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DOKTORA TEZİ

**AN ANALYSIS ON THE RELATIONSHIP BETWEEN SELF-CONCEPT AND
PERFORMANCE IN TERMS OF PSYCHOSOCIAL FACTORS**

**(BENLİK KAVRAMI İLE PERFORMANS ARASINDAKİ İLİŞKİNİN PSİKOSOSYAL
FAKTÖRLER AÇISINDAN İNCELENMESİNE YÖNELİK BİR ANALİZ)**

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ÖZ

BENLİK KAVRAMI İLE PERFORMANS ARASINDAKİ İLİŞKİNİN PSİKOSOSYAL FAKTÖRLER AÇISINDAN İNCELENMESİNE YÖNELİK BİR ANALİZ

Cem Güney Özveren

Bu çalışma içerisinde toplam 244 katılımcı yer almıştır. Araştırma kapsamında Türkiye sınırları içerisinde farklı illerde faaliyet gösteren uçuş okullarında eğitim gören pilot adayları çalışmanın ana kütlesini oluşturmaktadır.

Yapılan çalışma özelinde üç araştırma modeli incelenmiş ve bu araştırma modellerine yönelik hipotezler kurulmuştur. İlk araştırma modeli kapsamında pilot adaylarının öz-kontrol, öz-yeterlilik, öz-düzenleme, kendini ayarlama ve öz-bilinç seviyeleri ile uçuş performansları arasındaki ilişki incelenmiş ve öz yeterlilik dışında diğer benlik algıları ile uçuş performansı arasında anlamlı bir ilişki olduğu tespit edilmiştir. Güvenlik algısının öz-yeterlilik ve öz-kontrol ile uçuş performansı arasındaki ilişkide moderatör rolü olduğu saptanmıştır. Başka bir ifadeyle öz-kontrol ve öz-yeterlilik algısı belli düzeyin üstünde olan pilot adayları öğrenim gördükleri uçuş okulunda güvenliğe verilen önemin farkındalar ise uçuş performansları bu durumda daha yüksek olmaktadır.

İkinci araştırma modeli özelinde güvenlik iklimi ile uçuş performansı arasında anlamlı bir ilişki olduğu tespit edilmiştir. Öz-kontrol, öz-yeterlilik, öz-bilinç ve kendini ayarlamanın pilot adaylarının uçuş performansı ile güvenlik algısı arasındaki ilişkiyi pozitif ve anlamlı yönde etkilediği tespit edilmiştir.

Araştırmanın üçüncü modelinde de pilot adaylarının teorik sınav performansları ile uçuş performansları arasındaki ilişki incelenmiş olup, aralarında pozitif yönlü anlamlı bir ilişki olduğu tespit edilmiştir. Bazı benlik algılarının da bu ilişkide moderatör etki gösterdikleri anlaşılmıştır. Bu sonuçlar özelinde öz-kontrolün pilot adaylarının teorik sınav sonucu ile uçuş performansı arasındaki ilişkiyi zayıflatıcı bir etki gösterdiği tespit edilmiştir.

Yukarıda belirtilen üç araştırma modeli dışında ayrıca pilot adaylarının teorik sınav performansı ile benlik algıları arasındaki ilişki incelenmiştir. Öz-kontrol, öz-

düzenleme, öz-yeterlilik ve öz-bilinç ile teorik sınav performansı arasında olumlu bir ilişki olduğu, öz-kontrol ile teorik sınav performansı arasındaki ilişkide güvenlik ikliminin moderatör etkisi olduğu tespit edilmiştir. İlgili sonuçlar ve tablolar ekte gösterilmiştir.

Çalışma sonucunda elde edilen bulgular öz-kontrol başta olmak üzere araştırma özelinde incelenen bazı benlik kavramlarının pilot adayların performansı üzerinde önemli bir rolü olduğunu koymaktadır. Ayrıca öğrenim gördükleri uçuş okullarında güvenliğe önem verildiğini daha çok algılayan pilot adaylarının performanslarının da daha yüksek olduğu tespit edilmiş olup, bu uçuş okullarının iyi pilotlar yetiştirebilmek adına pilot adaylarına güvenliğe önem verildiği algısını daha fazla aşılama çalışmalarının gerekli olduğunu göstermektedir.

