. Among samples of adults and university students, .81 and .74

have been stated as Cronbach's alpha values for this subscale, respectively (Gezici & Güvenç, 2003; Imamoğlu, 2003). In the original study by Imamoğlu (1998) high reliability values are indicated for the sub-scales as; .91 for interrelational orientation and .74 for self-developmental orientation. Various studies by Imamoğlu & Edwards (2007) and Imamoğlu & Karakitapoğlu-Aygün (2006) indicated high reliability values. Imamoğlu (2003) reported reliability index as .89 for inter-relational and .82 for self-developmental subscales according to a research applied to Turkish University Students as participants.

Participants rated the subscale items by using a 5-point scale that is ranging from 1 (strongly disagree) to 5 (strongly agree). There are 17 reverse scaled items on the scale and for both sub-scales a high score indicates individuation and relatedness levels.

Table 3.1 : Combinations of Self-construal Types.

BID Subscales		Types of Self-Construal (Individualism/Collectivism)			
		Separated-individuation (differentiative contexts)	Related-patterning (integrative contexts)	Related-individuation (balanced contexts)	Separative-patterning (unbalanced contexts)
Interpersonal relatedness	>average		x	x	
	<average	X			x
Personal individuation	>average	X		x	
	<average		x		x

Combinations define four types of self-construal:

1-Integrative 2-Differentiative 3-Balanced 4-Unbalanced.

The mean scores on the two subscales are calculated and used to measure relatedness and individuation levels of the participants, respectively.

3.4.3 Mindfulness questionnaire (5FMQ)

In the third part, participants completed the Five-Factor Mindfulness Questionnaire, which consists of 39 items.

In this instrument factor analytic research of five separately established mindfulness questionnaires is used. The five factors yielding from this research are shown to portray the components of mindfulness as it is conceptualized at present. These factors are observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience.

A high score in the total scale means higher mindfulness level. Total average of subscales means overall mindfulness level.

3.4.4 Conflict-style inventory (TKI)

In the fourth part, participants responded according to how they typically react to conflict. The research questions focused on the influence of ingroup membership on conflict styles. They were asked to complete the (TKI) Thomas Kilmann Inventory, translated into Turkish.

Individuals responded to the 30 elements of the TKI instrument consisting of statements in pairs defining how people possibly react to a conflict. For each couple of statements, one of the "A" or "B" statements should be selected based on the most suitable reaction given by the participant. Where neither "A" nor "B" suits the behavior of the participant, then the most acceptable one should be selected.

The individuals filled the questionnaire and as a result, the conflict management styles which they use in general or rarely were observed. The percentage results indicate how often they apply one style and how often members of the norm group apply the style. The results are evaluated in three groups: high (the top 25% of their scores in one mode), medium (the middle 50% of their scores in one mode), and low (the bottom 25% of their scores in one mode).

Table 3.2 : Scoring and Ranges of Original and Updated TKI Norm Samples.

	Competing		Collaborating		Compromising		Avoiding		Accommodating	
Range	Original	Updated	Original	Updated	Original	Updated	Original	Updated	Original	Updated
Top 25%	8-12	7-12	9-12	9-12	9-12	10-12	8-12	8-12	7-12	7-12
Middle 50%	4-7	3-6	6-8	5-8	5-8	6-9	5-7	5-7	4-6	4-6
Bottom 25%	0-3	0-2	0-5	0-4	0-4	0-5	0-4	0-4	0-3	0-3
Note: Shading shows interpretive ranges that differ between the original and updated norm groups.										

The revised standards for two of the five modes are precisely the same as the original standard test — preventing and accommodating. Cooperation scores and percentage values are nearly the same

Based on the answers to the inventory, participants' behaviors were categorized into five forms of conflict resolution: dominating, collaborating, compromising, accommodating and avoiding.

3.5 Operationalization of Variables, Measurement Tools and Techniques

3.5.1 Descriptive statistics

Descriptive statistics is composed of methods for planning, exhibiting, and illustrating data with the use of tables and/or graph (Mann, 1995). Unlike inferential statistics, there is no objective to obtain analytical expressions for estimation or hypothesis testing on the statistical main mass character (Dodge, 2003). The basic tools used in descriptive analysis are tables, graphs, central trend and variability measurements (Gürbüz & Şahin, 2014).

3.5.2 Inferential statistics (Questionnaire part 1/ General information)

Inferential statistics is a statistical method used to draw conclusions about the whole population using various tests. It is used to understand trends about a large population by analyzing a sample. Inferential statistics study the relationships between variables within a sample.

Testing propositions/hypothesis (General questions):

In order to assess the similarities and/or differences among two or more groups, the hypothesis (or proposition) testing is mostly employed. When evaluating a hypothesis, both the variables number and the size of the sample should be considered. If it is necessary to assess whether the differences are significant or only depend on chance, it is formally done by a procedure named hypothesis (or propositions) testing.

Five Steps in Propositions / Hypothesis Testing:

i. Specify the Null Hypothesis

The null hypothesis (H_0) indicates that two or more groups are neither related, nor different and do not have any impact at a significant level. Researchers generally try to refute the null hypothesis in their scientific studies.

ii. Specify the Alternative Hypothesis

The alternative hypothesis (H_1) indicates that the groups are significantly related or different from one another. Researchers generally try to prove this hypothesis. It can be one-sided or two-sided. Since more proof is required for this hypothesis to be admitted, two-sided tests are applied whether the hypothesis is one-sided or not.

iii. Set the Significance Level ($\alpha = 0,05$)

The most commonly used significance level is 0.05. In other words, if the null hypothesis is really true, the chance of accepting the alternative hypothesis is 5%. As the level of significance decreases, more evidence is needed to support the alternative hypothesis.

iv. Calculate the Test Statistic and Corresponding p-Value

Hypothesis testing is usually a method of comparing groups or examining relationships among variables. The probability of getting a sample by only coincidence if a null hypothesis is correct is identified by the p-value. This p-value is decided according to the statistics result. The p-value and the significance level are the main parameters upon which the conclusions about the hypothesis are based.

v. Drawing a Conclusion

$P\text{-value} \leq \text{significance level } (\alpha) \Rightarrow$ Reject the null hypothesis or accept the alternative hypothesis. The result is statistically significant.

$P\text{-value} > \text{significance level } (\alpha) \Rightarrow$ Fail to reject your null hypothesis. The result is not statistically significant (Ott & Longnecker, 2015; Agresti, 2014).

Normality test:

The normality assumption is very important for statistical analysis. Because when using parametric statistical tests, the normality assumption is taken into consideration. Kolmogorov-Smirnov test is seen as the most popular test for normality. The assumption of normality should also be considered for the validation of the data, as it will indicate whether the correct statistical tests are used. If data are not normal, nonparametric test is used. If data are normal, parametric method is used (Ott & Longnecker, 2015; Agresti, 2014).

Comparing two independent samples:

The independent sample t-test, a parametric test, is used to compare the means of two independent groups and determines if the difference of the associated population is statistically significant. On the other hand, a non-parametric test is generally used, when comparing the two independent samples when the data aren't normally distributed. The most popular non-parametric test for this is the Mann Whitney U test (Ott & Longnecker, 2015; Agresti, 2014).

Comparing more than two independent samples:

The one-way analysis of variance (ANOVA) is applied to assess if the difference between at least two independent (unrelated) groups is statistically significant. ANOVA is known to be a parametric test and its non-parametric alternative is the Kruskal Wallis H test. Kruskal Wallis H test uses ranks instead of real data. Non-parametric tests do not assume that the data are from a normal distribution. The test determines whether the median of at least two groups is different (Ott & Longnecker, 2015; Agresti, 2014).

3.5.3 Correlation analysis

Correlation, which is a bivariate analysis, determines the strength and direction of the relation between these variables. The strength of the connection is determined by the correlation coefficient ranging from +1 to -1. A value of +1 or -1 shows an excellent level of correlation between the variables. The closer this value is to 0, the weaker the relationship and 0 indicates no relationship (Cohen, 1988). The + sign in front of the value indicates that the relationship is in the same direction, and the - sign indicates the opposite direction. Evaluation of correlation coefficient varies according to both the branches of science and especially the sample size. Although lower correlation coefficients may be meaningful for large sample size, high correlation coefficients may be dealt meaningless in small sample size.

There are four types of correlation which are Pearson, Kendall rank, Spearman, and Point-Biserial correlations. Pearson correlation is commonly used to evaluate the level of association between linearly associated variables.

The level of linear relation between two continuous random variables is determined by Pearson's correlation. It assumes finite variances and finite covariance though it doesn't assume normality. If the variables are bivariate normal, an exact description of the association is made possible by Pearson's correlation. Spearman's correlation is used to two ranked continuous random variables and thus ensures calculate the monotonic relationship between them. Besides, it gets the benefit for ordinal data and is robust to outliers as disparate of Pearson's correlation.

However, the correlation between variables cannot be considered as a cause-effect linkage between variables. This causality is often misunderstood and misused by humans. The causality is one of the issues that people often misunderstand and

misused; although the data shows the correlation of the existing causality relationship. By examining the value of “ r ”, it can be said that only two variables are related. (Ott & Longnecker, 2015; Agresti, 2014).

3.5.4 Factor analysis

Factor analysis is widely used for the explanation of data and the analysis of basic correlations among parameters and other essential factors. Factor analysis is a frequently used method especially in educational studies and is preferred for interpreting self-reporting questionnaires.

In market research, the following three types of factor analysis are used:

- Exploratory factor analysis
- Confirmatory factor analysis
- Structural equation modeling

Exploratory factor analysis tests the fundamental factors influencing the parameters in a data framework without establishing any predetermined structure to the result. Confirmatory factor analysis is otherwise used as a method to reverify the impact and comparison of an existing set of known factors and parameters influencing these factors. Structural equation modeling assumes an interaction on the linear equation system between a set of parameters and factors and measures these casual relationships. Modeling of structural equations can be used for both exploratory and confirmatory modeling and can thus be used to validate findings and test hypotheses.

Factor analysis is a statistical approach that is sometimes discussed and criticized and Thompson (2004) suggests that much of this criticism applies to the EFA, rather than to the CFA; and furthermore, these criticisms are often related to the subjectivity of the outputs that identified by the researcher (Thompson, 2004, p.106).

Besides, Tabachnick and Fidell (2007) discuss the limitations of the EFA. As noted, the researcher should be systematic and careful to limit the subjectivity of the EFA and should make the right decision on latent variables and factor reduction and construction of the factors

Phases of Factor Analysis can be summarized in 5-steps:

1- Problem definition and collection of data:

This is the preliminary phase where variables are defined for analysis and research purpose, theories, and similar research in literature are reviewed and developed by the researcher.

The adequacy of information collected for the factor analysis is very important such as the data collection method. Factor analysis is a preferred method for interpreting self-reporting surveys. Although the size of the sample is crucial for factor analysis, there are different views on how much should be in the literature. Hogarty et al. (2005) noted the lack of agreement. Also, for factor analysis, Tabachnick states that at least 300 cases are needed. Hair et al. (2010) recommended that the minimum sample size should be at least 100. Comrey and Lee (1992) made the following evaluation for sample sizes: 1poor for 100; fair for 200; good for 300: very good for 500; and excellent for 1000 or more. However, Sapnas and Zeller notified that even 50 cases would be sufficient. As a result, although the minimum number of samples could not be determined exactly, the higher the better, the better.

2. Creating the correlation matrix:

As a beginning step, the correlation matrix displaying the relationships between individual variables should be created. At this stage, whether the data are appropriate for factor analysis is also investigated. There should be sufficient meaningful correlation in the correlation matrix, and the correlation coefficient for variables less than 30% is usually not included in the factor analysis and should be removed (Hair et al., 1998). Tabachnick and Fidel (2007, p.110) offer that the correlation matrix is investigated if the correlation coefficients are greater than 0.30. Hair et al. (1995) stated these limits as follows: ± 0.30 = minimal, ± 0.40 = significant and $\pm .50$ = practically significant. In other words, if the correlation does not exceed 0.30, the researcher should determine that factor analysis is the ideal method. A factorability of 0.3 shown that the factors are associated with data about 30%. Therefore, one-third of the parameters share so much variance, and thus the relationship between the variables is useless.

A certain number of tests such as Kaiser-Meyer-Olkin (KMO) Test and Bartlett's Test are needed to test the suitability of the respondent data for factor analysis, before the extraction of the factors. Notably, if the case-variable ratio is less than 1:5, the KMO index is advised. The KMO index extends between 0 and 1, and 0.50 is

evaluated as suitable for factor analysis. Also, p-value of Bartlett's Test of Sphericity should be less than .05 for factor analysis meaning that it is significant. If any variable is being predicted in a faultless manner by other variables, the value of KMO is 1. The factor matrix obtained in factor analysis includes coefficients representing standardized variables in terms of factors. These coefficients, which are called factor loads, represent correlation between variables and factors. As the factor load value increases as an absolute value, the proximity of the relationship between the variable and the factor is increased (Altunışık et al., 2005).

3- Deciding the number of factors and selection of rotational method:

The rotation aims to ease the factor structure of a group of items.

Even though there are various paths to extract factors, Thompson (2004) states that Principal Component Analysis (PCA) is a frequently applied method in factor analysis. The number of items is diminished to factors by data extraction. There are several criteria for researchers to create one-dimensional scales and clarify factor solutions. However, selection in factor analysis can sometimes be quite confusing. Then, the researcher should make an accurate assessment to find the best-fit solution and to find the most conceptual sense.

According to Varimax rotation used, the factor loads are usually based on the 0.30 factor load value as the lower cutting point. According to Akdağ (2011), the difference between the two factors, which gives high load value is looked at. In such cases, it is noted that the difference is at least 0.10, and in cases where it is less than 0.10, this substance is accepted as complex and removed from analysis. The items that fall below the accepted threshold value are also subtracted from the analysis. When deciding on the number of factors, it is preferable for the practical solution to study the data and obtain the highest descriptive factor structure with trials.

4- Rotation of factor axis:

After reaching preliminary solutions for factor analysis, axis rotation step is performed. When deciding how much of the data to analyze, it is checked whether a variable depends several factors. High item loadings are maximized, and low item loadings are minimized by rotation, hence it provides a more explainable and easier solution. Researchers can choose from two commonly used options: orthogonal varimax/quartimax (this method is applied in this study) or oblique oblimin/promax.

Thompson (2004) developed Orthogonal Varimax rotation for the first time and this rotation is the most widely-used technique in factor analysis for uncorrelated factor structures. On the other hand, oblique rotation generally produces factors generating more accurate results if human behavior is the subject of the study or the data and assumptions made do not correlate (Thompson, 2004). In both methods, simplifying the analysis of the results and creating a more fundamental solution are the main purposes.

With factor rotation, the basic mathematical properties of the solution will not be altered.

3.5.5 Reliability analysis

In terms of research results, the accuracy of the scale used in a survey is significant.

Reliability analysis is carried out to measure the survey responses' consistency prepared according to a previously determined type of scale. The scale type can be ordinal or intermittent. The reliability analysis can be made of 1 – 5 sortable responses, such as Likert scale. The internal coefficient of consistency of the Cronbach alpha is used to determine reliability.

Internal consistency is the reliability of a multi-item calculation of people's responses to items. Usually all items are expected to represent the same fundamental construct, so the scores of the people should be correlated.

Cronbach's Alpha model has been used in this study for analysis of reliability. Cronbach's Alpha is the value of compliance associated with the correlation of interquestions. The Alpha value of Cronbach shows the overall degree of reliability of the factor questions. The scale is considered reliable in situations where the Alpha value of Cronbach is 0.70 and above. Nevertheless, this limit can be considered as the value of 0.60 and above when the number of questions is small (Kalaycı, 2006).

Table 3.3 : Cronbach's Alpha value classification (Kalaycı, 2006).

CRONBACH'S ALPHA	Comment
0.80-1.00	High
0.60-0.80	Highly reliable
0.40-0.60	Low
< 0.40	Not applicable

The 0.70 confidence coefficient indicates that 70% of the variability between respondents is the actual variability of the measured property, and the remaining 30% are of random errors. If the Cronbach alpha coefficient is rising when a question is removed from scale, this means that, that question reduces the reliability of the problem. If the Cronbach alpha coefficient decreases when a question is removed from the scale, it is understood that the question is an essential one.

A scale's validity refers to the degree to which it analyses the parameter it measures. There is no specific coefficient that the validity test relies on as it does in the reliability test. Therefore, the validity test is carried out by theoretical analysis.

3.5.6 Path analysis / Structural equation modeling (SEM)

Path Analysis is used to examine causal relationships between at least two variables. Firstly, built up by Sewall Wright in the 1930s, this method is based on a system of linear equations. Path analysis is a subset of Structural Equation Modeling (SEM), a multivariate procedure described by Ullman (1996): “allows examination of a set of relationships between one or more independent variables, either continuous or discrete, and one or more dependent variables, either continuous or discrete.” SEM deals not only with measured variables but also with latent variables. While the directly observed and measured variables are defined as the measured variables, the latent variable is the variables that cannot be directly observed but must be inferred from the measured variables. Latent variables are determined by covariances between at least two measured variables. These are also called factors, constructs or unobserved variables. SEM is a combination of multiple regression and factor analysis. Path analysis deals only with measured variables.

SEM has two objectives and they are the following.:

- 1) to understand the patterns of correlation/covariance among a set of variables and
- 2) to explain as much of their variance as possible with the model specified (Kline, 1998).

Confirmatory factor analysis tests models of relationships between latent variables (LVs or common factors) and MVs which are indicators of common factors. The aim of the model, in commonly SEM form, is to take into account for the measured

variation and covariation of the measured variables (MVs). Path analysis (for example, regression) tests models and relationships between MVs. Confirmatory factor analysis tests the models of the relationships between hidden variables (LVs or common factors) and MVs that are indicative of common factors.

Kline (2011) explained the construction of the SEM-path scheme in six steps:

1. Model Specification (e.g., diagram, equations)
2. Model Identification with path diagram and causal relations
3. Model Estimation (estimate fixed or free parameters in the model)
4. Testing Model Fit (assess model fit)
5. Model Manipulation (respecify the model if meaningful)
6. Interpret and present results.

3.5.6.1 Statistics and SEM

Traditional statistical methods usually indicate the significance of the analysis with one statistical test (eg RSquare for regression analysis). In contrast, Structural Equation modeling uses various statistical tests to determine the accuracy of the fitting model. The chi-square test used to determine the difference between the expected and observed data. A chi-square value close to zero indicates a good model fit.

The Comparative Fit Index (CFI) is equal to the discrepancy function adjusted for sample size. CFI is a value between 0 and 1 and the higher the CFI value, the better the fit of the model. For the model to be acceptable, the CFI value is required to be above 0.90 (Hu & Bentler, 1999).

Root Mean Square Error of Approximation (RMSEA) is related to the residual in the model. RMSEA is a value between 0 and 1 and the lower the RMSEA value, the better the fit of the model. For the model to be acceptable, the RMSEA value is required to be 0.06 or less. (Hu & Bentler, 1999). If the model is compatible, the estimated parameters are evaluated. If the model is not compatible, the model can be revised.

3.5.6.2 SEM-path analysis model design

The aim of SEM is to describe the system of correlative dependent relations between at least two manifest variables and latent constructs simultaneously. It determines how the theoretical model of the relevant systems is supported by sample data, that is, by estimating the relationships between the main structures.