Anahtar Kelimeler: Öz-Kontrol, Öz-Yeterlilik, Öz-Düzenleme, Öz-Bilinç, Kendini Ayarlama, Güvenlik İklimi, Uçuş Performansı, Teorik Sınav Performansı



ABSTRACT

AN ANALYSIS ON THE RELATIONSHIP BETWEEN SELF-CONCEPT AND PERFORMANCE IN TERMS OF PSYCHOSOCIAL FACTORS

Cem Güney ÖZVEREN

A total of 244 participants took part in this study. In terms of the study, pilot candidates studying in flight schools operating in different provinces within the borders of Turkey constitute the population of the study.

In this study, three research models were examined and hypotheses for these research models were established. In terms of the first research model, the relationship between pilot candidates' self-control, self-efficacy, self-regulation, self-monitoring and self-consciousness levels and flight performances were examined and it was found that there was a significant relationship between self-perceptions and flight performance except self-efficacy. Safety climate was found to have a moderator role in the relationship between self-efficacy and self-control and flight performance. In other words, if the pilot candidates whose self-control and self-efficacy perception are above a certain level are aware of the importance given to safety in the flight school they study, their flight performance is higher in this case.

In the second research model, it was determined that there is a significant relationship between safety climate and flight performance. It was found that self-control, self-efficacy, self-consciousness and self-monitoring have a positive and significant effect on the relationship between flight performance and safety climate.

In the third model of the study, the relationship between the pilot candidates' theoretical exam performances and flight performances were examined and it was found that there was a significant positive relationship between them. It was understood that the self-perceptions also have a moderator effect in this relationship. According to these results, it has been found that self-control has a decreasing effect on the relationship between pilot candidates' theoretical exam results and flight performance.

Apart from the three research models mentioned above, the relationship between self-control, self-regulation, self-efficacy, self-monitoring and self-

consciousness, and the theoretical exam performance of pilot candidates were examined. It has been determined that safety climate has a moderator effect on this relationship. The relevant results and tables are shown in the appendix.

The findings of the study suggest that some self-concepts as examined in terms of this study have important role on the performance of pilot candidates. In addition, the performance of the pilot candidates who perceive the importance of safety in the flight schools where they are educated has been found to be higher and shows that the flight schools need to instill the perception that the importance of safety is given to the pilot candidates in order to train successful pilots in future.

Key Words: Self-Control, Self-Efficacy, Self-Regulation, Self-Consciousness, Self-Monitoring, Safety Climate, Flight Performance, Theoric Exam Performance



ÖNSÖZ

Tez yazma sürecimden çok daha öte, akademik hayatımın en başlarından bugüne gerek teorik, gerek ise pratik anlamda beni yetiştiren, öz güvenimi arttıran, bu yolda beni olgunlaştıran, her hatamı sabırla karşılayan ve beni bugünlere getiren, bugüne kadar her anlamda kendime rol model aldığım ve hayatım boyunca da örnek alacağım çok kıymetli Hocam Sayın Doç. Dr. Güven ORDUN'a ,

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INTRODUCTION

The goal of the research is to find out the effect of each self-concept on training performance of pilot candidates. By carrying out this research, it will be understood as which self-concept has more effect on the training performance and also which ones have more effect together on the training performance. In the framework of this model, it will be examined whether safety culture moderate this relation or not. In terms of other research models, the effect of safety culture and theoretic exam performance on the flight performance is also examined and it is questioned whether some self-concepts moderate each relation or not.

When the history of aviation is examined, it is seen that the first developments are in the military field. The first war in the history of aviation was fought in 1911 during the 1st World War between the Italians and Turks in Libya. Increasing numbers of accidents have paved the way for new investigations and other factors that cause these accidents have been started to be investigated. The reasons such as the increase in civil aviation activities after the Second World War and the increase in the workload of the pilots revealed the fact that the main reasons in aircraft accidents are the importance of errors in crew resource management. As a result of the analysis conducted in the US Air Force in 1951 by examining 7518 aircraft accidents and incidents, a study report was prepared as called Poor Teamwork as a Cause of Aircraft Accident. In this study, it was concluded that the problems caused by the team management were the main reasons for the accidents. (Terzioğlu, 2007).

In order to make a flight safe, three basic resources have to be used in a harmonious and correct way. These resources:

- technical equipment,
- knowledge
- use of people.