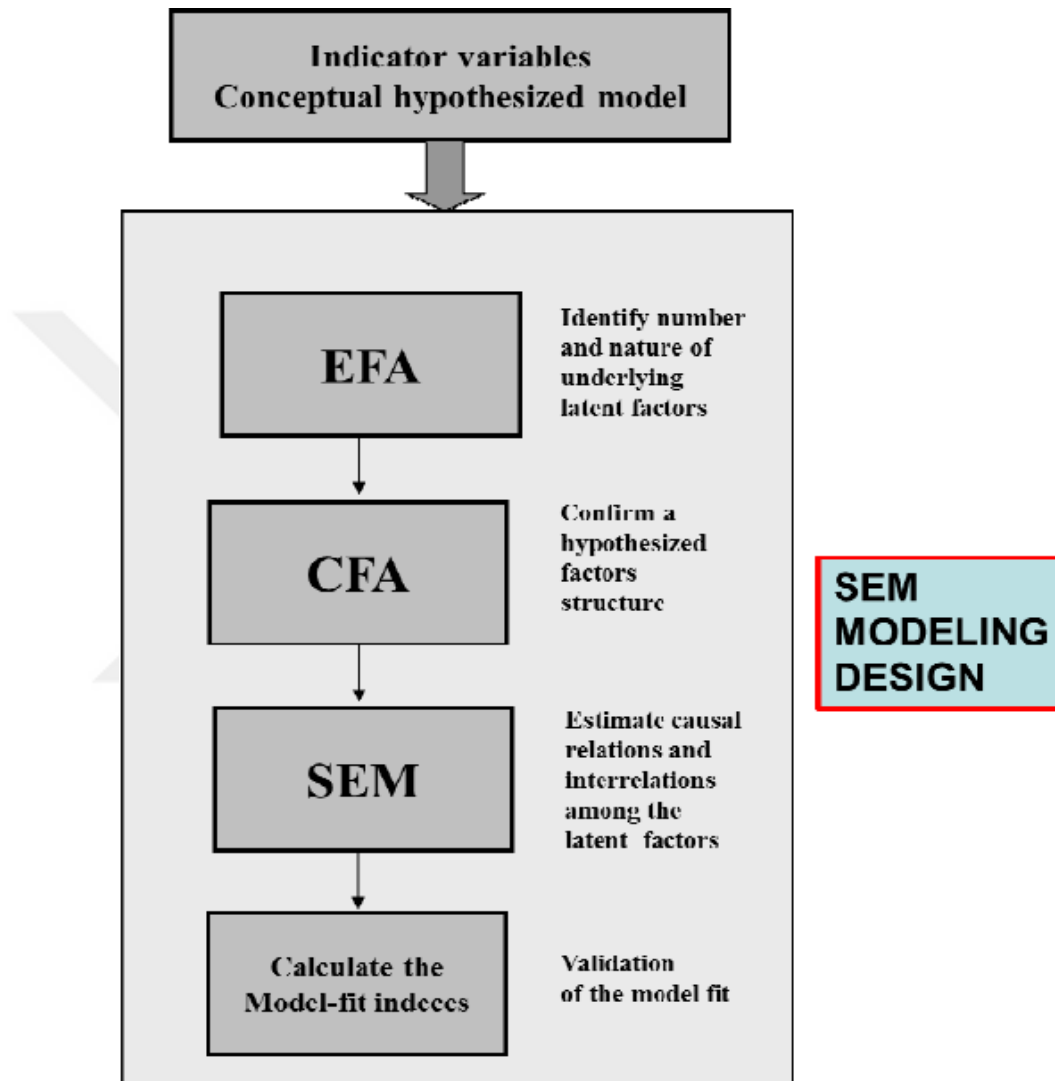
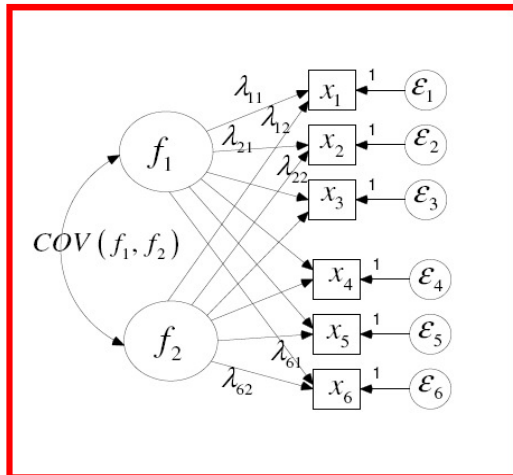


Figure 3.1 : The basic steps, which are usually taken in the framework of SEM modeling.

It is pointless to validate the structural model, if the measurement model is not validated at first, the structural modeling is usually a two- stage process. In the first stage, the measurement model is constructed and validated by the means of CFA, while in the second stage the design of the whole structural model is completed by adding the structural part of model and appropriately validating the entire model structure.

EFA and CFA are philosophically and essentially different. Namely, in CFA, the number of factors for a given set of variables must be defined in advance, as well as to which factor the variables will load on. It must be also specified whether these factors are correlated or not. The variables are here assigned to the factors by the researcher with respect to some theory and not by the statistical technique (Hair et al., 2010). Even more, the variables are assigned to only a single factor and cross-loadings are not present at all. An example, which illustrates the main difference between the EFA model and CFA model, is shown in Figure 3.2.

• EFA model



• CFA model

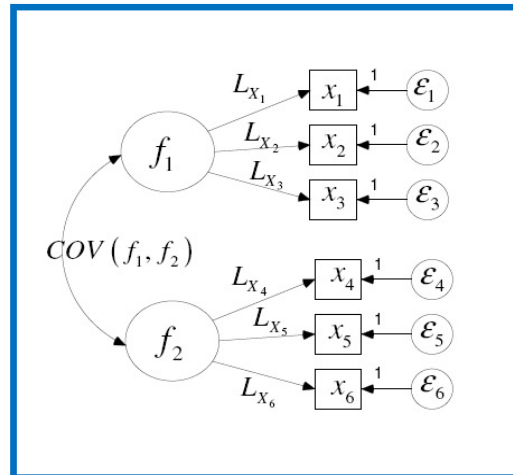


Figure 3.2 : An example, which illustrates the main difference between the EFA and CFA model (Two latent factors and six indicator variables are displayed).

A. Basic Steps of SEM modeling:

According to Kline (2011), the basic steps of the SEM modeling can be represented as shown in flowchart in Figure 3.3.

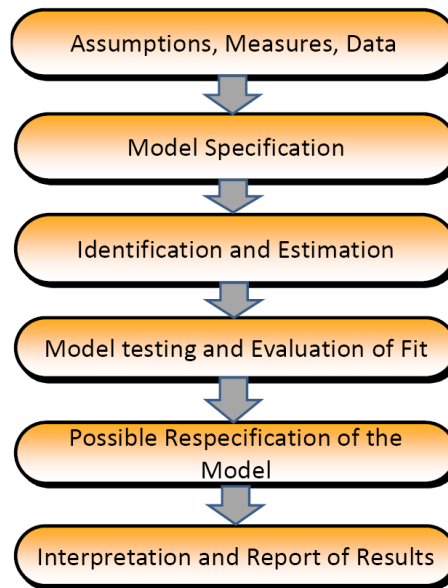
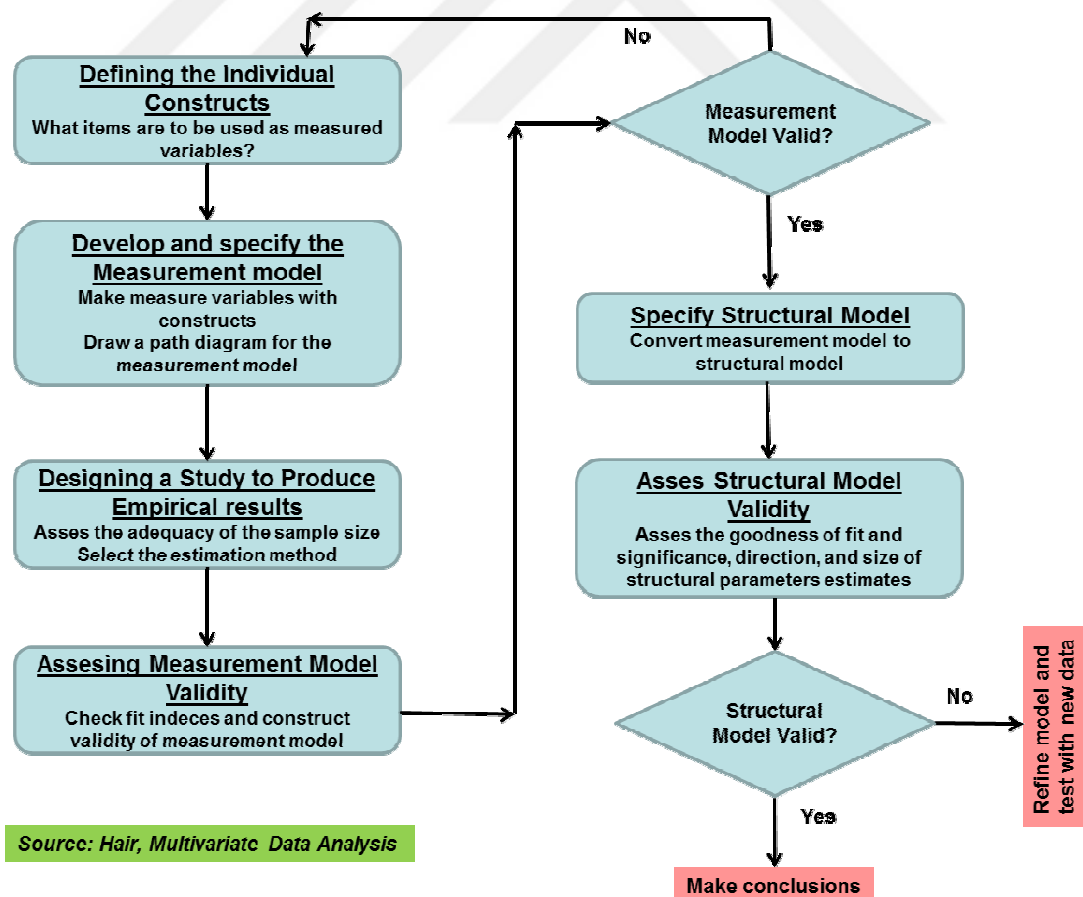


Figure 3.3 : The Flowchart of the basic steps of SEM modeling.

As it can be seen from Figure 3.4, after the appropriate construction of the CFA model and its affirmative validation, the modeling procedure continues with the design of the structural model.



Source: Hair, *Multivariate Data Analysis*

Figure 3.4 : The detailed presentation of all significant steps in the SEM modeling.

So, in CFA, the prespecified model is firstly defined due to some theory, and then the CFA statistics investigates how well the theoretical specification of the factors matches the reality (the real data). This means that the CFA enables some sort of confirmatory test of our measurement theory, which verifies the consistency of our systematic representation of a theoretical factor model with the data reflected in observed variables. After that, the measurement theory can be combined with a so-called structural theory in order to fully specify a SEM model (Hair et al., 2010).

The process of conversion from the CFA measurement model to the SEM model is illustrated by the example shown in Figure 3.5. The example includes four latent factors and 16 observed indicator variables. Each factor is investigated via four indicators, and the covariances for each pair of factors are given in the CFA model. When the conversion to the SEM model is completed, some factors and their indicators have an exogenous (independent) character, while the others have an endogenous (dependent) character. In Figure 3.5, the causal paths with certain direction can be also noticed.

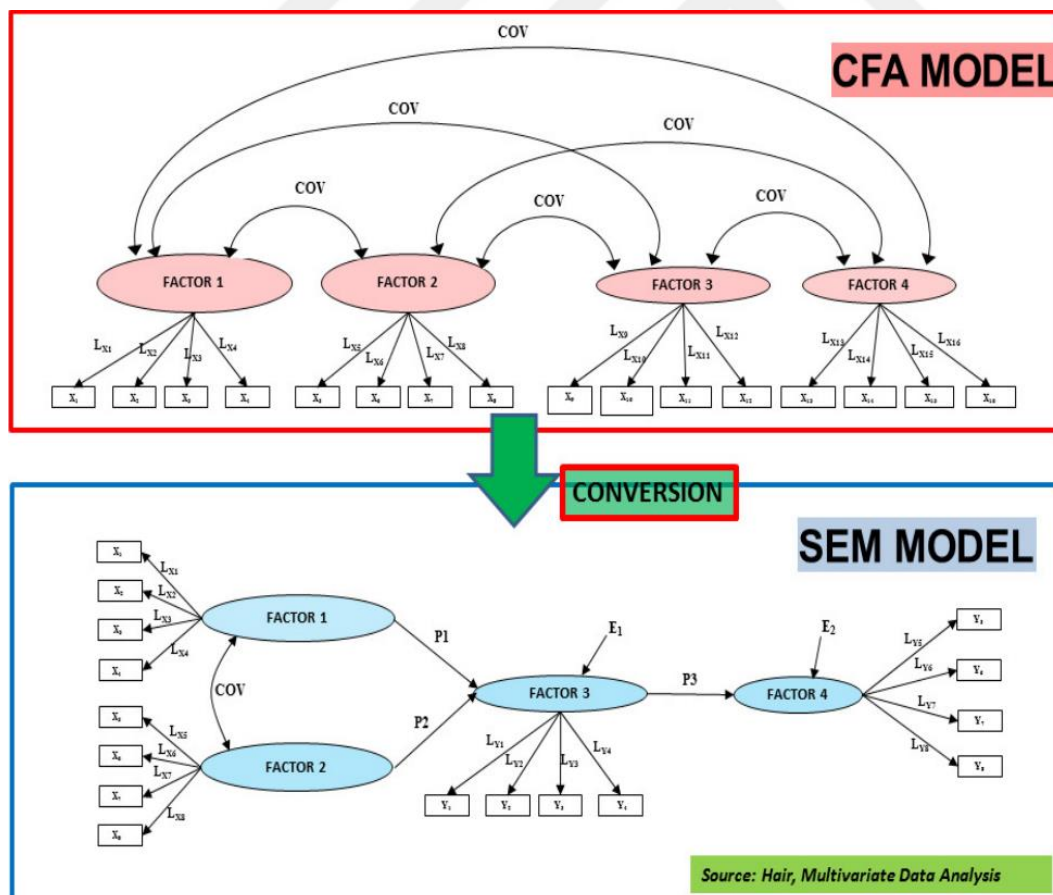


Figure 3.5 : The conversion from the CFA measurement model to the SEM model, illustrated by example.

B. The structure of the SEM model represented by the path diagram

Figure 3.6 shows an example of the structure of SEM model represented by the path diagram (Byrne, 2009). The meaning of the corresponding variables and coefficients is shown in Table 3.4.

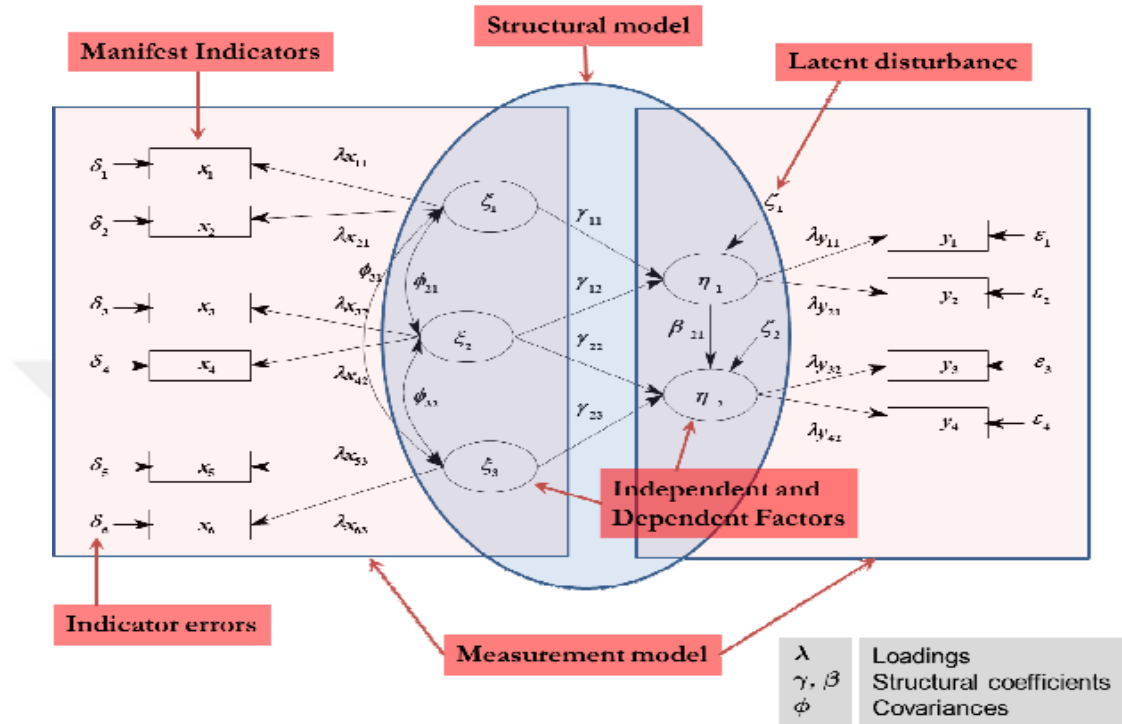


Figure 3.6 : An example of the structure of SEM model represented by the path diagram.

From Figure 3.6 it can be seen, how the structural equation model is split into two parts: the measurement part of model and the structural part of model.

The meaning of the corresponding variables and coefficients is shown in Table 3.4.

Table 3.4 : The meaning of the corresponding variables and coefficients.

Variable or coefficient	The meaning
x_i	The manifest exogenous indicators of exogenous (independent) latent factors ξ_j
ξ_j	The exogenous (independent) latent factors
y_k	The endogenous manifest Indicators of endogenous (dependent) latent factors η_l
η_l	The endogenous (dependent) latent factors
δ_i	The errors (disturbances) related to x_i
ε_k	The errors (disturbances) related to y_k
ζ_l	The latent disturbances related to η_l
ϕ_{ij}	The possible covariances of latent factors
γ	The structural coefficients of paths from exogenous to endogenous factors
β	The structural coefficients of paths from endogenous to other endogenous factors
λ_x	The loadings related to exogenous factors
λ_y	The loadings related to endogenous factors
• Not shown: The structural coefficients, which belong to the paths from the indicator errors to the corresponding indicator variables. • Path coefficients can be also treated as the regression weights (standardized regression coefficients).	

C. Structural model testing, model evaluation, and fit indices

One of the important advantages of the SEM modeling is the ability to test and evaluate the models which incorporate a complex set of theoretical hypotheses. The set of hypothesized relationships is specified and usually applied graphically in the form of the path diagram model (Byrne, 2009). When the path model is built, the question about its quality of fitting the measured data becomes an important issue. Thus, we want to know if the hypothesized theoretical model performs an adequate fit to the observed data. We may also wish to answer the question about the model selection in the case of multiple developed competing models.

Most of the so-called fit indices apply the chi-square χ^2 test statistic for the hypothesized model, often in conjunction of the same statistic for a baseline model (Yuan, 2005).

Because there is no single criterion for the theoretical model fit evaluation obtained as a result of SEM, a wide array of fit indices was developed. There are more than a dozen different fit statistics researchers use to assess their confirmatory factor analyses and structural equation models. Table 3.5 shows some of the most important

fit indices, their acceptable threshold values, the corresponding descriptions, and the type of the indices (absolute, incremental, or parsimony index).

Table 3.5 : The fit indices in the process of SEM model testing and evaluation.

Fit Index	Acceptable Threshold Levels	Description	Type
χ^2	Low value relative to degrees of freedom with an insignificant p values ($p > 0.05$)	Chi-Square χ^2 of the discrepancy between the sample and the fitted covariances' matrices	Absolute fit index
(χ^2/df)	< 3 good < 5 permissible	Relative Chi-Square χ^2 of the discrepancy	Absolute fit index
RMSEA	< 0.07 good 0.07 - 0.10 moderate > 0.10 bad	Root Mean square Error of approximation	Absolute fit index
p value (PCLOSE)	> 0.50	Associated p value for RMSEA (test of close fit)	
G FI	> 0.95 good > 0.90 acceptable	Goodness-of-fit statistic	Absolute fit index
RMR	Good models have small RMR	Root mean square residual	Absolute fit index
SRMR	< 0.09	Standardized root mean square residual	Absolute fit index
NFI	> 0.90 acceptable > 0.95 good	Normed-fit index	Incremental fit index
NNFI (TLI)	> 0.95 good > 0.80 acceptable	Non-Normed-fit index (Tucker-Lewis)	Incremental fit index
CFI	> 0.90 acceptable > 0.95 good	Comparative fit index	Incremental fit index
PNFI	> 0.50 good	Parsimony normed fit index	Parsimony fit index

Model modification is done to improve the model by releasing the fixed parameters or by fixing free parameters in a specified model.

D. Software for the Structural Equation Modeling

In the last 35 years, there have been quite a lot of programs developed for the purpose of structural equation modeling (Hoyle, 2012). SEM Steps

Table 3.6 : Some of the most important softwares for SEM modeling.

SEM Package	Comments	Meaning
Amos	Add-on to SPSS	<i>Analysis Of Moment Structures</i>
Proc. CALIS	Procedure in SAS	<i>Covariance Analysis of Linear Structural Equations</i>
EQS	Multivariate software	<i>Equations</i>
GLLAMM	Add-on to STATA	
HYBALL	Free	
LISREL		<i>Linear structural Relationships</i>
Mplus		
Mx	Free	<i>Matrix</i>
OpenMx	Free R package, based on Mx	
NEUSREL	Uses Matlab	
SYSTAT		
Sem	Package for R, Free	
SEGPATH	Free	
SEPATH		<i>Structural Equation Modeling and Path Analysis</i>
TETRAD	Free beta	

Naturally, each of these programs has many specific advantages, but also suffers for certain weaknesses and/or limitations. The majority of these programs are commercial, but there are also programs free of charge.

3.6 Research Model and Propositions (or Hypothesis)

3.6.1 Conceptual model of research

Further to relevant theoretical and empirical research reviews in the literature, below model is developed to illustrate the relationship between specified variables.

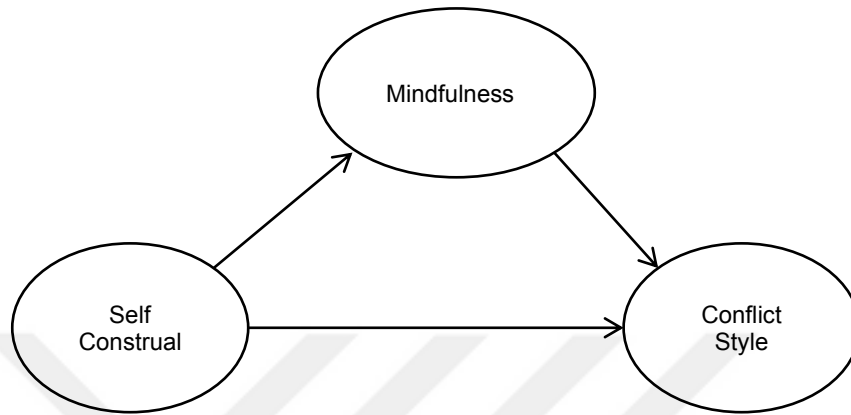


Figure 3.7 : Conceptual Research Model.

Conflict style is the dependent variable, whereas self-construals and mindfulness are the independent variables. Demographics (i.e. gender, occupation, work experience, age etc.) are also statistically evaluated as independent variables.

3.6.2 Research questions and prepositions (or hypothesis)

Although a large number of research has been done to understand influence of culture on conflict management and resolution behaviors in organizational settings, there is no study yet in the construction industry particularly considering the influence of individual ‘self-construal’ as well as ‘mindfulness’ in construction industry.

Aim of this research is to deepen the understanding of the relationship of culture which is operationalized as integrated ‘learned patterns of behavior’ and mindfulness construct to conflict style, in construction management.

The objective of this explanatory study is to assess the influence of individual level cultural values: self-construal: individualism/collectivism and mindfulness construct as variables to provide deeper insights and explanations to conflict behavior which is defined as individual conflict-style.

3.6.2.1 Research questions

3.5.2.1.1. Does self-construal (individualist-collectivist) have impact on project management professional's conflict-style?

3.5.2.1.2. Does mindfulness construct have impact on project management professional's conflict-style?

3.5.2.1.3. Does mindfulness construct have mediator effect on conflict-style of project management professionals with different self-construal types?

3.6.2.2 Propositions (or hypothesis)

Hypothesis 1a : Individualist Self-construal is effective on Mindfulness.

Hypothesis 1b : Relational Self-construal (collectivism) is effective on Mindfulness.

Hypothesis 2a : Individualist Self-construal (individualism) is effective on conflict-style.

Hypothesis 2b : Relational Self-construal (collectivism) is effective on conflict-style.

Hypothesis 3 : Mindfulness, is effective on conflict-style.

Hypothesis 3a : Mindfulness has a mediator relationship on conflict-style of the individuals with individual self-construal (individualism).

Hypothesis 3b : Mindfulness has a mediator relationship on conflict-style of the individuals with relational self-construal (collectivism)

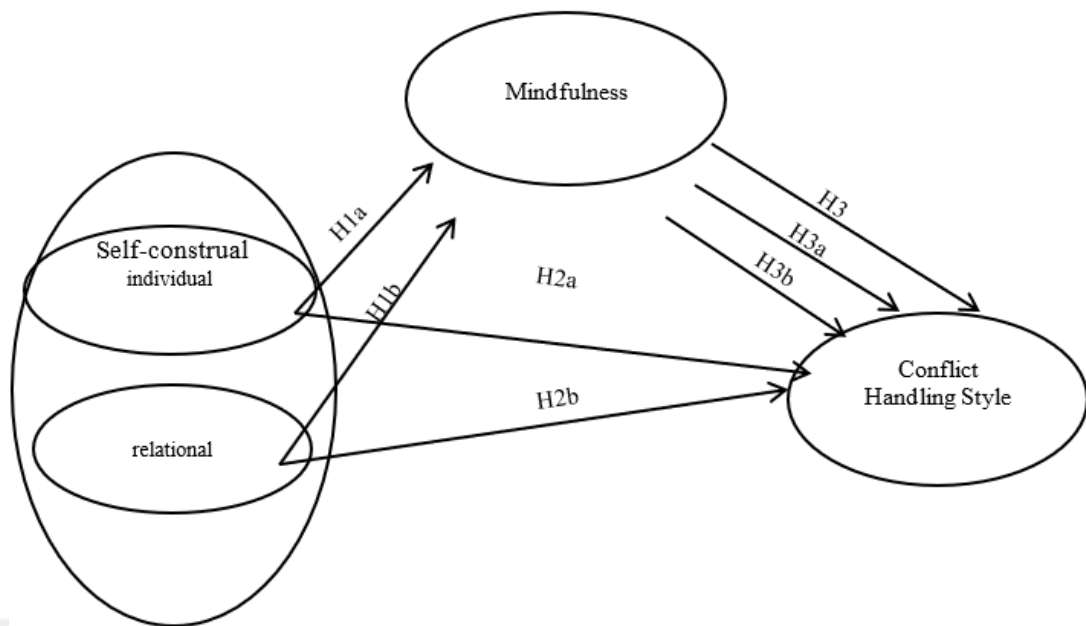


Figure 3.8 : Conceptual model with propositions.



4. THE RESEARCH RESULTS

185 individuals, who are project/construction management professionals working for construction and fit-out projects of a specific global retail company in Turkey returned questionnaires which are eligible for evaluation. These include Owner Project Management and Construction Management Professionals together with their contractors and material suppliers who are working on the project/construction management teams, and consist of architects, engineers and other management professionals. All technical procedures and standards are being the same, the project/construction management social system has been investigated on individual basis.

252 people have been contacted by e-mail messages some followed by phone calls and meetings and with help of the company in-house learning and development department.

Table 4.1 : Self-types according to BID-scale results.

BID Subscales		Self-construal Types			
		Separated-individuation (differentiative contexts)	Related-patterning (integrative contexts)	Related-individuation (balanced contexts)	Separative patterning (Unbalanced context)
Interpersonal relatedness	>2,565		x	x	
	<2,565	x			x
Personal individuation	>3,152	x		x	
	<3,152		x		x
NUMBER OF PERSON		60*	36	48*	41

Separated individuation which is differentiative self-construal context is the mostly preferred self-type by Professionals. These individuals have high individuation and low relatedness.

Balanced context is the second most preferred self-construal by Professionals. These individuals have both high relatedness and individuation scores.

Unbalanced context is considered outside of further evaluation scope.

Table 4.2 : Conflict-styles according to updated TKI measures results.

	low		medium		high		medium+ high
Conflict-style	original	updated	original	updated	original	updated	
Competing	99	79	62	72	24	34	106
Collaborating	56	23	103	136	26	26	162*
Compromising	9	22	95	110	81	53	163*
Avoiding	64	64	97	97	24	24	121
Accommodating	25	25	92	92	68	68	160

*highly preferred conflict-styles by professionals are collaborating and compromising conflict-styles followed by accommodating conflict-style.

4.1 Demographic Results

Demographics provide an aggregate picture of a population and capture a snapshot in time (French, 2014). In this research, there are 6 items measuring demographic data of the responders. The demographics information gathered for this research are as represented in Table 4.3.

According to the findings; participants demographic data represents majority of participants as; male dominant with 58%, 40-49 years of age with 32%, with BSc degree with 57%, most of them are architects with 38%, 10-15 years long at the same position with 25%, and 15+ years long at the company with 33%.

Table 4.3 : Demographic results of the participants.

3		n	%
Gender	female	77	41,6
	male	108	58,4
Age	20-29	49	26,5
	30-39	57	30,8
	40-49	60	32,4
	50+	19	10,3
Education	bsc	105	56,8
	msc +	71	38,4
	oth	9	4,9
Job title	archt	71	38,4
	eng	61	33,0
	oth	53	28,6
Years at the position	2 or less	29	15,7
	3 5	33	17,8
	6 10	40	21,6
	11 15	46	24,9
	16+	37	20
Years at the company	2 or less	33	17,8
	3 5	30	16,2
	6 10	20	10,8
	11 15	41	22,2
	16+	61	33

4.2 Descriptive Statistics

According to the variables discussed within the scope of the research, descriptive statistics findings are displayed herein.

Table 4.4 : Descriptive statistics based on variables discussed in the scope of research.

	Mean	St Deviation	Minimum	Maximum
Individuation Self Construal	3,1518	,43827	1	4,23
Related Self Construal	2,5651	,31690	1	3,69
Mindfulness	2,9203	,36663	1	4,05
Competing Conflict-style	3,69	2,784	0,00	11
Avoiding Conflict-style	5,41	1,866	1	11
Compromising Conflict-style	8,05	2,133	1	12
Collaborating Conflict-style	6,54	1,868	2	11
Accommodating Conflict-style	6,30	1,920	2	11

Table 4.5 : Descriptive statistics according to individual (individualist) self-construal mean.

Self-type	individuation			
	Mean	Standard Deviation	Minimum	Maximum
differentiative	3,4308	,20337	3,15	3,92
integrative	2,7436	,33252	1,69	3,08
balanced	3,4295	,23951	3,15	4,23

Table 4.6 : Descriptive statistics according to relational (collectivist) self-construal mean.

Self-type	relatedness			
	Mean	Standard Deviation	Minimum	Maximum
differentiative	4,12	0,39	3,38	5
integrative	2,1	0,35	1,15	3,15
balanced	4,04	0,32	3,31	4,85

Table 4.7 : Descriptive statistics according to mindfulness construct mean.

Self-type	mindfulness			
	Mean	St. Deviation	Minimum	Maximum
differentiative	2,9321	,33073	1,62	4,05
integrative	2,8917	,38465	2,10	3,67
balanced	3,0091	,33895	1,97	3,69

Table 4.8 : Descriptive statistics according to competing conflict-style mean.

Self-type	Competing Conflict-style			
	Mean	St.Deviation	Minimum	Maximum
differentiative	4,12	0,39	3,38	5
integrative	2,1	0,35	1,15	3,15
balanced	4,04	0,32	3,31	4,85

Table 4.9 : Descriptive statistics according to avoiding conflict-style mean.

Self-type	Avoiding Conflict-style			
	Mean	St.Deviation	Minimum	Maximum
differentiative	5,23	1,872	1	8
integrative	5,72	1,632	3	9
balanced	5,42	1,998	2	11

Table 4.10 : Descriptive statistics according to compromising conflict-style mean.

Self-type	Compromising Conflict-style			
	Mean	Standard Deviation	Minimum	Maximum
differentiative	8,47	2,103	3	12
integrative	8,11	2,135	4	12
balanced	7,69	2,233	1	12

Table 4.11 : Descriptive statistics according to collaborating conflict-style mean.

Self-type	Collaborating Conflict-style			
	Mean	Standard Deviation	Minimum	Maximum
differentiative	6,77	1,701	3	10
integrative	6,53	1,732	3	11
balanced	6,38	2,110	3	11

Table 4.12 : Descriptive statistics according to accommodating conflict-style mean.

Self-type	Accommodating Conflict-style			
	Mean	Standard Deviation	Minimum	Maximum
differentiative	6,13	1,610	2	10
integrative	6,17	1,935	2	10
balanced	6,50	2,173	2	11

4.3 Inferential Statistics (General Information)

Following tables illustrate the results.

P-value around the determined significance level limit (0.05) are considered to be marginal (could go either way) and reported for interpretation.

Table 4.13 : Statistical test values of variables with gender as a variable.

DQ-1 GENDER					
Variables	Gender	N	AO	SS	p value
Individual orientation (note: IO has a normal distribution ($p=0,027<0,05$) There are two independent samples and our test statistic is t- test.)	Female	77	3,1369	0,4445	0,793
	Male	108	3,1624	0,4356	
Relational orientation (note: Not normal distribution. we have to use nonparametric methods (Mann- Whitney U test))	Female	77	2,5273	0,3525	0,212
	Male	108	2,592	0,2876	
Mindfulness construct (note: Not normal distribution. we have to use nonparametric method in our tests. (Mann-Whitney U test))	Female	77	2,9434	0,3708	0,447
	Male	108	2,9038	0,3644	
Competing Conflict-style (note: Gender and Competing-style variables are categorical data. For this reason, we use a nonparametric method in our test. (Mann-Whitney U Test))	Female	77	3,16	2,576	0,037***
	Male	108	4,06	2,875	
Avoiding Conflict-style (note: Gender and Avoiding-style variables are categorical data. For this reason, we use a nonparametric method in our test. (Mann-Whitney U Test))	Female	77	5,35	5,44	0,865
	Male	108	1,869	1,871	
Compromising (note: Gender and Compromising variables are categorical data. For this reason, we use a nonparametric method in our test. (Mann-Whitney U Test))	Female	77	8,77	1,877	0***
	Male	108	7,55	2,168	
Collaborating Conflict-style (note: Gender and Collaborating-style variables are categorical data. For this reason, we use a nonparametric method in our test. (Mann-Whitney U Test))	Female	77	6,49	1,944	0,976
	Male	108	6,57	1,82	
Accommodating Conflict-style (note: Gender and Accommodating- style variables are categorical data. For this reason, we use a nonparametric method in our test. (Mann-Whitney U Test))	Female	77	6,23	1,919	0,468
	Male	108	6,34	1,929	

Interpretation of the results:

When conducting a hypothesis test statistically, a p-value helps evaluate the significance of results. Hypothesis tests are used for testing the validity of a claim about a population. This claim on trial is called the null hypothesis.

The alternative hypothesis is the one to consider if the null hypothesis is resulted not true. The data and the statistics that go along with it, is the evidence of trial. All

hypothesis tests finally use a p-value to assess the strength of the evidence. The p-value is between 0 and 1 and how to interpret it is explained below:

A small p-value (typically ≤ 0.05) point out strong evidence against the null hypothesis. In this case, the null hypothesis should be rejected.

A large p-value (> 0.05) point out weak evidence against the null hypothesis. In this case, the null hypothesis should not be rejected

So we can say there is one statistically significant relationship in (Table 4.13).

Evaluation approach used for statistical results is as in below given examples for significantly different and not different p values:

Gender and Competing-style variables are significantly different:

Gender variable is categoric and Competing conflict-style variable is not normal distribution (not t-test because not normal distribution). Because of this reason, we use a nonparametric method in our test, it is Mann-Whitney U Test.

Our hypothesis;

H_0 = there is not a statistically significant difference between median of gender and median of competing.

H_1 = there is a statistically significant difference between median of gender and median of competing.

Test statistical result is $p=0,037<0,05$. H_0 is rejected. It means that there is a statistically significant difference between median of gender and median of competing.

Gender and Individual Orientation variables are *not* different from each other significantly:

IO has a normal distribution ($p=0,027<0,05$ – Normality test is One sample Kolmogorov – Simirnov test) we use a parametric method. There are 2 independent samples and our test statistic is t-test. If our test is t-test or parametric test, our hypothesis is;

H_0 = there is not a statistically significant difference between mean of gender and mean of Individual Orientation.

H_1 = there is a statistically significant difference between mean of gender and mean of Individual Orientation.

Test statistical result is $p=0,793>0,05$. H_0 is not rejected. It means that there is not a statistically significant difference between mean of gender and mean of Individual Orientation.

For example;

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of CSCPT is the same across categories of GENDER.	Independent-Samples Mann-Whitney U Test	,037	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of CSCMPR is the same across categories of GENDER.	Independent-Samples Mann-Whitney U Test	,000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

Results for statistical comparison of “Gender” variable:

1. Gender and Competing conflict-style variables have statistically significant difference:

Competing conflict-style varies with gender type and men use competing-style more than women.

2. Gender and Compromising conflict-style variables are significantly different:

Compromising conflict-style varies with gender type and women use compromising-style more than men.

Table 4.14 : Statistical test values of variables with age as a variable.

DQ-2 AGE					
Variables	Age	N	AO	SS	p value
Individual orientation (ANOVA)	20-29	49	3,09	0,62	0,515
	30-39	57	3,17	0,35	
	40-49	60	3,16	0,36	
	50+	19	3,26	0,34	
Relational orientation (Kruskal Wallis Test)	20-29	49	2,58	0,36	0,792
	30-39	57	2,57	0,27	
	40-49	60	2,55	0,30	
	50+	19	2,56	0,38	
Mindfulness construct (Kruskal Wallis Test)	20-29	49	2,96	0,50	0,07
	30-39	57	2,85	0,25	
	40-49	60	2,91	0,36	
	50+	19	3,04	0,26	
Competing Conflict-style (Kruskal Wallis Test)	20-29	49	2,96	2,93	0,166
	30-39	57	2,85	2,84	
	40-49	60	2,91	2,55	
	50+	19	3,04	2,77	
Avoiding Conflict-style (Kruskal Wallis Test)	20-29	49	5,33	1,99	0,838
	30-39	57	5,56	1,65	
	40-49	60	5,33	1,94	
	50+	19	5,37	2,03	
Compromising Conflict-style (Kruskal Wallis Test)	20-29	49	7,80	2,41	0,373
	30-39	57	8,30	2,04	
	40-49	60	8,23	1,93	
	50+	19	7,42	2,24	
Collaborating Conflict-style (Kruskal Wallis Test)	20-29	49	6,35	1,97	0,48
	30-39	57	6,40	1,88	
	40-49	60	6,82	1,75	
	50+	19	6,58	1,95	
Accommodating Conflict-style (Kruskal Wallis Test)	20-29	49	6,16	1,85	0,022***
	30-39	57	6,00	2,07	
	40-49	60	6,32	1,82	
	50+	19	7,47	1,61	

Results for statistical comparison of “Age” variable:

In Table 4.14. there is one statistically significant difference between age variable and Accommodating conflict-style. Test statistical result is $p=0,022 < 0,05$ for Accommodating conflict-style.

It means that there is a statistically significant difference between Age and Accommodating conflict-style.

1. Age and Accommodating conflict-style variables have statistically significant difference and a post-hoc test is applied.

Professionals within age 50+ use Accommodating-style more than others, according to their mean scores. It is followed by professionals within age range 40-49. Accommodating conflict-style is least used by professionals within age range 30-39, followed by professionals within age range of 20-29. According to post-hoc test results, 50+ group is pairwise different than 30-39 and 20-29 age groups.

Table 4.15 : Statistical test values of variables with education as a variable.

DQ-3 EDUCATION					
Variables	Education	N	AO	SS	p value
Individual orientation (ANOVA)	bsc	105	3,11	0,48	0,132
	msc +	71	3,19	0,37	
	oth	9	3,38	0,31	
Relational orientation (Kruskal Wallis Test)	bsc	105	2,55	0,33	0,769
	msc +	71	2,58	0,30	
	oth	9	2,62	0,26	
Mindfulness construct (Kruskal Wallis Test)	bsc	105	2,94	0,40	0,065
	msc +	71	2,92	0,32	
	oth	9	2,70	0,25	
Competing Conflict-style (Kruskal Wallis Test)	bsc	105	3,79	2,65	0,247
	msc +	71	3,41	2,97	
	oth	9	4,67	2,83	
Avoiding Conflict-style (Kruskal Wallis Test)	bsc	105	5,39	1,87	0,954
	msc +	71	5,45	1,90	
	oth	9	5,22	1,64	
Compromising Conflict-style (Kruskal Wallis Test)	bsc	105	8,00	2,01	0,459
	msc +	71	8,20	2,36	
	oth	9	7,56	1,81	
Collaborating Conflict-style (Kruskal Wallis Test)	bsc	105	6,46	1,73	0,693
	msc +	71	6,62	2,07	
	oth	9	6,89	1,97	
Accommodating Conflict-style (Kruskal Wallis Test)	bsc	105	6,36	1,84	0,657
	msc +	71	6,28	1,91	
	oth	9	5,67	2,92	

Results for statistical comparison of “Education” variable:

In Table 4.15 there is not any statistically significant relationship.