In fact, the failure of any of these three reasons for various reasons will adversely affect other resources and affect the safety of the flight. In the current research, issues related to human resources will be examined in detail and the findings will be analyzed within this framework.

In the pilot selection processes, there are many of criteria about physical and mental health of candidates. In the framework of Crew Resource Management Approach, relation managent as communication style, conflict management style, leadership skills, individual responsibility, emotion management, learning motivation and cognitive skills as decison making skills and situational awereness are central factors used in the selection of the candidates. According to these factors, one's thoughts about himself have central role and effect all of the competencies mentioned above.

The Importance of the Study

Airline companies wish to employ a pilot candidate to be trained perform some tests to find the right candidate. They consider some of the competencies necessary to be a good pilot, and act on a number of criteria to predict these competences. The number of studies in the field of aviation psychology is increasing day by day and its importance is increasing. When the related literature is examined, it is seen that there are studies about the personality traits and technical competencies related to the pilots or pilot candidates. As mentioned in the following sections, there are studies examining the relationship between some self-concepts and performance of pilots, but the number of these studies is very limited.

In this study, the relationship between the performance of pilot candidates in flight schools was examined by including self-concepts not previously examined in the literature. In this relationship, the moderator effect of perceived safety culture was also predicted. In terms of the other two research models, the relation between safety climate, theoric exam performance and performance of pilot candidates is examined and it is questiones whether some self concepts moderate this relation or not. This study has particular importance in terms of contributing to the literature in that it examines a model that deals with the relationship between two individual variables together with an organizational variable that affects them as a moderator.

Although there are many self-concepts in the literature, there are few studies examining the relationship between self-perception and performance of pilots. In this study, the relationship between self-concepts and training performance of pilot candidates was examined, which self-concept(s) have more impact on training

performance and the relationship between self-concepts and the role of safety culture perception in this relationship were examined. In addition It is thought that the results of the study will contribute to the selection criteria used by airline companies in selecting pilot candidates.



PART 1

1. General Review About Self-Concept

In psychology literature, self-concept was defined with different perspectives. While examining related literature, the first time as given place to self-concept may be accepted as the publication time of *The Principles of Psychology* by William James in 1890 (James, 1950). In this book, self-concept was classified in four dimensions as:

- social self,
- material self,
- spiritual self
- pure ego

In terms of this part, William James determines material self as everything we have in our life: our mother, father, friends, our car, home, etc... You are satisfied because of this side or not is an important factor for being happy.

Social self refers to recognition of the person. How you are perceived by your environment, desires to be a part of a group forms your social self. If you are satisfied to being perceived in the way as you want, you can evaluate your self positively.

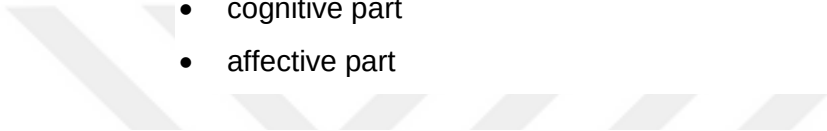
Spiritual self determines the psychological condition and the inner part of us. I'm an honest, consciousness person or not, your answers to such a question like that specified your spiritual self. By pure ego, William James discusses the part of the self that gives the person a sense of continuity, which cannot be studied experimentally.

Firstly, the main difference between "self" and "self-concept" must be highlighted. Self is whether a process or a structure is not clear and this confusion stems from not distinguishing the self and self-concept terms. The term of self refers to the process and emerges from the dialectic between "I" and me (Lewis, 1979; Gecas, 1982). Self is a reflexive phenomenon emerges in social interactions. On the other side, self-concept refers to the outcome as moral, spiritual, physical and social of this reflexive process.

According to some theorists, self doesn't change. On the other hand, for some researchers, self constantly changes. James (1950) has classified self as who

knows and self who is known. In English, self who knows refers to “I”, self who is known self refers to “me” (Aslan Yilmaz, 2016).

Epstein (1973) suggests that self is a theory. According to Epstein, the self aims to improve the individual's pleasure-life balance throughout life and facilitates the maintenance of self-esteem on the one hand while regulating the information acquired from the individual's experiences. Epstein has been criticized for failing to address the affective aspect of the self and Jussim (1986) states that self has two dimensions as:

- 
- cognitive part
 - affective part

With his perspective, Jussim (1986) has contributed to Epstein's approach.