It means that there is no statistically significant difference between “Education” variable and other test variables.

Table 4.16 : Statistical test values of variables with education as a variable.

DQ-4 JOB TITLE					
Variables	Job Title	N	AO	SS	p value
Individual orientation (ANOVA)	architect	71	3,22	0,42	0,1120
	engineer	61	3,06	0,44	
	other	53	3,16	0,45	
Relational orientation (Kruskal Wallis Test)	architect	71	2,61	0,32	0,4960
	engineer	61	2,56	0,26	
	other	53	2,51	0,36	
Mindfulness construct (Kruskal Wallis Test)	architect	71	2,92	0,32	0,4610
	engineer	61	2,98	0,34	
	other	53	2,85	0,37	
Competing Conflict-style (Kruskal Wallis Test)	architect	71	3,59	2,83	0,3890
	engineer	61	3,43	2,68	
	other	53	4,11	2,85	
Avoiding Conflict-style (Kruskal Wallis Test)	architect	71	5,49	1,63	0,3370
	engineer	61	5,54	2,08	
	other	53	5,13	1,91	
Compromising Conflict-style (Kruskal Wallis Test)	architect	71	8,11	2,19	0,7120
	engineer	61	8,10	2,11	
	other	53	7,92	2,12	
Collaborating Conflict-style (Kruskal Wallis Test)	architect	71	6,23	1,75	0,0790
	engineer	61	6,67	1,82	
	other	53	6,81	2,04	
Accommodating Conflict-style (Kruskal Wallis Test)	architect	71	6,54	2,10	0,1980
	engineer	61	6,26	1,80	
	other	53	6,02	1,80	

Results for statistical comparison of “Job-title” variable:

In Table 4.16 there is not any statistically significant relationship.

It means that there is no statistically significant difference between “Job-title” variable and other test variables.

Table 4.17 : Statistical test values of variables with “Years at the position” as a variable.

DQ-5 YEARS AT THE POSITION					
Variables	Years at position	N	AO	SS	p value
Individual orientation (ANOVA)	2 or less	29	3,16	0,30	0,6530
	2 to 5	33	3,22	0,33	
	5 to 10	40	3,19	0,36	
	10 to 15	46	3,11	0,45	
	15+	37	3,09	0,70	
Relational orientation (Kruskal Wallis Test)	2 or less	29	2,54	0,30	0,0630
	2 to 5	33	2,62	0,30	
	5 to 10	40	2,58	0,31	
	10 to 15	46	2,48	0,26	
	15+	37	2,62	0,40	
Mindfulness construct (Kruskal Wallis Test)	2 or less	29	2,99	0,29	0,4740
	2 to 5	33	2,91	0,32	
	5 to 10	40	2,97	0,31	
	10 to 15	46	2,84	0,33	
	15+	37	2,92	0,52	
Competing Conflict-style (Kruskal Wallis Test)	2 or less	29	2,97	2,64	0,5550
	2 to 5	33	3,76	3,00	
	5 to 10	40	3,58	2,47	
	10 to 15	46	4,07	2,96	
	15+	37	3,84	2,82	
Avoiding Conflict-style (Kruskal Wallis Test)	2 or less	29	5,69	2,39	0,2270
	2 to 5	33	4,94	1,75	
	5 to 10	40	5,75	1,53	
	10 to 15	46	5,22	1,81	
	15+	37	5,46	1,88	
Compromising Conflict-style (Kruskal Wallis Test)	2 or less	29	8,00	1,83	0,7860
	2 to 5	33	7,70	2,24	
	5 to 10	40	8,05	1,78	
	10 to 15	46	8,24	2,38	
	15+	37	8,19	2,34	
Collaborating Conflict-style (Kruskal Wallis Test)	2 or less	29	6,34	1,99	0,1960
	2 to 5	33	7,21	1,73	
	5 to 10	40	6,25	1,79	
	10 to 15	46	6,41	1,86	
	15+	37	6,57	1,94	
Accommodating Conflict-style (Kruskal Wallis Test)	2 or less	29	7,00	1,63	0,1980
	2 to 5	33	6,39	1,98	
	5 to 10	40	6,30	2,07	
	10 to 15	46	6,07	2,07	
	15+	37	5,95	1,76	

Results for statistical comparison of “Years at the position” variable:

In Table 4.17 there is not any statistically significant relationship.

It means that there is no statistically significant difference between “Years at the position” variable and other test variables.

Results for statistical comparison of “Years at the company” variable:

In Table 4.18 there is one statistically significant relationship between Years at the position variable and Relational orientation. Test statistical result is $p=0,017 < 0,05$ for Years at the position.

It means that there is a statistically significant difference between Years at the company and Relational orientation.

1. Years at the company and Relational orientation variables have statistically significant difference and a post-hoc test is applied:

2-5 Years at the position have higher Relational orientation than others, according to their mean scores. It is followed by professionals with Years at the position range 5-10. With regards to post-hoc test results, 2-5 years at the position group is statistically different than 10-15 years at the position group according to their Relational Orientations.

Table 4.18 : Statistical test values of variables with “Years at the company” as a variable.

DQ-6 YEARS AT THE COMPANY					
Variables	Years at pstn	N	AO	SS	p value
Individual orientation (ANOVA)	2 or less	33	3,16	0,38	0,4540
	2 to 5	30	3,21	0,31	
	5 to 10	20	3,10	0,22	
	10 to 15	41	3,05	0,43	
	15+	61	3,20	0,56	
Relational orientation (Kruskal Wallis Test)	2 or less	33	2,49	0,23	0,017***
	2 to 5	30	2,67	0,26	
	5 to 10	20	2,64	0,41	
	10 to 15	41	2,49	0,29	
	15+	61	2,58	0,35	
Mindfulness construct (Kruskal Wallis Test)	2 or less	33	3,00	0,31	0,5720
	2 to 5	30	2,92	0,33	
	5 to 10	20	2,92	0,24	
	10 to 15	41	2,86	0,33	
	15+	61	2,92	0,46	
Competing Conflict-style (Kruskal Wallis Test)	2 or less	33	2,76	2,62	0,0910
	2 to 5	30	3,63	2,44	
	5 to 10	20	3,45	2,61	
	10 to 15	41	4,61	3,08	
	15+	61	3,67	2,77	
Avoiding Conflict-style (Kruskal Wallis Test)	2 or less	33	5,85	2,14	0,4930
	2 to 5	30	5,10	1,73	
	5 to 10	20	5,60	1,43	
	10 to 15	41	5,24	1,92	
	15+	61	5,36	1,87	
Compromising Conflict-style (Kruskal Wallis Test)	2 or less	33	8,15	1,97	0,8370
	2 to 5	30	8,17	1,51	
	5 to 10	20	8,30	2,13	
	10 to 15	41	7,73	2,16	
	15+	61	8,08	2,48	
Collaborating Conflict-style (Kruskal Wallis Test)	2 or less	33	6,30	1,91	0,8450
	2 to 5	30	6,80	1,97	
	5 to 10	20	6,25	1,52	
	10 to 15	41	6,51	1,82	
	15+	61	6,66	1,96	
Accommodating Conflict-style (Kruskal Wallis Test)	2 or less	33	6,94	1,77	0,2400
	2 to 5	30	6,30	2,00	
	5 to 10	20	6,25	1,94	
	10 to 15	41	5,90	1,83	
	15+	61	6,23	1,99	

Table 4.19 : Statistical test values of variables with “Team harmony” as a variable.

DQ-7 What do you think about the harmony of your team?					
Variables		N	AO	SS	p value
Individual orientation (ANOVA)	1	1	3,38	0,00	0,1030
	2	2	3,31	0,22	
	3	36	3,16	0,41	
	4	111	3,09	0,43	
	5	35	3,32	0,47	
Relational orientation (Kruskal Wallis Test)	1	1	2,19	0,00	0,024***
	2	2	2,84	0,31	
	3	36	2,66	0,25	
	4	111	2,57	0,32	
	5	35	2,45	0,34	
Mindfulness construct (Kruskal Wallis Test)	1	1	3,10	0,00	0,5360
	2	2	2,95	0,22	
	3	36	3,01	0,42	
	4	111	2,89	0,31	
	5	35	2,92	0,46	
Competing Conflict- style (Kruskal Wallis Test)	1	1	4,00	0,00	0,4440
	2	2	3,50	0,71	
	3	36	3,61	2,90	
	4	111	3,94	2,80	
	5	35	2,97	2,66	
Avoiding Conflict-style (Kruskal Wallis Test)	1	1	4,00	0,00	0,6280
	2	2	7,00	1,41	
	3	36	5,50	2,24	
	4	111	5,35	1,79	
	5	35	5,43	1,75	
Compromising Conflict- style (Kruskal Wallis Test)	1	1	11,00	0,00	0,2560
	2	2	6,50	0,71	
	3	36	8,03	2,24	
	4	111	7,95	2,01	
	5	35	8,40	2,43	
Collaborating Conflict- style (Kruskal Wallis Test)	1	1	4,00	0,00	0,1000
	2	2	9,50	2,12	
	3	36	6,11	1,88	
	4	111	6,58	1,90	
	5	35	6,77	1,57	
Accommodating Conflict-style (Kruskal Wallis Test)	1	1	7,00	0,00	0,2690
	2	2	3,50	2,12	
	3	36	6,75	2,12	
	4	111	6,15	1,91	
	5	35	6,43	1,63	

Results for statistical comparison of “Team harmony” as a variable:

In Table 4.19 there is a statistically significant difference between Team harmony variable and Relational orientation. Test statistical result is $p=0,024 < 0,05$ for Team harmony.

It means that there is a statistically significant difference between Team harmony and Relational orientation.

1. Team harmony and Relational orientation variables have statistically significant difference and a post-hoc test is applied:

Relational orientation is statistically different with “Team harmony”. Professionals with Team harmony score 2 (good) out of 5 scale (1 being the perfect harmony and 5 being none) have higher Relational orientation than others, according to their mean scores. With regards to post-hoc test results, pairwise groups have no statistically significant difference.



Table 4.20 : Statistical test values of variables with “communication/social-interaction” as a variable.

DQ-8 To what extent do you think communication /social interaction have impact on					
Variables		N	AO	SS	p value
Individual orientation (ANOVA)	1				0,8160
	2	3	3.21	0.16	
	3	27	3.08	0.53	
	4	92	3.16	0.37	
	5	63	3.16	0.49	
Relational orientation (Kruskal Wallis Test)	1				0,6330
	2	3	2.52	0.37	
	3	27	2.54	0.26	
	4	92	2.60	0.29	
	5	63	2.53	0.37	
Mindfulness construct (Kruskal Wallis Test)	1				0,2440
	2	3	2.81	0.17	
	3	27	2.85	0.28	
	4	92	2.92	0.31	
	5	63	2.96	0.46	
Competing Conflict-stvle (Kruskal Wallis Test)	1				0,002***
	2	3	8.00	1.73	
	3	27	4.48	2.69	
	4	92	3.91	2.87	
	5	63	2.81	2.40	
Avoiding Conflict-stvle (Kruskal Wallis Test)	1				0,1470
	2	3	4.33	2.31	
	3	27	5.04	2.07	
	4	92	5.29	1.85	
	5	63	5.78	1.76	
Compromising Conflict-stvle (Kruskal Wallis Test)	1				0,044***
	2	3	6.67	3.51	
	3	27	7.07	2.04	
	4	92	8.18	2.16	
	5	63	8.35	1.97	
Collaborating Conflict-stvle (Kruskal Wallis Test)	1				0,9320
	2	3	6.33	3.06	
	3	27	6.67	2.02	
	4	92	6.46	1.88	
	5	63	6.62	1.76	
Accommodating Conflict-stvle (Kruskal Wallis Test)	1				0,1640
	2	3	4.67	1.16	
	3	27	6.74	1.81	
	4	92	6.12	1.91	
	5	63	6.44	1.97	

Results for statistical comparison of “communication/social-interaction” as a variable:

1. Communication/social-interaction and Competing conflict-style variables have statistically significant difference and a post-hoc test is applied:

Competing conflict-style is statistically different with Communication/social-interaction. Professionals with Communication/social-interaction score 2 (good) out of 5 scale (1 being the perfect Communication/social-interaction and 5 being none)

have higher Competing conflict-style than others, according to their mean scores. With regards to post-hoc test results, pairwise groups have statistically significant difference between 5-3 and 5-2 scores.

2. Communication/social-interaction and Compromising conflict-style variables have statistically significant difference and a post-hoc test is applied:

Compromising conflict-style is statistically different with Communication/social-interaction. Professionals who scored 5 out of 5 scale (1 being exactly agreed and 5 being agreed to a very little extent) for Communication/social-interaction effect, have higher Compromising conflict-style than others, according to their mean scores. With regards to post-hoc test results, pairwise groups have no statistically significant difference.

Table 4.21 : Statistical test values of variables with “individuals thinking of the way of dealing with conflict and its effect on project performance” as a variable.

DQ-9 To what extent do you think the way of dealing with conflict have impact on project performance?					
Variables		N	AO	SS	p value
Individual orientation (ANOVA)	1	1	2,54	0,00	0,089
	2	2	3,27	0,16	
	3	32	3,03	0,44	
	4	111	3,22	0,38	
	5	39	3,08	0,57	
Relational orientation (Kruskal Wallis Test)	1	1	2,38	0,00	0,418
	2	2	2,44	0,27	
	3	32	2,63	0,33	
	4	111	2,54	0,28	
	5	39	2,61	0,41	
Mindfulness construct (Kruskal Wallis Test)	1	1	3,15	0,00	0,015***
	2	2	2,82	0,15	
	3	32	2,84	0,31	
	4	111	2,90	0,35	
	5	39	3,05	0,44	
Competing Conflict-style (Kruskal Wallis Test)	1	1	2,00	0,00	0,016***
	2	2	5,50	0,71	
	3	32	5,03	3,23	
	4	111	3,65	2,70	
	5	39	2,64	2,24	
Avoiding Conflict-style (Kruskal Wallis Test)	1	1	3,00	0,00	0,273
	2	2	2,00	2,83	
	3	32	2,19	1,79	
	4	111	5,33	1,93	
	5	39	5,87	1,69	
Compromising Conflict-style (Kruskal Wallis Test)	1	1	10,00	0,00	0,164
	2	2	7,50	3,54	
	3	32	7,44	2,44	
	4	111	8,03	2,10	
	5	39	8,62	1,84	
Collaborating Conflict-style (Kruskal Wallis Test)	1	1	9,00	0,00	0,346
	2	2	6,00	4,24	
	3	32	6,13	1,62	
	4	111	6,70	1,89	
	5	39	6,38	1,89	
Accommodating Conflict-style (Kruskal Wallis Test)	1	1	6,00	0,00	0,988
	2	2	6,00	2,83	
	3	32	6,22	1,85	
	4	111	6,26	2,06	
	5	39	6,49	1,60	

Results for statistical comparison of “individuals thinking of the way of dealing with conflict and its effect on project performance” as a variable:

1. Individuals thinking of the way of dealing with conflict and its effect on project performance and Mindfulness variables have statistically significant difference and post-hoc test is applied:

Mindfulness is statistically different with individuals thinking of the way of dealing with conflict and its effect on project performance. Professionals with Mindfulness score 1 (highest score) out of 5 scale (5 being the least) have higher individuals agreement of the way of dealing with conflict and its effect on project performance than others, according to their mean scores. With regards to post-hoc test results, pairwise groups 3-5 and 4-5 have statistically significant difference.

2. Individuals thinking of the way of dealing with conflict and its effect on project performance and Competing conflict-style variables are significantly different and a post-hoc test is applied:

Competing conflict-style is statistically different with individuals thinking of the way of dealing with conflict and its effect on project performance. Professionals with Competing conflict-style score 2 (to a great extent) out of 5 scale (5 being the least extent) have higher individuals thinking of the way of dealing with conflict and its effect on project performance than others, according to their mean scores. With regards to post-hoc test results, pairwise group 5-3 has statistically significant difference.

4.4 DQ-10 Does Your Team Provide Adequate Levels of Social Support for its Members?

Following tables illustrate the results.

Table 4.22 : Statistical test values of variables with “Team’s social support to its members” as a variable.

Variables		N	AO	SS	p value
Individual orientation	1	18	3,21	0,35	0,135
	2	120	3,11	0,40	
	3	47	3,25	0,54	
Relational orientation	1	18	2,59	0,25	0,898
	2	120	2,58	0,31	
	3	47	2,52	0,35	
Mindfulness construct	1	18	2,85	0,33	0,346
	2	120	2,92	0,34	
	3	47	2,96	0,43	
Competing Conflict-style	1	18	3,33	3,31	0,057
	2	120	4,03	2,80	
	3	47	3,00	2,02	
Avoiding Conflict-style	1	18	6,11	2,14	0,277
	2	120	5,33	1,84	
	3	47	5,03	2,01	
Compromising Conflict-style	1	18	8,39	2,48	0,169
	2	120	7,87	2,16	
	3	47	8,03	2,01	
Collaborating Conflict-style	1	18	6,11	2,30	0,573
	2	120	6,64	1,78	
	3	47	6,00	2,32	
Accommodating Conflict-style	1	18	6,06	2,58	0,071
	2	120	6,10	1,80	
	3	47	7,03	2,04	

Results for statistical comparison of “Team’s social support to its members” variable:

In Table 4.22 there is not any statistically significant relationship.

It means that there is no statistically significant difference between “Team’s social support to its members” variable and other test variables.

Table 4.23 : Statistical test values of variables with “individuals thinking of constructive healthy approaches effect on conflict resolution” as a variable.

DQ-11 Does your team have constructive healthy approaches to conflict resolution?					
Variables		N	AO	SS	p value
Individual orientation (ANOVA) Post hoc test (TUKEY test)	1	8	3,00	0,51	0,013***
	2	110	3,09	0,40	
	3	67	3,27	0,46	
Relational orientation (Kruskal Wallis Test)	1	8	2,71	0,33	0,049
	2	110	2,61	0,31	
	3	67	2,48	0,32	
Mindfulness construct (Kruskal Wallis Test)	1	8	2,84	0,38	0,545
	2	110	2,91	0,36	
	3	67	2,94	0,38	
Competing Conflict-style (Kruskal Wallis Test)	1	8	3,50	2,33	0,327
	2	110	3,95	2,90	
	3	67	3,27	2,62	
Avoiding Conflict-style (Kruskal Wallis Test)	1	8	6,00	1,85	0,274
	2	110	5,50	1,92	
	3	67	5,18	1,77	
Compromising Conflict-style (Kruskal Wallis Test)	1	8	7,63	2,00	0,189
	2	110	7,86	2,21	
	3	67	8,42	2,00	
Collaborating Conflict-style (Kruskal Wallis Test)	1	8	7,00	2,33	0,303
	2	110	6,39	1,92	
	3	67	6,73	1,72	
Accommodating Conflict-style (Kruskal Wallis Test)	1	8	5,88	2,64	0,887
	2	110	6,26	1,94	
	3	67	6,40	1,81	

Results for statistical comparison of “individuals thinking of constructive healthy approaches effect on conflict resolution” as a variable:

In Table 4.23 there is one statistically significant difference between individuals thinking of constructive healthy approaches effect on conflict resolution as a variable and Individual orientation. Test statistical result is $p=0,013 < 0,05$ for individuals thinking of constructive healthy approaches effect on conflict resolution.

It means that there is a statistically significant difference between individuals thinking of constructive healthy approaches effect on conflict resolution scores and Individual orientation.

1. Individuals thinking of constructive healthy approaches effect on conflict resolution and Individual orientation variables have statistically significant difference:

Individual orientation varies with individuals thinking of constructive healthy approaches effect on conflict resolution. Professionals with thinking of constructive healthy approaches effect on conflict resolution score 3 (not agreed) out of 3 scale (1 being definitely agreed) have higher Individual orientation than others, according to their mean scores. With regards to post-hoc test results there is statistically difference between 2-3 scores.

2. Individuals thinking of constructive healthy approaches effect on conflict resolution and Relational orientation variables have statistically significant difference and a post-hoc test is applied:

Relational orientation is statistically different with individuals thinking of constructive healthy approaches effect on conflict resolution. Professionals with thinking of constructive healthy approaches effect on conflict resolution score 1 out of 3 scale (1 being definitely agreed and 3 not agreed) have higher Relational orientation than others, according to their mean scores. With regards to post-hoc test results there is no statistical difference between scores.

Table 4.24 : Statistical test values of variables with “Individuals thinking of warm and social team climate ” as a variable.

DQ-12 Does your team have a generally warm and social climate					
Variables		N	AO	SS	p value
Individual orientation (ANOVA) Post hoc test (TUKEY test)	1	7	3,33	0,33	0,022***
	2	102	3,07	0,39	
	3	76	3,24	0,49	
Relational orientation (Kruskal Wallis Test)	1	7	2,57	0,23	0,611
	2	102	2,59	0,31	
	3	76	2,53	0,34	
Mindfulness construct (Kruskal Wallis Test)	1	7	3,15	0,43	0,253
	2	102	2,90	0,30	
	3	76	2,92	0,43	
Competing Conflict-style (Kruskal Wallis Test)	1	7	3,86	2,67	0,469
	2	102	3,95	2,98	
	3	76	3,32	2,50	
Avoiding Conflict-style (Kruskal Wallis Test)	1	7	5,29	1,80	0,674
	2	102	5,30	1,92	
	3	76	5,55	1,81	
Compromising Conflict-style (Kruskal Wallis Test)	1	7	8,14	1,86	0,734
	2	102	8,14	2,32	
	3	76	7,93	1,91	
Collaborating Conflict-style (Kruskal Wallis Test)	1	7	6,57	1,72	0,873
	2	102	6,51	1,93	
	3	76	6,58	1,81	
Accommodating Conflict-style (Kruskal Wallis Test)	1	7	6,14	2,55	0,174
	2	102	6,07	1,86	
	3	76	6,62	1,92	

Results for statistical comparison of “individuals thinking of warm and social team climate” as a variable:

In Table 4.24 there is one statistically significant difference between individuals thinking of warm and social team climate as a variable and Individual orientation. Test statistical result is $p=0,022 < 0,05$ for individuals thinking of constructive healthy approaches effect on conflict resolution.

It means that there is a statistically significant difference between individuals thinking of constructive healthy approaches effect on conflict resolution scores and Individual orientation.

1. Individuals thinking of constructive healthy approaches effect on conflict resolution and Individual orientation variables have statistically significant difference and a post-hoc test is applied:

Individual orientation has statistically significant difference with individuals thinking of warm and social team climate. Professionals, with thinking of constructive healthy approaches effect on conflict resolution, who scored 1 out of 3 scale (1 being the “very definitely agreed” and 3 “not agreed”) have higher Relational orientation than others, according to their mean scores. With regards to post-hoc test results there is statistically difference between 2-3 scores.

Table 4.25 : Statistical test values of variables with “individuals thinking of adequate support provided for skill development, training and personal development of all its members, by the team” as a variable.

DQ-13 Does your team provide adequate support for skill development, training and personal development of all its members?					
Variables		N	AO	SS	p value
Individual orientation (Anova)	1	33	3,18	0,36	0,302
	2	98	3,11	0,43	
	3	54	3,22	0,49	
Relational orientation (Kruskal Wallis Test)	1	33	2,56	0,27	0,091
	2	98	2,61	0,30	
	3	54	2,49	0,36	
Mindfulness construct (Kruskal Wallis Test)	1	33	2,84	0,43	0,072
	2	98	2,92	0,33	
	3	54	2,97	0,39	
Competing Conflict-style (Kruskal Wallis Test)	1	33	3,58	2,37	0,084
	2	98	4,13	3,05	
	3	54	2,94	2,36	
Avoiding Conflict-style (Kruskal Wallis Test)	1	33	5,36	1,90	0,925
	2	98	5,46	1,87	
	3	54	5,33	1,86	
Compromising Conflict-style (Kruskal Wallis Test)	1	33	8,12	2,21	0,111
	2	98	7,78	2,25	
	3	54	8,52	1,81	
Collaborating Conflict-style (Kruskal Wallis Test) Post hoc test (TUKEY test)	1	33	7,06	2,12	0,043***
	2	98	6,26	1,80	
	3	54	6,74	1,77	
Accommodating Conflict-style (Kruskal Wallis Test)	1	33	5,88	1,75	0,458
	2	98	6,35	2,10	
	3	54	6,46	1,66	

Results for statistical comparison of “individuals thinking of adequate support provided for skill development, training and personal development of all its members, by the team” as a variable:

In Table 4.25 there is one statistically significant difference between individuals thinking of adequate support provided for skill development, training and personal development of all its members, by the team and Collaborating conflict-style. Test

statistical result is $p=0,043 < 0,05$ for individuals thinking of constructive healthy approaches effect on conflict resolution.

It means that there is a statistically significant difference between individuals thinking of adequate support provided for skill development, training and personal development of all its members, by the team and Collaborating conflict-style.

1. Individuals thinking of adequate support provided for skill development, training and personal development of all its members, by the team and Collaborating conflict-style variables have statistically significant difference:

Collaborating conflict-style varies with individuals thinking of adequate support provided for skill development, training and personal development of all its members, by the team. Professionals with thinking of adequate support provided for skill development, training and personal development of all its members, by the team score 1 out of 3 scale (1 being the “very definitely agreed” and 3 “not agreed”) have higher Collaborating conflict-style than others, according to their mean scores. With regards to post-hoc test results there is no statistical difference between scores.

Table 4.26 : Statistical test values of variables with Self-construal variable.

Variables	self-construal	N	AO	SS	p value
Mindfulness construct	differentiative	60	2,93	0,33	,117
	integrative	36	2,89	0,38	
	balanced	48	3,01	0,34	
	total	185	2,92	0,37	
Competing Coflict-style	differentiative	60	3,40	2,44	,829
	integrative	36	3,47	2,58	
	balanced	48	3,96	2,88	
	total	185	2,78	2,78	
Avoiding Coflict-style	differentiative	60	5,23	1,87	,613
	integrative	36	5,72	1,63	
	balanced	48	5,42	2,00	
	total	185	5,41	1,87	
Compromising Conflict-style	differentiative	60	8,47	2,10	,199
	integrative	36	8,11	2,14	
	balanced	48	7,69	2,23	
	total	185	8,05	2,13	
Collaborating Coflict-style	differentiative	60	6,77	1,70	,810
	integrative	36	6,53	1,73	
	balanced	48	6,38	2,11	
	total	185	6,54	1,87	
Accommodating Coflict-style	differentiative	60	6,13	1,61	,627
	integrative	36	6,17	1,93	
	balanced	48	6,50	2,17	
	total	185	6,30	1,92	

Results for statistical comparison of “Self-construal” variable:

In Table 4.26 there is not any statistically significant relationship.

It means that there is no statistically significant difference between mean of “self-construal” variable and means of other test variables.

4.4.1 Correlation analysis

Correlation analysis values and the relationships between variables are given in two steps within the scope of this research study. At the first step, all variables and all answers data are evaluated. The second correlation analysis is done basing on EFA and CFA results during SEM process and elimination of some data, accordingly. Therefore, correlation values of variables after EFA and CFA are found to be stronger.

Table 4.27 : Correlation analysis between research variables.

Correlations									
	individual	relational	mindfulness	competing	compromising	collaborating	accommodating	avoiding	
Individual Orientation	Pearson Correlation	1	0,044	0,231	-0,038	0,061	0,093	0,001	-0,095
	Sig. (2-tailed)		0,55	0,002**	0,605	0,411	0,209	0,994	0,197
	N		185	185	185	185	185	185	185
Relational Orientation	Pearson Correlation	0,044	1	0,195	0,046	-0,139	0,035	0,003	0,026
	Sig. (2-tailed)	0,55		0,008**	0,532	0,059	0,639	0,972	0,721
	N	185	185	185	185	185	185	185	185
Mindfulness construct	Pearson Correlation	0,231	0,195	1	-0,128	-0,023	-0,109	0,14	0,138
	Sig. (2-tailed)	0,002**	0,008**		0,081	0,755	0,139	0,057	0,6
	N	185	185	185	185	185	185	185	185
Competing Conflict-style	Pearson Correlation	-0,038	0,046	-0,128	1	-0,504	-0,038	-0,480**	-0,347**
	Sig. (2-tailed)	0,605	0,532	0,081		0,00**	0,606	0,000	0,000
	N	185	185	185	185	185	185	185	185
Compromising	Pearson Correlation	0,061	-0,139	-0,023	-0,504	1	-0,095	-0,095	-0,156*
	Sig. (2-tailed)	0,411	0,059	0,755	0,00**		0,201	0,198	0,34
	N	185	185	185	185	185	185	185	185
Collaborating Conflict-style	Pearson Correlation	0,093	0,035	-0,109	-0,038	-0,095	1	-0,290**	-0,441**
	Sig. (2-tailed)	0,209	0,639	0,139	0,606	0,201		0,000	0,000
	N	185	185	185	185	185	185	185	185
Accommodating Conflict-style	Pearson Correlation	0,001	0,003	0,14	-0,480**	-0,095	-0,290**	1	0,106
	Sig. (2-tailed)	0,994	0,972	0,057	0,000	0,198	0,000		0,152
	N	185	185	185	185	185	185	185	185
Avoiding Conflict-style	Pearson Correlation	-0,095	0,026	0,138	-0,347**	-0,156*	-0,441**	0,106	1
	Sig. (2-tailed)	0,197	0,721	0,6	0,000	0,34	0,000	0,152	
	N	185	185	185	185	185	185	185	185

** . Correlation is significant at the 0.01 level (2-tailed).

According to correlation analysis results;

There is a significant positive linear relationship between Mindfulness and Individual orientation.

There is a significant positive linear relationship between Mindfulness and Relational orientation.

There is a significant negative linear relationship between Competing conflict-style and Compromising, Accommodating and Avoiding, conflict-styles.

There is a significant negative linear relationship between Compromising conflict-style and Competing and Avoiding conflict-styles.

There is a significant negative linear relationship between Collaborating conflict-style and Avoiding and Accommodating conflict-styles.

There is a significant negative linear relationship between Accommodating conflict-style and Competing and Collaborating conflict-styles.

There is a significant negative linear relationship between Avoiding conflict-style and Competing, Compromising and Collaborating conflict-styles.

There is a significant negative linear relationship between Compromising conflict-style and Competing and Avoiding conflict-styles.

Table 4.28 displays correlation values and basic descriptive statistics between variables after EFA and CFA.

Table 4.28 : Correlation analysis between research variables after EFA and CFA.

Correlations				
	RELATIONAL ORIENTATION	INDIVIDUAL ORIENTATION	CHS	MINDFULNESS
RELATIONAL ORIENTATION	1			
INDIVIDUAL ORIENTATION	0,216**	1		
CHS	0,581**	0,392*	1	
MINDFULNESS	0,373*	0,315*	0,673**	1

*0,05 p value

**0,01 p value

There is a $p < 0.05$ correlation between all variables, as seen from the correlation analysis table above.

There is the strongest positive correlation between mindfulness construct and conflict-style variables which is followed by relational self-construal orientation and conflict-style. Correlations are stronger according to analysis basing on data after CFA and EFA results.

4.5 Factor Analysis

Factor analysis are given per variable and in two parts: one is Explanatory Factor Analysis (EFA), second is Confirmatory Factor Analysis (CFA).

SPSS, Statistical Package for the Social Sciences package programme had been used for factor analysis and assessment of data set viability and suitability of measures. KMO and Bartlett tests had been applied accordingly, test results are given as in Table 4.29.

Table 4.29 : KMO and Bartlett test results.

Scale	KMO	BARLETT	df	P
Self-construal (BID)	0,873	1066,254	105	0,000
Mindfulness (5FMQ)	0,804	1893,309	351	0,000
Conflict-style (TKI)	0,769	584,610	10	0,000

According to the results, KMO values are above 0.5 and suitable for factor analysis. High values (close to 1.0) generally indicate that a factor analysis is useful with the data.

Bartlett's test of sphericity results are in 1% significance value and suitable. Small values (less than 0.05) of the significance level indicate that a factor analysis is useful with the data (Güriş and Astar, 2014, p.373).

4.5.1 Self-construal EFA and CFA analysis

Self-construal EFA (Explanatory Factor Analysis)

Exploratory factor analysis had been applied to BID scale data and data had been reduced by removal of some items with low factor loads.

Table 4.30 : BID Scale Factor Loads table.

scale	sub-scale	item	Factor loading	Variance %
BID Scale	Interrelational orientation	SCRO1 I believe that I will always feel close to my family.		%27,017
		SCRO2 I find it difficult to relate to people.	,640	
		SCRO3 I feel as if I am emotionally excluded from society.	,751	
		SCRO4 I emotionally feel very close to my family.		
		SCRO5 I feel emotionally alienated from my close environment.	,672	
		SCRO6 I strive to actualize my wishes by isolating myself from others as much as possible.	,675	
		SCRO7 While working for things I wish to actualize in life, I always feel my family's love and support with me.		
		SCRO8 I feel lonely.	,765	
		SCRO9 I feel that my emotional ties to my family are weak.	,700	
		SCRO10 I feel that my emotional ties to my family give me strength to do the things I want to achieve in life.		
		SCRO11 I feel remote from other people.	,803	
		SCRO12 I feel emotionally close to my social environment.		
		SCRO13 As one develops, one emotionally gets more distant from his/her family.	,600	
		SCRO14 One needs to minimize emotional ties to one's family in order to do the things he/she wishes to do.		
		SCRO15 In our times, the existence of strong emotional ties amongst people would hinder rather than support them.		
		SCRO16 As societies develop, it is natural for interpersonal emotional ties to weaken.		
	Self-developmental orientation	SCIO1 When alone, I find interesting things to do.	,718	%25,744
		SCIO2 I definitely try to allocate time and opportunities to myself in order to be able to do the things I wish to do.	,679	
		SCIO3 Rather than being different, I prefer to be in unison with the society on an intellectual basis.		
		SCIO4 I prefer to identify with the societal values rather than questioning them.		
		SCIO5 I find myself interesting.	,652	
		SCIO6 I consider it important that one should develop oneself in accordance with the society, rather than with one's wishes.		
		SCIO7 A person's most important aim should be to thoroughly develop one's potential.	,740	
		SCIO8 One should be able to develop and actualize one's uniqueness.	,775	
		SCIO9 Acting in accordance with the society, rather than with oneself, would in the long run be to his/her benefit.		
		SCIO10 Being a person approved by those around is important for me.		
		SCIO11 It is very important for me that I develop my potential and characteristics and be a unique person.	,818	
		SCIO12 I can live for a mission that is exclusive to myself even though others may disapprove.	,727	
		SCIO13 I feel that it is more important for everyone to behave in accordance with societal expectations, rather than striving to develop his/her uniqueness.		
Total variance explained				52,761

According to the EFA Analysis results, factor loads below 0.50 value are eliminated from the evaluation, and viable items with factor loads above 0.5 are as displayed in Table 4.30. by use of Varimax rotation process. In this study, relational orientation and self-developmental (individual) orientation sub-scales dimensions are gathered under the same factor structure despite original scale consisting of two separate factors for each sub-scale. Total variance of the scale had been calculated as 52.761%. Factor loads with respect to viable item codes according to scale are as given in Table 4.31.

Table 4.31 : Self-construal (BID) Scale EFA Analysis and Factor Loads.

Rotated Component Matrix ^a		
	Component	
	1	2
SCRO11	,803	
SCRO8	,765	-,123
SCRO3	,751	-,155
SCRO9	,700	-,179
SCRO6	,675	
SCRO5	,672	
SCRO2	,640	-,184
SCRO13	,600	
SCIO11	-,154	,818
SCIO8		,775
SCIO7		,740
SCIO12	,157	,727
SCIO1	-,114	,718
SCIO2	-,115	,679
SCIO5		,652

Self-construal CFA (Confirmatory Factor Analysis)

BID Model consists of two latent (hidden) variables. According to CFA, four more scale items with low factor loadings had been removed from the data set. CMIN value of the model had been calculated as 82.120, and CMIN/df ratio equals to 2.003 that is acceptable; thus, the measuring model is suitable. Additional fit indices of CFI, IFI and RMSEA are evaluated and the values are within acceptable ranges as displayed in below Table 4.32.

Table 4.32 : Self-construal (BID) Scale Fit-indices.

Scale	CMIN (x2)	DF	CMIN/DF	CFI	IFI	TLI	RMSEA
Self-construal (BID)	82.120	41	2.003	0.94	0.94	0.92	0.074
remarks	n/a	n/a	<3 good	≥90	≥90	≥90	<0.08

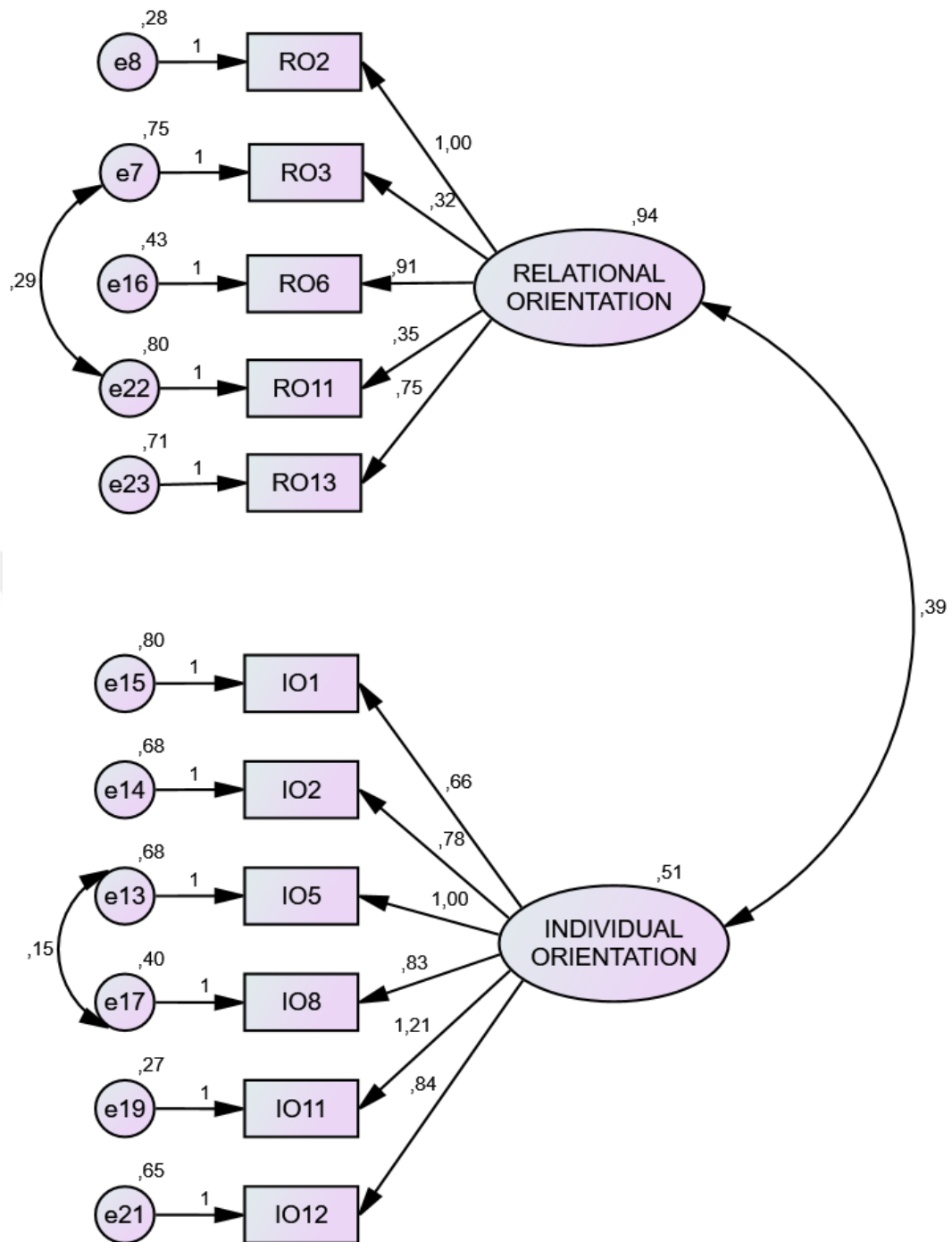


Figure 4.1 : Self-construal (BID) Scale CFA.