Self-perception theory is related with attribution theory. Attribution theory (Heider, 1958) is placed in the consideration of self-concept as a causal factor in social interaction. Also this classification is not clear (Gecas, 1982). Attribution theory includes how people explain the causes of their behaviors. Attribution theory mainly concerns researchers' attempts to find causal explanations to facilitate understanding of behavior and to shape future behavior. Fritz Heider (1958) is regarded as the founder of attribution theory.

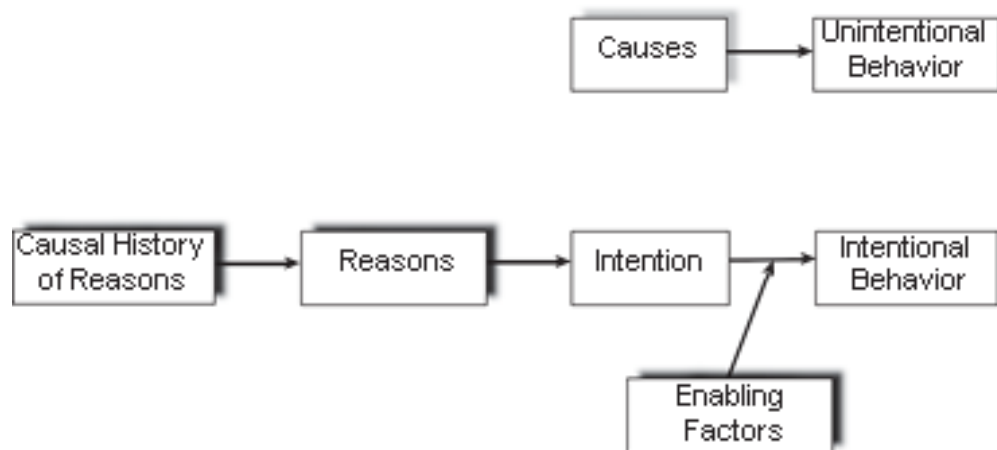
Fritz Heider (1958) believes that every human being has a general theory that explains their behavior. According to Heider, people make reference to two basic requirements (Kelley and Michela, 1980):

- to have a consistent, balanced worldview
- to gain control over their environment.

One purpose of meeting these requirements is to predict how people will behave. In everyday life, we all try to understand the reasons for the behavior of ourselves and others, acting as Heider's "naive scientists." Because our references serve to reduce the uncertainty in various social situations. So try to predict and control many interactions in the social world on the basis of attributions. The pioneer of attribution theory is Fritz Heider (Kelley and Michela, 1980).

According to Heider (1958), we basically explain the behavior of ourselves and others in two ways: We attribute the cause of behavior to the personality, desires or needs of the perpetrator. It is called as internal attribution. Internal attribution is to explain behavior with the personality, desires or needs of the individual. Secondly, we perceive behavior by a number of factors in the environment. It refers to external attribution. External attribution is the description of behavior by environmental conditions outside the individual (Kağıtçıbaşı, 2004).

Internal or external information is arranged by beliefs and cognition determines behavior. Heider also distinguishes two main types of attribution for an event: personal attributions (when a particular person is considered responsible or accused) and non-personal attributions (if no one is considered guilty or responsible). Improper references are made to events that result from spontaneous but also unintentional actions. Personal references always mean deliberate action (Seçer, 2012; Thorne, B., 2003).



Source: Malle, B. F., & Ickes, W. (2000). Fritz Heider: Philosopher and Social Psychologist. Portraits of Pioneers in Psychology, 4, 203-221.

Figure 1.1 : Four Modes of Explanation for Unintentional and Intentional Behavior

Weiner (1972)'s attribution theory explains the motivation for being successful. According to him, effort, ability, luck and task difficulty are the most important factors for effecting attributions. Attributions can be classified in three causal dimensions:

- Locus of an attribution: It is the location of source of the being successfull or not.
- Stability: It refers to whether sources of attribution will be moved or not.
- Controllability: Controllability determines the extent that attribution can be controlled or not.