4.5.2 Mindfulness EFA and CFA analysis

Mindfulness EFA (Explanatory Factor Analysis)

Exploratory factor analysis had been applied to Five Factor Mindfulness scale data and data had been reduced by removal of some items with low factor loads. -

Table 4.33 : Five Factor Mindfulness (5FMQ) Scale Factor Loads table.

scale	sub-scale	item	Factor loading	Variance %
Five Factor Mindfulness Scale	observe	MO.1 When I'm walking, I deliberately notice the sensations of my body moving		10,209%
		MO.2 When I take a shower or bath, I stay alert to the sensations of water on my body	,719	
		MO.3 I notice how foods and drinks affect my thoughts, bodily sensations, and emotions	,598	
		MO.4 I pay attention to sensations, such as the wind in my hair or sun on my face	,791	
		MO.5 I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing	,660	
		MO.6 I notice the smells and aromas of things		
		MO.7 I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow	,553	
		MO.8 I pay attention to how my emotions affect my thoughts and behavior		
	describe	MD.1 I'm good at finding words to describe my feelings	,651	9,906%
		MD.2 I can easily put my beliefs, opinions, and expectations into words		
		MD.3 It's hard for me to find the words to describe what I'm thinking		
		MD.4 I have trouble thinking of the right words to express how I feel about things		
		MD.5 When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words		
		MD.6 Even when I'm feeling terribly upset, I can find a way to put it into words	,774	
		MD.7 My natural tendency is to put my experiences into words	,697	
		MD.8 I can usually describe how I feel at the moment in considerable detail	,681	
	act with awareness	MA.1 When I do things, my mind wanders off and I'm easily distracted	,546	15,211%
		MA.2 I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted	,692	
		MA.3 I am easily distracted	,581	
		MA.4 I find it difficult to stay focused on what's happening in the present	,717	
		MA.5 It seems I am "running on automatic" without much awareness of what I'm doing	,690	
		MA.6 I rush through activities without being really attentive to them	,793	
		MA.7 I do jobs or tasks automatically without being aware of what I'm doing	,781	
		MA.8 I find myself doing things without paying attention	,679	
	non-judge	MNJ.1 I criticize myself for having irrational or inappropriate emotions	,510	11,639%
		MNJ.2 I tell myself I shouldn't be feeling the way I'm feeling	,754	
		MNJ.3 I believe some of my thoughts are abnormal or bad and I shouldn't think that way	,764	
		MNJ.4 I make judgments about whether my thoughts are good or bad	,562	
		MNJ.5 I tell myself that I shouldn't be thinking the way I'm thinking	,710	
		MNJ.6 I think some of my emotions are bad or inappropriate and I shouldn't feel them	,636	

Table 4.33 (continued) : Five Factor Mindfulness (5FMQ) Scale Factor Loads table.

scale	sub-scale	item	Factor loading	Variance %
		MNJ.7 When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about		
		MNJ.8 I disapprove of myself when I have irrational ideas		
	non-react	MNR.01 I perceive my feelings and emotions without having to react to them		8,571%
		MNR.02 I watch my feelings without getting lost in them		
		MNR.03 When I have distressing thoughts or images, I “step back” and am aware of the thought or image without getting taken over by it	,600	
		MNR.04 In difficult situations, I can pause without immediately reacting		
		MNR.05 When I have distressing thoughts or images, I feel calm soon after	,699	
		MNR.06 When I have distressing thoughts or images I am able just to notice them without reacting	,692	
		MNR.07 When I have distressing thoughts or images, I just notice them and let them go	,634	
Total		variance	explained	
55,536%				

According to the EFA Analysis results, factor loads below 0.50 value are eliminated from the evaluation, and viable items with factor loads above 0.5 are as displayed in Table 4.33 by use of Varimax rotation process. There are five subscales of 5FMQ Mindfulness scale which are observe, describe, act with awareness, non-judge and non-react. Total variance of the scale had been calculated as 55.536%. Factor loads with respect to viable item codes according to scale are as given in Table 4.34.

Table 4.34 : Five Factor Mindfulness (5FMQ) Scale EFA Analysis and Factor Loads.

Rotated Component Matrix^a					
	Component				
	1	2	3	4	5
MA6	,793			-,131	,116
MA7	,781	-,123			
MA4	,717	,275		-,155	
MA2	,692	,304			
MA5	,690			-,192	
MA8	,679	,135		-,148	
MA3	,581	,273		,307	-,392
MA1	,546	,345			-,314
MNJ3	,212	,764		-,101	
MNJ2	,170	,754	,161		
MNJ5	,144	,710	,126	-,151	,218
MNJ6	,268	,636	,225	-,145	,188
MNJ4		,562	,340		
MNJ1		,510		,296	-,116
MO4			,791	,237	
MO2	,108		,719		,108
MO5			,660	,182	,142
MO3	,105	,185	,598		,186
MO7	-,191		,553	,409	
MD6		-,100		,774	,207
MD7			,310	,697	,219
MD8	-,128		,205	,681	,220
MD1	-,194		,137	,651	
MNR5			-,109	,205	,699
MNR6			,154		,692
MNR7			,121		,634
MNR3		,173	,238	,187	,600

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Mindfulness CFA (Confirmatory Factor Analysis)

Mindfulness Scale consists of five variables. According to CFA, one more scale item with low factor loading had been removed from the data set. CMIN value of the model had been calculated as 468,185, and CMIN/df ratio equals to 1,637 that is acceptable; thus, the measuring model is suitable. Additional fit indices of CFI, IFI and RMSEA are evaluated and the values are within acceptable ranges as displayed in below Table 4.35.

Table 4.35 : Five Factor Mindfulness (5FMQ) Scale Fit-indices.

Scale	CMIN (x2)	DF	CMIN/DF	CFI	IFI	TLI	RMSEA
Self-construal (BID)	468.185	286	1.637	0.89	0.89	0.87	0.059
remarks	n/a	n/a	<3 good	≥90	≥90	≥90	<0.08

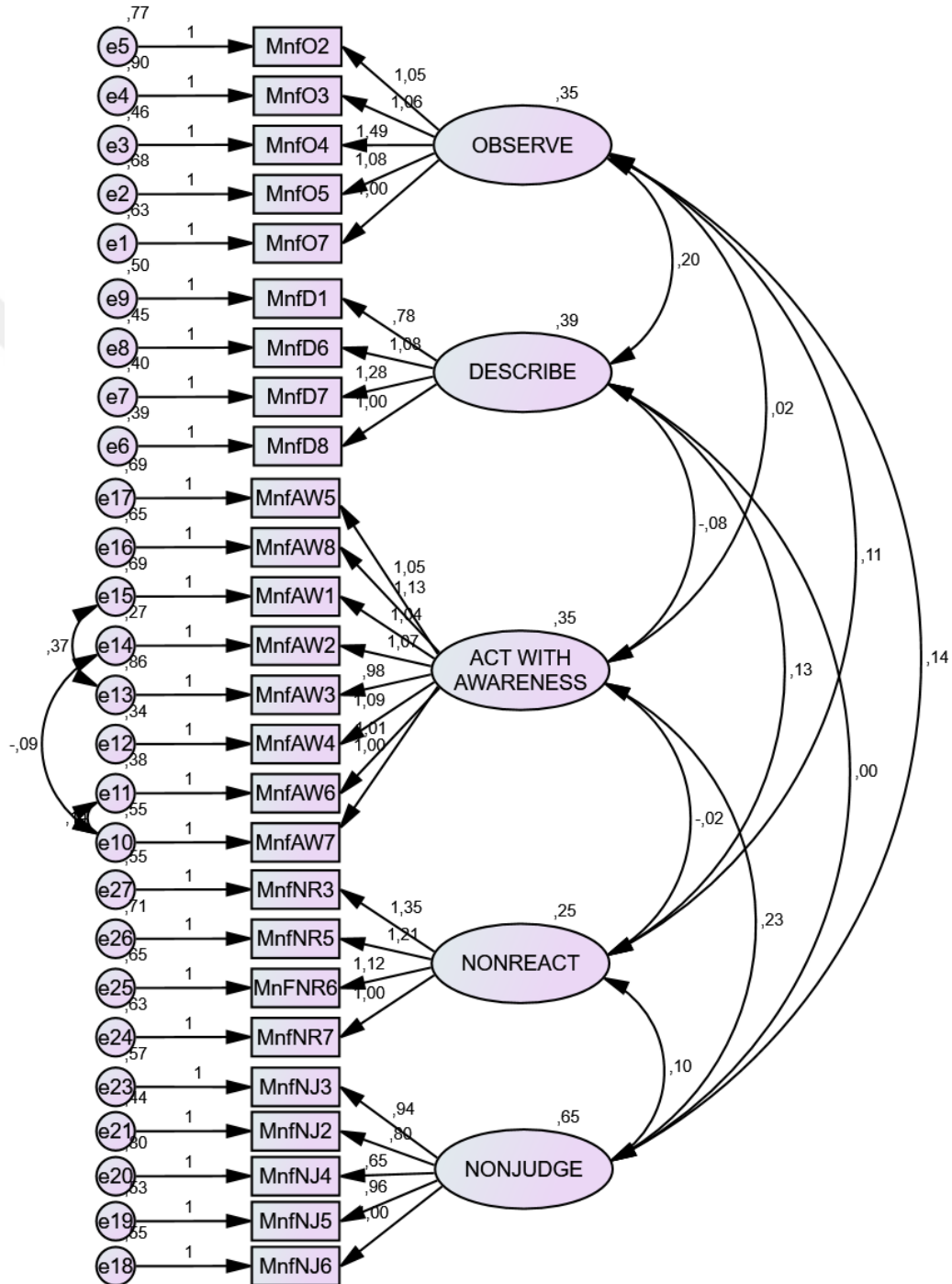


Figure 4.2 : Five Factor Mindfulness Scale (5FMQ) CFA.

4.5.3 Conflict-style EFA and CFA analysis

Conflict-style EFA (Explanatory Factor Analysis)

There are five subscales of Thomas Kilmann Conflict-style Inventory (TKI) competing, collaborating, compromising, avoiding and accommodating styles. Total variance of the scale had been calculated as 69,362 %.

Table 4.36 : Thomas Kilmann Conflict Style Inventory (TKI) factor loading table.

scale	sub-scale	item	Factor Loading
Thomas Kilmann Inventory (TKI)	competing	I am usually firm in pursuing my goals	0,752
		I try to win my position	
		I am usually firm in pursuing my goals	
		I make some effort to get my way	
		I am firm in pursuing my goals	
		I press to get my points made	
		I try to show the other person the logic and benefits of my position	
		I try to convince the other person of the merits of my position	
		I am usually firm in pursuing my goals	
		I assert my wishes	
		I try to show the other person the logic and benefits of my position	
		I am usually firm in pursuing my goals	
	collaborating	I attempt to deal with all of his/her and my concerns	0,857
		I consistently seek the other's help in working out a solution	
		I attempt to get all concerns and issues immediately out in the open	
		I attempt to get all concerns and issues immediately out in the open	
		I tell the other person my ideas and ask for his/hers	
		I attempt to get all concerns and issues immediately out in the open	
		I attempt to immediately work through our differences	
		I always lean toward a direct discussion of the problem	
		I am very often concerned with satisfying all our wishes	
		I am nearly always concerned with satisfying all our wishes	
		I usually seek the other's help in working out a solution	
		I always share a problem with the other person so that we can work it out	
	compromising	I try to find a compromise solution	0,853
		I try to find a compromise solution	
		I give up some points in exchange for others	
		I try to find a compromise solution	
		I will let the other person have some of his/her positions if he/she lets me have some of mine	
		I propose a middle ground	
		I will let other people have some of their positions if they let me have some of mine	
		I try to find a fair combination of gains and losses for both of us	

Table 4.36 (continued) : Thomas Kilmann Conflict Style Inventory (TKI) factor loading table.

scale	sub-scale	item	Factor Loading
		I try to find a position that is intermediate between his/hers and mine	
		I try to get the other person to settle for a compromise	
		I propose a middle ground	
		I propose a middle ground	
	avoiding	There are times when I let others take responsibility for solving the problem	0,833
		I try to do what is necessary to avoid useless tensions	
		I try to avoid creating unpleasantness for myself	
		I try to postpone the issue until I have had some time to think it over	
		I feel that differences are not always worth worrying about	
		I sometimes avoid taking positions which would create controversy	
		I try to do what is necessary to avoid tensions	
		I try to do what is necessary to avoid useless tensions	
		I try to postpone the issue until I have had some time to think it over	
		There are times when I let others take responsibility for solving the problem	
		I sometimes avoid taking positions that would create controversy	
		I feel that differences are not always worth worrying about	
	accommodating	Rather than negotiate the things on which we disagree, I try to stress those things upon which we both agree	0,863
		I might try to soothe the other's feelings and preserve our relationship	
		I sometimes sacrifice my own wishes for the wishes of the other person	
		I might try to soothe the other's feelings and preserve our relationship	
		I might try to soothe the other's feelings and preserve our relationship	
		I try not to hurt the other's feelings	
		If it makes other people happy, I might let them maintain their views	
		In negotiations, I try to be considerate of the other person's wishes	
		I try meet to meet the wishes of others when it's important to them	
		In negotiations, I try to be considerate of the other person's wishes	
		If it makes other people happy, I might let them maintain their views	
		I try not to hurt the other's feelings	
Total variance explained			69,362 %

Factor loads with respect to viable item codes according to scale are as given in Table 4.37.

Table 4.37 : Thomas Kilmann Conflict-style Inventory (TKI) factor loads.

	Component
	1
CSACC	,863
CSCLB	,857
CSCMPR	,853
CSAVO	,833
CSCPT	,752

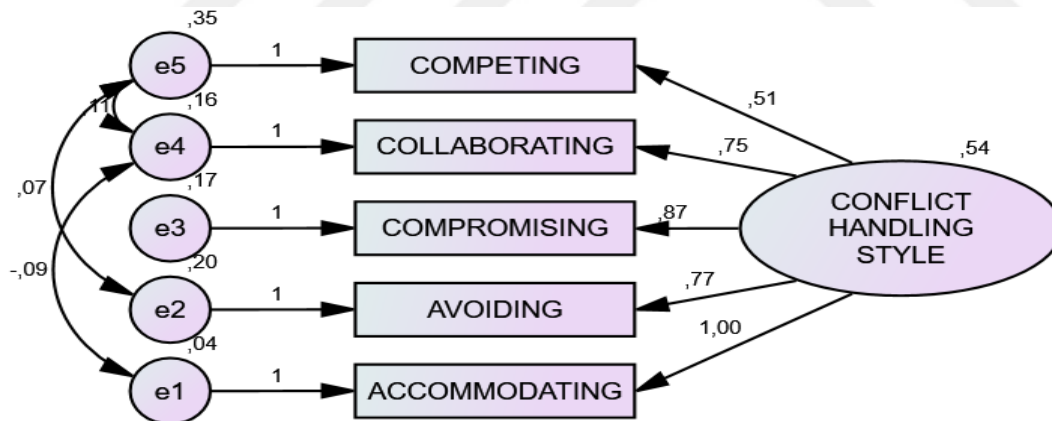
Extraction Method: Principal Component Analysis.

Conflict-style (TKI) CFA (Confirmatory Factor Analysis)

Thomas Kilmann conflict-style inventory (TKI) consists of five variables. CMIN value of the model had been calculated as 7,529, and CMIN/df ratio equals to 3,765 that is acceptable; thus, the measuring model is suitable. Additional fit indices of CFI, IFI and RMSEA are evaluated and the values are within acceptable ranges as displayed in below Table 4.38.

Table 4.38 : Thomas Kilmann conflict-style scale (TKI) fit-indices.

Scale	CMIN (x2)	DF	CMIN/DF	CFI	IFI	TLI	RMSEA
Conflict-style (TKI)	7,529	2	3,765	0,991	0,991	0,956	0,123
remarks	n/a	n/a	<3 good	≥90	≥90	≥90	<0.08

**Figure 4.3 :** Thomas Kilmann conflict-style scale (TKI) CFA.

4.6 Reliability Analysis

The reliability of the scales used in survey is analyzed after factor analysis and the results are as displayed below.

Reliability analysis is performed to measure the consistency of the survey responses.

Table 4.39 : Reliability values of the scales used in the research.

VARIABLE	Cronbach's	ITEMS
RELATIONAL ORIENTATION	0,763	RO2
		RO3
		RO6
		RO11
		RO13
INDIVIDUAL ORIENTATION	0,805	IO1
		IO2
		IO5
		IO8
		IO11
		IO12
OBSERVE	0,758	MnfO2
		MnfO3
		MnfO4
		MnfO5
		MnfO7
DESCRIBE	0,787	MnfD1
		MnfD6
		MnfD7
		MnfD8
ACT WITH AWARENESS	0,853	MnfAW1
		MnfAW2
		MnfAW3
		MnfAW4
		MnfAW5
		MnfAW6
		MnfAW7
		MnfAW8
NONREACT	0,684	MnfNR3
		MnfNR5
		MnfNR6
		MnfNR7
NONJUDGE	0,807	MnfNJ2
		MnfNJ3
		MnfNJ4
		MnfNJ5
		MnfNJ6
CONFLICT HANDLING STYLE	0,899	COMPETING
		COLLABORATING
		COMPROMISING
		AVOIDING
		ACCOMMODATING

In above given items of the scales used in the research and evaluations, values are greater than the value of Cronbach's Alpha (Table 4.40.), which displays a high level of reliability.

Table 4.40 : Cronbach's Alpha value classification (Kalaycı, 2006).

CRONBACH'S ALPHA	Comment
0.80-1.00	High
0.60-0.80	Highly reliable
0.40-0.60	Low
< 0.40	Not applicable

4.7 Path Analysis / SEM (Structural Equation Modeling)

AMOS package program is used to analyze and explain the relationships of all variables and their sub-factors, which are proposed by hypothesis. Path diagram is created, and Maximum Likelihood method is used for estimation of structural parameters.

AMOS (SEM) Structural Equation Model, displays analysis results separately as standardized and non-standardized parameters. In this study, for the sake of clarity, standardized parameters are used.

Chi-squared value which is calculated for model fit of Structured Equation Modelling can sometimes be effected by the size and number of variables and can be misleading; hence, (χ^2/df) measure is referred to for decision making (Raykov and Marcoulides, 2006).

Estimated model is analyzed with path-analysis method including detailed relationships between hypothesized variables of AMOS Structural Equation Model is seen as in Figure 4.4.

In mediation, we consider an intermediate variable, which is called the mediator, that helps explain how or why an independent variable influences an outcome.

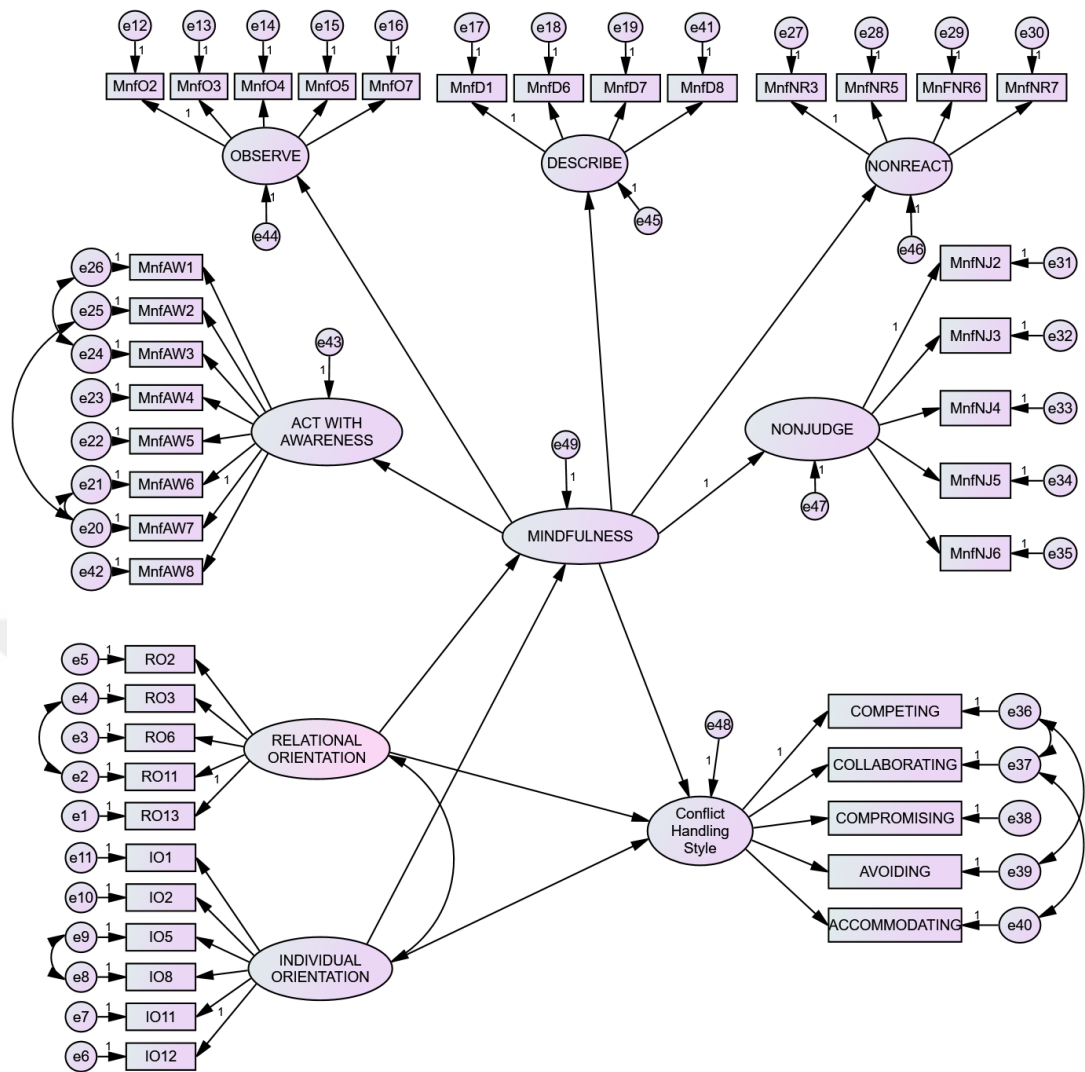


Figure 4.4 : Path analysis of the estimated model.

CMIN/Df=1,568
 CMIN=1254,255
 DF=800
 CFI=0,855
 IFI=0,857
 TLI=0,843
 RMSEA=0,056

Table 4.41 : The fit indices used in the process of SEM model-testing/evaluation and the findings.

ID	Fit indice	Good fit	Acceptable fit	Model
1	χ^2	-	-	1254,255 (df=800)
2	χ^2/df	$0 < \chi^2/df < 2$	$2 < \chi^2/df < 3$	1,568
3	RMSEA	$0 < RMSEA < 0,05$	$0,05 < RMSEA < 0,08$	0,056
4	CFI	$0,97 < CFI < 1,00$	$0,90 < CFI < 0,95$	0,855
5	IFI	$0,95 < IFI < 1,00$	$0,90 < IFI < 0,95$	0,857
6	TLI	$0,95 < TLI < 1,00$	$0,90 < TLI < 0,95$	0,843

Model is considered within acceptable ranges according to analysis findings as χ^2/df (1,568) and ($p < 0,05$). Model fit index values are calculated as: RMSEA (0,056), CFI (0,855), IFI (0,857), TLI (0,843).

Model fit indices, their fit ranges are as given in detail above in Table 4.41. Some of the values are very close to fit intervals which support the model fit within acceptable ranges.

Table 4.42 : Regression and determination coefficients calculated from the Model.

SEM					
	effect	affected	Path Value	P	
RELATIONAL ORIENTATION	--->	MINDFULNESS	0,26	,000 **	supported
INDIVIDUAL ORIENTATION	--->	MINDFULNESS	0,32	,000 **	supported
RELATIONAL ORIENTATION	--->	CONFLICT HANDLING STYLE	0,45	,000 **	supported
INDIVIDUAL ORIENTATION	--->	CONFLICT HANDLING STYLE	0,21	,000 **	supported
MINDFULNESS	--->	CONFLICT HANDLING STYLE	0,58	,000 **	supported

Relational orientation and individual orientation are affecting Mindfulness. Relational orientation, individual orientation and mindfulness are affecting Conflict handling style. Coefficients are considered significant as the ($p < 0,01$).

R^2 values are calculated as 0,306 for Mindfulness and 0,441 for Conflict handling style. R-squared, also called coefficient of determination, is the measure of fitness of the proposed model to the observed data in the context of regression analysis and indicates the percentage of variance of dependent variable explained by the independent variables of the model. R-squared is the measurement of “goodness of fit.” Whereas in some areas a R^2 of .306 is considered weak, it is considered to be quite good for our research field.

4.7.1 Mediation analysis with AMOS

In mediation, we consider an intermediate variable, called the mediator, that helps explain how or why an independent variable influences an outcome. In the context of our study, it is of great interest to identify and study the mechanisms by which an intervention, in our case individual mindfulness, achieves its effect. By investigating mediational processes that clarify how the mindfulness achieves the study outcome,

not only can we further our understanding of the conflict behavior of individuals and the mechanisms of mindfulness, but we may also be able to identify alternative, more efficient, conflict handling strategies.

We attain insight and acquire deep understanding about the mechanism of mindfulness by use of mediation analysis. Such information provides a good understanding for the analysis and pathways of conflict-style thus we can stimulate the identification of more efficacious strategies.

Models analyzing mediator or moderator variables existence are fundamental to SEM from many aspects. A mediating variable transmits the effect of an independent variable on a dependent variable. In fact, models analyzing mediator or moderator variables existence, can be considered as simple structural equation models.

A mediator variable shows the relationship between the dependent variable and the independent variable. When a variable follows below given conditions it is treated as mediator variable. (Baron & Kenny, 1986; MacKinnon, 2008).

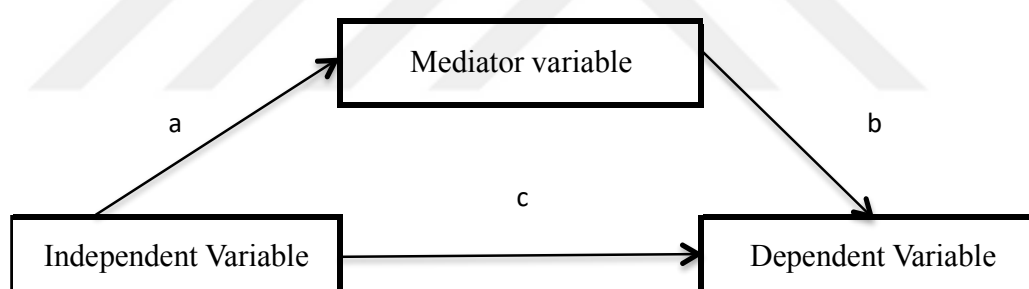


Figure 4.5 : Mediator variable condition.

In Figure 4.5 there are three different ways displayed as a, b and c. Way a is used when the variances at independent variable level explain the causes of estimated mediator variable as significant. Way b is used when the variances at mediator variable level explain the causes of dependent variable as significant. Way c is used when the way a and way b are hold under control and the previously significant relationship between independent and dependent variable is no longer significant. A single dominant mediator variable is considered as way c approaches null value. If way c is not zero, then effects of multiple mediator variables can be considered.

4.7.1.1 Mediation analysis of mindfulness and relational orientation effect on conflict-style

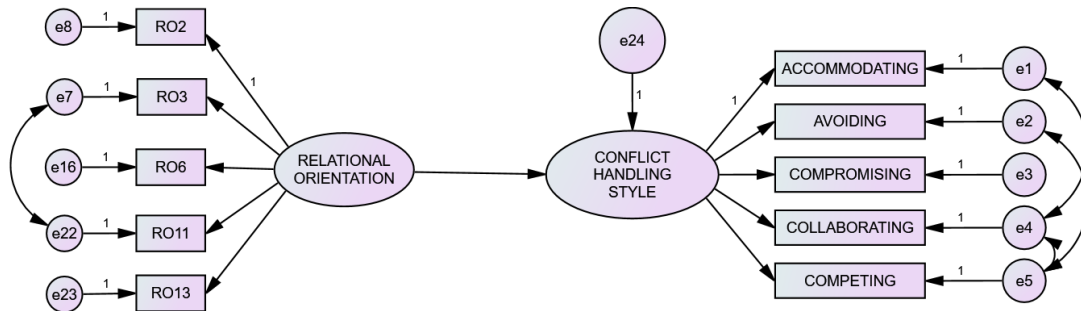


Figure 4.6 : Relational orientation variable effect on conflict-style variable.

Table 4.43 : The fit indices used in the process of mediation analysis /evaluation of mindfulness and relational orientation effect on conflict-style and the findings, step 1.

ID	Fit indice	Good fit	Acceptable fit	Model
1	χ^2	-	-	39,446
2	χ^2/df	$0 < \chi^2/df < 2$	$2 < \chi^2/df < 3$	1,315
3	RMSEA	$0 < RMSEA < 0,05$	$0,05 < RMSEA < 0,041$	
4	CFI	$0,97 < CFI < 1,00$	$0,90 < CFI < 0,95$	0,990
5	IFI	$0,95 < IFI < 1,00$	$0,90 < IFI < 0,95$	0,990
6	TLI	$0,95 < TLI < 1,00$	$0,90 < TLI < 0,95$	0,984

Model is considered within acceptable ranges according to analysis findings as χ^2 is 39,446 and χ^2/df (1,315) and ($p < 0,05$). Model fit index values are calculated as: RMSEA (0,041), CFI (0,990), IFI (0,990), TLI (0,984).

Model fit indices, their fit ranges are as given in detail above in Table 4.43. Some of the values are very close to fit intervals which support the model fit within acceptable ranges.

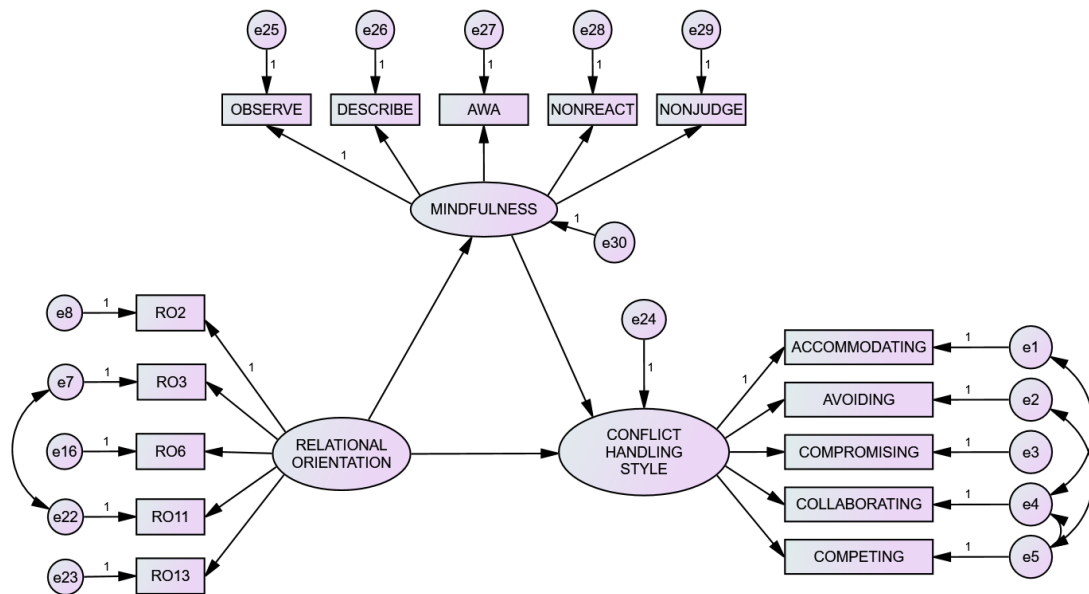


Figure 4.7 : Estimated mindfulness as mediator variable effect and relational orientation variable effect on conflict-style.

Table 4.44 : The fit indices used in the process of mediation analysis /evaluation and the findings, step 2.

ID	Fit indice	Good fit	Acceptable fit	Model
1	χ^2	-	-	172,638 (df=83)
2	χ^2/df	$0 < \chi^2/df < 2$	$2 < \chi^2/df < 3$	2,080
3	RMSEA	$0 < RMSEA < 0,05$	$0,05 < RMSEA < 0,08$	0,077
4	CFI	$0,97 < CFI < 1,00$	$0,90 < CFI < 0,95$	0,915
5	IFI	$0,95 < IFI < 1,00$	$0,90 < IFI < 0,95$	0,917
6	TLI	$0,95 < TLI < 1,00$	$0,90 < TLI < 0,95$	0,892

Model is considered within acceptable ranges according to analysis findings as χ^2 is 172,638 and χ^2/df (2,080) and ($p < 0,05$). Model fit index values are calculated as: RMSEA (0,077), CFI (0,915), IFI (0,917), TLI (0,892).

Model fit indices, their fit ranges are as given in detail above in Table 4.44. Some of the values are very close to fit intervals which support the model fit within acceptable ranges.

In the first step, relational orientation variable effect on conflict-style variable is analyzed on the model. Regression coefficient is calculated as (,62 $p < 0,05$). In the second step, mindfulness variable is estimated as mediator variable between relational orientation variable and conflict-style. In this case regression coefficient is calculated smaller as (,18) and as ($p < 0,05$) which support the model fit in terms of

partial mediation. Hence; mindfulness variable is treated as “partial mediator” between relational orientation effect on conflict-style.

4.7.1.2 Mediation analysis of mindfulness and individual orientation effect on conflict-style

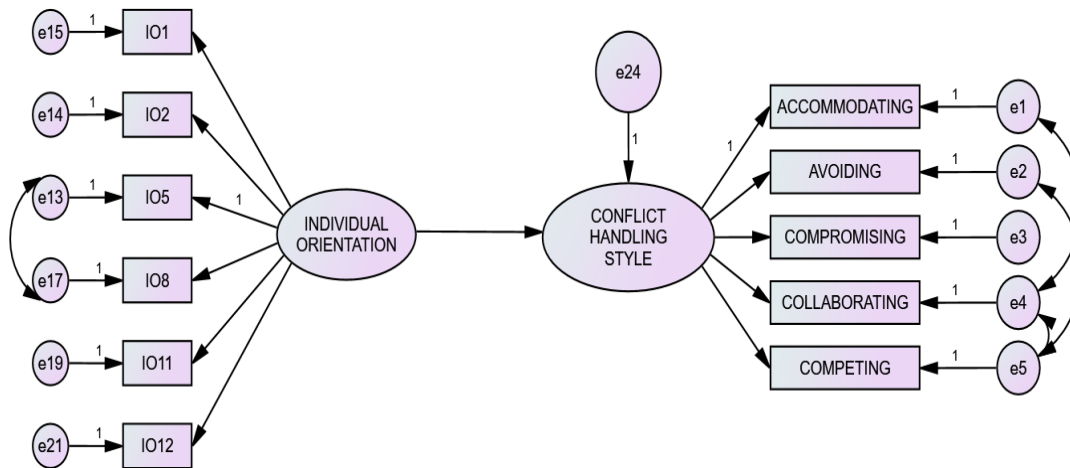


Figure 4.8 : Individual orientation variable effect on conflict-style variable.

Table 4.45 : The fit indices used in the process of mediation analysis /evaluation of mindfulness and individual orientation effect on conflict-style and the findings, step 1.

ID	Fit indice	Good fit	Acceptable fit	Model
1	χ^2	-	-	48,028 (df=39)
2	χ^2/df	$0 < \chi^2/df < 2$	$2 < \chi^2/df < 3$	1,231
3	RMSEA	$0 < RMSEA < 0,05$	$0,05 < RMSEA < 0,08$	0,035
4	CFI	$0,97 < CFI < 1,00$	$0,90 < CFI < 0,95$	0,991
5	IFI	$0,95 < IFI < 1,00$	$0,90 < IFI < 0,95$	0,991
6	TLI	$0,95 < TLI < 1,00$	$0,90 < TLI < 0,95$	0,987

Model is considered within acceptable ranges according to analysis findings as χ^2 is 48,028 and χ^2/df (1,231) and ($p < 0,05$). Model fit index values are calculated as: RMSEA (0,035), CFI (0,991), IFI (0,991), TLI (0,987).

Model fit indices, their fit ranges are as given in detail above in Table 4.45. Some of the values are very close to fit intervals which support the model fit within acceptable ranges.

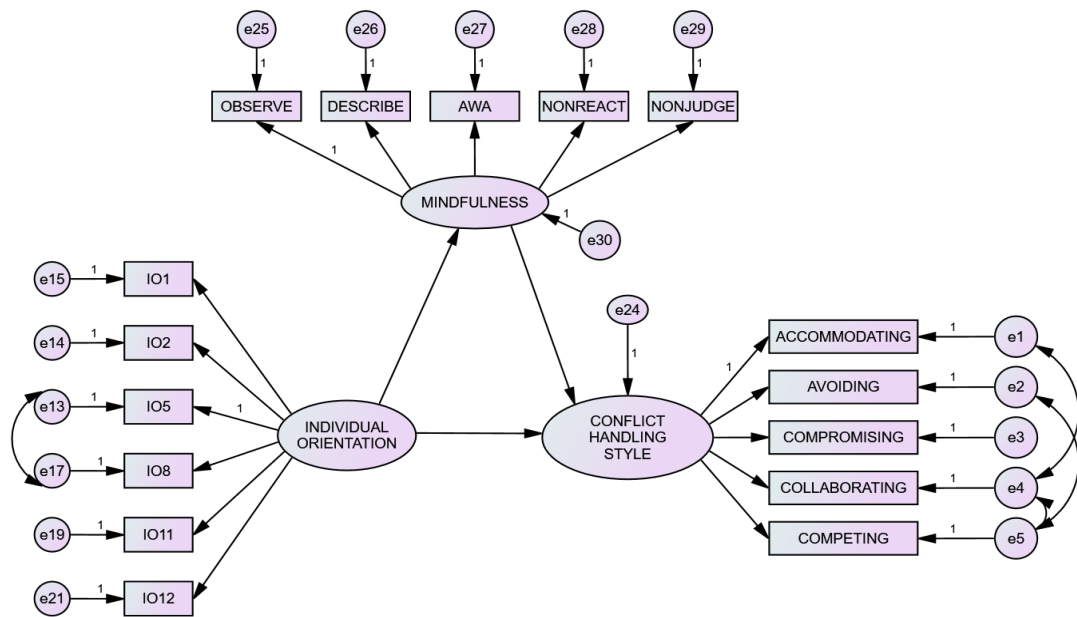


Figure 4.9 : Estimated mindfulness as mediator variable effect and individual orientation variable effect on conflict-style.

Table 4.46 : The fit indices used in the process of mediation analysis /evaluation and the findings, step 2.

ID	Fit indice	Good fit	Acceptable fit	Model
1	χ^2	-	-	189.480 (df=83)
2	χ^2/df	$0 < \chi^2/df < 2$	$2 < \chi^2/df < 3$	1.953
3	RMSEA	$0 < RMSEA < 0,05$	$0.05 < RMSEA < 0,08$	0.072
4	CFI	$0.97 < CFI < 1,00$	$0.90 < CFI < 0,95$	0.918
5	IFI	$0.95 < IFI < 1,00$	$0.90 < IFI < 0,95$	0.920
6	TLI	$0.95 < TLI < 1,00$	$0.90 < TLI < 0,95$	0.899

Model is considered within acceptable ranges according to analysis findings as χ^2 is 189,480 and χ^2/df (1.953) and ($p < 0.05$). Model fit index values are calculated as: RMSEA (0.072), CFI (0.918), IFI (0.920), TLI (0.899).

Model fit indices, their fit ranges are as given in detail above in Table 4.46. Some of the values are very close to fit intervals which support the model fit within acceptable ranges.

In the first step, individual orientation variable effect on conflict-style variable is analyzed on the model. Regression coefficient is calculated as (,58 $p < 0,05$). In the second step, mindfulness variable is estimated as mediator variable between individual orientation variable and conflict-style. In this case regression coefficient is calculated smaller as (,03) and as ($p < 0,05$) which support the model fit in terms of full mediation. Hence; mindfulness variable is treated as “full mediator” between individual orientation effect on conflict-style.

4.8 Research Propositions (or Hypothesis) Results

Following tables illustrate the results.

Table 4.47 : Results of Research Propositions (or Hypothesis).

Propositions		Results	Method	Explanation
Hypothesis 1a	Individual Self-construal is effective on mindfulness	Accepted	Correlation	Individualist Self-construal is effective on Mindfulness.
Hypothesis 1b	Relational Self-construal (collectivism) is effective on Mindfulness	Accepted	Correlation	Relational Self-construal (collectivism) is effective on Mindfulness
Hypothesis 2a	Individual Self-construal (individualism) is effective on conflict-style	Accepted	Correlation / SEM	Individualist Self-construal (individualism) is effective on conflict-style
Hypothesis 2b	Relational Self-construal (collectivism) is effective on conflict-style	Accepted	Correlation / SEM	Relational Self-construal (collectivism) is effective on conflict-style
Hypothesis 3	Mindfulness is effective on conflict-style	Accepted	Correlation / SEM	Mindfulness, is effective on conflict-style
Hypothesis 3a	Mindfulness has a mediator relationship on conflict-style of the individuals with individual self-construal (individualism)	Accepted as full-mediator	SEM	Mindfulness has a mediator relationship on conflict-style of the individuals with individual self-construal (individualism)
Hypothesis 3b	Mindfulness has a mediator relationship on conflict-style of the individuals with relational self-construal (collectivism)	Accepted as partial-mediator	SEM	Mindfulness has a mediator relationship on conflict-style of the individuals with relational self-construal (collectivism)

5. CONCLUSION

The research was an explanatory investigation of the phenomena of conflict in construction project organizations.

The social system individuals of the building process had been investigated with particular attention to their conflict-styles. The study is focused on individuals as units of analysis.

After the literature review, it was proposed that self-construal is an alternative means to better understand, explain and manage the differences in individual conflict-styles adopted by construction professionals and individual mindfulness construct has an effect on individual learned patterns of behavior and conflict-style.

By use of a combined questionnaire survey analysis, individual self-construal, mindfulness and the conflict-style of individuals are identified. Conflict styles are the dependent variables, whereas gender, occupation, work experience, age and self-construals and mindfulness are the independent variables.

The aim was to contribute to a better understanding of the influence of culture (operationalized as learned patterns of behavior) and mindfulness on conflict style in the construction industry. The objective of this explanatory study is to establish, how the cultural values of professionals of construction businesses relate to the preference of different conflict-handling styles through individual self-construal orientation(individualist/collectivist), and mindfulness construct.

This study contributes to the construction management 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 conflict-style in the context of construction. The findings indicate that individuals' self-construal and mindfulness are affecting each other and conflict-handling styles. This signifies the influence of mindfulness on culture (learned patterns of behavior) and 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 individual and relational self-construal dimensions simultaneously. This study extends both Vu & Carmichael (2009) and Ting-Toomey's (2001) work, including the self-construal types, which have been derived from the combination of the two self-construal dimensions. Kim (1994) and Imamoglu (2003) argue that using the two dimensions together in a balance prevents polarize individuals as either independent or interdependent. Balanced self-type individuals, who have high scores for both dimensions, also have the highest Mindfulness scores according to research findings. This study also extends previous research as present-focused attention and experiential, nonjudgmental processing, mindfulness provides cognitive and affective functions that can limit the oppositional intensity and negative emotions experienced with conflict (Glomb et al., 2011; Good et al., 2016).

Third, this study shows that construction professionals in Turkey tend to use constructive 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 behavior. 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. This raises the issue of whether it is appropriate to treat culture as a uniform entity and highlights the need for relevant measures and approaches to support this assumption. Finally, and most importantly, this study opens a way to include mindfulness as an effective individual construct in organizational management and 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.

It should be noted that this study is unique with its model and findings in relation to mindfulness construct as a mediator factor between self-construal and conflict management in construction management.

5.1 Evaluation of Research Variables

Self-construal is the first variable of research, and the findings illustrate that individual self-construal scored the highest by construction management professionals who took the survey. Self-construal results of the research are quite

contrary to previous findings in literature by Markus & Kitayama (1991) Singel is (1994) Gudykunst (1996) and Hofstede (1997). In their investigation of self-construal, the independent self had been found to correlate with cultural individualism, while the interdependent self had been found to relate to cultural collectivism. Turkish culture has long been described as collectivist, in terms of Hofstede's measures. However, when we look at the research findings, individual self-construal is scored higher than relational self-construal. When we evaluate the self-types as per preferred balanced integrative BID model developed by Imamoglu (1998) which gives a multi-dimensional cultural classification of self-type; the findings illustrate the dominance of Separated-individuation Self-type. This is a differentiative context, where individuals have low interpersonal relatedness and high personal individuation. The second-high self-type is Balanced context where individuals are scored high both in interpersonal relatedness and personal individuation.

Balanced self-type individuals have the highest Mindfulness scores, followed by differentiative (separated individuation) self-construal type.

Individual and relational orientation dimensions of Self-construal are both found to be effective on individual mindfulness.

Mindfulness, the second variable of the research, is found to be effective as a mediator factor between self-construal and conflict-style. Mindfulness is found to have a full mediator effect between individual self-construal dimension and conflict-style of individuals whereas a partial mediator effect between relational self-construal dimension and conflict-style of individuals. There is a significant positive linear relationship between Mindfulness and Individual and Relational Self-construal dimensions. balanced self-construal type individuals who have high scores. at both relational and individual orientations also have highest mindfulness scores in comparison to other self-construal types.

Conflict-style is the third variable of the research, and it has been evaluated as five styles: Competing, Avoiding, Compromising, Collaborating and Accommodating conflict-styles. Compromising and Collaborating conflict-styles are the most preferred conflict-styles by Turkish construction professionals who attended the research.

There is the strongest positive correlation between mindfulness construct and conflict-style variables which is followed by relational self-construal orientation and conflict-style.

5.2 Evaluation of General Research Questions

According to general research findings in relation to gender; female professionals prefer compromising conflict-style more than male and male professionals prefer competing conflict-style more than female. This may be in relation to macho culture.

According to general research findings in relation to age; accommodating conflict-style is mostly preferred by professionals aged 50+. This may be because these professionals are mostly at top management level as Senior Project Managers and they are mostly dealing with clients.

Relational orientation of professionals is in relation to their time spent at the company especially it is high at the first 2-5 years.

Professionals who think the harmony of their team is good to have high relational orientation scores.

Professionals who think that the way of dealing with conflict have high impact on project performance have high mindfulness scores.

Professionals' individual orientation score is in relation to their ideas about generally warm and social team atmosphere and team's constructive healthy approaches to conflict-resolution.

Professional's thinking of team's providing adequate support for skill development, training and personal development of all its members is in relation to professional's preference of collaborating conflict-style.

5.3 Findings and Discussions

According to Hofstede's measures, Turkish culture has been defined as collectivist for a long time. It has also been referred to as scored high in uncertainty avoidance, conservatism, and power distance by Ronen (1986) and Trompenaars (1998) in their books on multinational management and cultural diversity in global business, respectively. However, Turkey is a country where marked intranational variations

exist because of international linkages and frequent contacts brought about by globalization. Goregenli (1995), for example, in her research, by using a questionnaire to a total of 316 subjects, intend to find the ratio of social behaviors in the Turkish culture related to individualism-collectivism. She found that all categories were remarkably different from each other in their individualist/collectivist values in the social behavior categories and the Turkish culture includes powerful individualist elements beside a generally collectivist orientation. In the same way, Simsek and Oge (2009) suggest that collectivism is gradually being replaced by individualism in the Turkish society. The results of this research are consistent with our findings and reflect the same opinion.

Looking at conflict-style from “learned patterns of behaviours” perspective (culture-free or culture-specific), individual’s understanding of their self-identity comes into the picture. As in Voyer & Frank’s (2014) definition. Voyer and Franks (2014), by the sight of its nature and premises, define self-construal as a self-process, rather than self-knowledge. This definition brings an individual interpretation dimension to self-construal which separates it from generalizations and classifications like Hofstede’s. This means that, individual’s self-construal is unique, dynamic and independent from generalized, classified or unified terms of learned patterns of behaviors. It can be unlearned and relearned. Mindfulness meditations, individual or on team basis, can be an alternative tool to manage this unlearning and re-learning process.

The Colorado Bar Association (1995) specify that both compromising and collaborating styles of resolution are effective in managing conflicts in project environments. Furthermore, Singh and Johnson (1998) found that the collaborating style is the most frequently claimed type of approach in civil engineering and construction projects when dealing with peers and subordinates.

In two different studies, Kozan (1989, 2002) detected that Turkish employees are more avoiding toward peers, which reflects the function of collectivism in suppressing competition among peers and in encouraging avoidance of conflicts instead. However, Ma, Erkus, & Tabak (2010), in a more recent study, ranked collaborating and dominating as the most preferred and accommodating and avoidance as the least preferred, amongst conflict styles in Turkey, contrary to expectations. Also, Cai and Fink (2002), in their study, detected that individualists rather than collectivists preferred avoiding. They also detected that collectivists

choose collaborating and compromising more than individualists, whilst collectivism-individualism had no significant linear effect on preference for the accommodating style. Our research findings with most preferred compromising and collaborating conflict-style are quite contrary.

These contradictory and very different findings may be due to approaches to cultures as uniform entities. Therefore, it is noteworthy to focus on the individual cultural profiles of organizational members, as it is not possible to ascertain the influence of the individuals' generalized learned patterns of behaviors on any organizational issues in terms of performance and management.

It is also useful to apply a balanced and integrated self-construal scale where there are integrated and complementary effects in a society. As mentioned earlier, Turkish culture contains powerful individualistic elements beside a generally collectivist orientation, which is balanced individually.

In line with Van de Vliert & Kabanoff (1990) view, compromising and collaborating can be combined. Similarly, Ma et al. (2002) findings suggest that compromising and collaborating are not viewed differently. Thus, our research results call for a reassessment of the typology of conflict-handling styles in construction industry.

Operationalization of mindfulness at workplace with mindfulness practices and mindfulness trainings will be effective on developing individual mindfulness construct and constructive conflict-styles.

5.4 Limitations

The results of this study are limited and constrained by the self-reporting measures adopted to gauge self-construal, mindfulness and conflict-styles, rather than by observation of actual behavior. They should be treated with its weaknesses being dependent on respondents' interpretations of the questionnaires' content, and sample size which was a convenience sample, and which therefore may differ from a general population sample. 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.

However, this study verifies the applicability of the conflict theory in the construction management and extends its range of validity.





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APPENDICES

APPENDIX A: Questionnaire

INTERVIEWEE(S) INFORMATION

Nr. :

Date of Interview :

Name :

Your primary area of responsibility:

1- Age

☐

2- Gender

☐ Male

☐ Female

3- Education

Degree

Major Area

☐ Bachelor's

☐ Master's

☐ Other

4- Job Title

.....

.....

5- Howlong are you at this position

☐ 2 or less

☐ 2-5

☐ 5-10

☐ 10-15

☐ 15 or more

6- Howlong are you at this company

☐ 2 or less

☐ 2-5

☐ 5-10

☐ 10-15

☐ 15 or more

7- What do you think about the harmony of your team?

- ☐ Perfect
- ☐ Good
- ☐ Medium
- ☐ Bad
- ☐ None

8- To what extent do you think communication/social interaction have impact on dealing with conflict?

- ☐ Exactly
- ☐ To a very great extent
- ☐ To a great extent
- ☐ To some extent
- ☐ To a very little extent

9- To what extent do you think the way of dealing with conflict have impact on project performance?

- ☐ Exactly
- ☐ To a very great extent
- ☐ To a great extent
- ☐ To some extent
- ☐ To a very little extent

10- Does your team provide adequate levels of social support for its members?

- ☐ Yes, very definitely
- ☐ Yes, but only somewhat
- ☐ No, definitely not

11- Does your team have constructive healthy approaches to conflict resolution?

- ☐ Yes, very definitely
- ☐ Yes, but only somewhat
- ☐ No, definitely not

12- Does your team have a generally warm and social climate

- ☐ Yes, very definitely
- ☐ Yes, but only somewhat
- ☐ No, definitely not

13- Does your team provide adequate support for skill development, training and personal development of all its members?

- ☐ Yes, very definitely
- ☐ Yes, but only somewhat
- ☐ No, definitely not

SECTION 2: BID-SCALE

1. When alone, I find interesting things to do.
2. I believe that I will always feel close to my family.
3. I find it difficult to relate to people.
4. I definitely try to allocate time and opportunities to myself in order to be able to do the things I wish to do.
5. I feel as if I am emotionally excluded from society.
6. I emotionally feel very close to my family.
7. Rather than being different, I prefer to be in unison with the society on an intellectual basis.
8. I feel emotionally alienated from my close environment.
9. I strive to actualize my wishes by isolating myself from others as much as possible.
10. While working for things I wish to actualize in life, I always feel my family's love and support with me.
11. I feel lonely.
12. I feel that my emotional ties to my family are weak.
13. I feel that my emotional ties to my family give me strength to do the things I want to achieve in life.
14. I feel remote from other people.
15. I prefer to identify with the societal values rather than questioning them.
16. I feel emotionally close to my social environment.
17. I find myself interesting.
18. I consider it important that one should develop oneself in accordance with the society, rather than with one's wishes.
19. As one develops, one emotionally gets more distant from his/her family.
20. A person's most important aim should be to thoroughly develop one's potential.
21. One should be able to develop and actualize one's uniqueness.
22. Acting in accordance with the society, rather than with oneself, would in the long run be to his/her benefit.
23. One needs to minimize emotional ties to one's family in order to do the things he/she wishes to do.
24. Being a person approved by those around is important for me.
25. In our times, the existence of strong emotional ties amongst people would hinder rather than support them.
26. It is very important for me that I develop my potential and characteristics and be a unique person.
27. I can live for a mission that is exclusive to myself even though others may disapprove.
28. I feel that it is more important for everyone to behave in accordance with societal expectations, rather than striving to develop his/her uniqueness.
29. As societies develop, it is natural for interpersonal emotional ties to weaken.

SECTION 3: 5FMQ

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

- 1 never or very rarely true
- 2 rarely true
- 3 sometimes true
- 4 often true
- 5 very often or always true

- 1-When I'm walking, I deliberately notice the sensations of my body moving.
- 2-I'm good at finding words to describe my feelings.
- 3-I criticize myself for having irrational or inappropriate emotions.
- 4-I perceive my feelings and emotions without having to react to them.
- 5-When I do things, my mind wanders off and I'm easily distracted.
- 6-When I take a shower or bath, I stay alert to the sensations of water on my body.
- 7-I can easily put my beliefs, opinions, and expectations into words.
- 8-I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.
- 9-I watch my feelings without getting lost in them.
- 10- I tell myself I shouldn't be feeling the way I'm feeling.
- 11- I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
- 12- It's hard for me to find the words to describe what I'm thinking.
- 13- I am easily distracted.
- 14- I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
- 15- I pay attention to sensations, such as the wind in my hair or sun on my face.
- 16- I have trouble thinking of the right words to express how I feel about things.
- 17- I make judgments about whether my thoughts are good or bad.
- 18- I find it difficult to stay focused on what's happening in the present.
- 19- When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
- 20- I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
- 21- In difficult situations, I can pause without immediately reacting.
- 22- When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.
- 23- It seems I am "running on automatic" without much awareness of what I'm doing.
- 24- When I have distressing thoughts or images, I feel calm soon after.
- 25- I tell myself that I shouldn't be thinking the way I'm thinking.
- 26- I notice the smells and aromas of things.
- 27- Even when I'm feeling terribly upset, I can find a way to put it into words.
- 28- I rush through activities without being really attentive to them.
- 29- When I have distressing thoughts or images I am able just to notice them without reacting.
- 30- I think some of my emotions are bad or inappropriate and I shouldn't feel them.
- 31- I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.

- 32- My natural tendency is to put my experiences into words.
- 33- When I have distressing thoughts or images, I just notice them and let them go.
- 34- I do jobs or tasks automatically without being aware of what I'm doing.
- 35- When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.
- 36- I pay attention to how my emotions affect my thoughts and behavior.
- 37- I can usually describe how I feel at the moment in considerable detail.
- 38- I find myself doing things without paying attention.
- 39- I disapprove of myself when I have irrational ideas.

○

SECTION 4: TKI

On the following pages are several pairs of statements describing possible behavioural responses to a conflict situation. For each pair, circle the "A" or "B" statement which is most characteristic of your own behaviour.

You may find that neither of the "A" or "B" statements is typical of your behaviour; and if this is so, please select the response which you would be more likely to use.

- 1 A. There are times when I let others take responsibility for solving the problem.
B. Rather than negotiate the things on which we disagree, I try to stress those things upon which we both agree.
- 2 A. I try to find a compromise solution.
B. I attempt to deal with all of his/her and my concerns.
- 3 A. I am usually firm in pursuing my goals.
B. I might try to soothe the other's feelings and preserve our relationship.
- 4 A. I try to find a compromise solution.
B. I sometimes sacrifice my own wishes for the wishes of the other person.
- 5 A. I consistently seek the other's help in working out a solution.
B. I try to do what is necessary to avoid useless tensions.
- 6 A. I try to avoid creating unpleasantness for myself.
B. I try to win my position.
- 7 A. I try to postpone the issue until I have had some time to think it over.
B. I give up some points in exchange for others.
- 8 A. I am usually firm in pursuing my goals.
B. I attempt to get all concerns and issues immediately out in the open.
- 9 A. I feel that differences are not always worth worrying about.
B. I make some effort to get my way.
- 10 A. I am firm in pursuing my goals.
B. I try to find a compromise solution.
- 11 A. I attempt to get all concerns and issues immediately out in the open.
B. I might try to soothe the other's feelings and preserve our relationship.
- 12 A. I sometimes avoid taking positions which would create controversy.
B. I will let the other person have some of his/her positions if he/she lets me have some of mine.
- 13 A. I propose a middle ground.
B. I press to get my points made.
- 14 A. I tell the other person my ideas and ask for his/hers.
B. I try to show the other person the logic and benefits of my position.
- 15 A. I might try to soothe the other's feelings and preserve our relationship.
B. I try to do what is necessary to avoid tensions.
- 16 A. I try not to hurt the other's feelings.
B. I try to convince the other person of the merits of my position.

- 17 A. I am usually firm in pursuing my goals.
B. I try to do what is necessary to avoid useless tensions.
- 18 A. If it makes other people happy, I might let them maintain their views.
B. I will let other people have some of their positions if they let me have some of mine.
- 19 A. I attempt to get all concerns and issues immediately out in the open.
B. I try to postpone the issue until I have had some time to think it over.
- 20 A. I attempt to immediately work through our differences.
B. I try to find a fair combination of gains and losses for both of us.
- 21 A. In negotiations, I try to be considerate of the other person's wishes.
B. I always lean toward a direct discussion of the problem.
- 22 A. I try to find a position that is intermediate between his/hers and mine.
B. I assert my wishes.
- 23 A. I am very often concerned with satisfying all our wishes.
B. There are times when I let others take responsibility for solving the problem.
- 24 A. I try meet to meet the wishes of others when it's important to them.
B. I try to get the other person to settle for a compromise.
- 25 A. I try to show the other person the logic and benefits of my position.
B. In negotiations, I try to be considerate of the other person's wishes.
- 26 A. I propose a middle ground.
B. I am nearly always concerned with satisfying all our wishes.
- 27 A. I sometimes avoid taking positions that would create controversy.
B. If it makes other people happy, I might let them maintain their views.
- 28 A. I am usually firm in pursuing my goals.
B. I usually seek the other's help in working out a solution.
- 29 A. I propose a middle ground.
B. I feel that differences are not always worth worrying about.
- 30 A. I try not to hurt the other's feelings.
B. I always share a problem with the other person so that we can work it out.

CURRICULUM VITAE



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- **Babaoglu, F.**, and Giritli, H. 2017. Cultural Aspect of Conflict Behaviour in Construction-A Case Study from Turkey. *Journal of Construction Engineering and Project Management*, 7(2), 45-53.