According to Weiner's (1972) attribution model, people explain success or failure based on four causal factors, and in the same way, it places one of the four general concepts of success and failure in the school environment:

- Effort
- Chance
- Difficulty (or Ease) of Work
- Ability

Weiner's attribution model			
		Locus of Causality	
		<i>Internal</i>	<i>External</i>
Stability Dimension	<i>Stable</i>	Ability	Task Difficulty
	<i>Unstable</i>	Effort	Luck

Source: Weiner, B. (1972). Attribution Theory, Achievement Motivation, and The Educational Process. Review of Educational Research, 42(2), 203-215.

Figure 1.2 : Weiner's Attribution Model

Weiner (1980) argues that there is a strong relationship between success and the concept of self and emphasizes that causality contributions defines affective

reaction in failure and success. Attribution Theory is closely related to the concept of motivation. The basic assumptions of Weiner's (1972) Attribution theory include two categories. The first is the causal inference, the second is the one related to the person's behavior in relation to the causal inference. Attribution theory is based on presenting classroom teaching strategies in detail on how teachers will teach.

Swann's self-verification theory (1992) underlined that the self maintains itself consistently. Within the framework of this theory, individuals accept change when they are exposed to situations threatening their self. As mentioned in the related literature, when the individual exhibits behaviors that are incompatible with self-perception, this non-compliance will increase the anxiety of the individual.

Rosenberg (1979) defined self-concept as the set of thoughts and feelings belong to individual as an object. Turner (1976) formulated self-concept as sense of temporal and spatial continuity while defining essential self from more appearance and behavior (then called as self-image). In social psychology, self concept was analyzed in two dimensions as self-evaluation and self-concept. Self concept refers to the identities but self-evaluation refers to evaluation process in terms of some kinds of factors as self-worth.

In Higgins' self-discrepancy model (1987), self concept was classified in three categories:

- actual self,
- ideal self and
- ought self.

According to Higgins (1987), actual self explains our self-concept as how we perceive by thinking all part of us. Ideal self refers to the features as person desires for himself and ought self determines the aspects person has to have. In terms of this classification, the gap between actual and ideal self specifies the degree of some emotions like sadness, frustration, dissatisfaction. The gap between actual self and ought self determines the degree of some emotions like fear, restlessness, tension, etc...

Higgins (1987) determined ideal self as what an individual want to be and actual self as what a person knows and feels about himself. In the framework of Higgins' approach the difference between actual self and ideal self refers to the anxiety of person and this difference is positively correlated with the level of anxiety. Carl Rogers (1959) defined self as a consistent system of an individual's perceptions and beliefs (McLeod, 2014, Aslan Yılmaz, 2016). He believed that for achieving self-actualization, people have to be in a state of congruence. In terms of this thought, it can be pointed out as ideal self have to be congruence with actual self.

In the related literature, self-concept includes two dimensions: cognitive and affective. Cognitive part refers to individuals' thoughts about themselves and affective dimension determines one's feeling about himself. Baumeister (1997) has identified self-concept as the totality of some references people make for themselves. Hazel Markus (1977) pointed out that self-related knowledge is placed as a self-schema in human mind. Hazel Markus (1983) asserts that the self-schema exists in the mind of the person, and argues that the person's past experiences and images acquired by him constitute this scheme. This scheme allows the person to edit his self-knowledge. Self-knowledge forms the dynamic self that determines the values, motivations, preferences and behaviors of the individual.

Positive self-concept includes four dimensions: locus of control, low neuroticism, generalized self-efficacy and self-esteem (or self-worth) (Judge, Erez and Bono, 1998). According to research findings implemented by Judge, Erez and Bono (1998), there is a positive correlation between having positive self concept and job performance because employees who have positive self concept are more motivated in business life..

1.1. Psychodynamic Approaches to Self-Concept

The concept of self is defined by many pioneers in terms of different approaches. When the psychology literature is examined, it is seen that the concept first emerged within the psychodynamic approach. Although psychodynamic approaches do not first reveal the concept of self, it is seen that the definition used today is used first in the related approach. When Freud and Kohut's approaches are examined, it is seen that infancy and childhood are emphasized about self.

The term of looking glass self was firstly determined by Cooley (1902) and pointed out what others think about us determines how we feel ourselves (Hardin and Conley, 2013). During childhood, children develop self perception according to what others think about him and approved behaviors will be repeated in the future. Mead (1934) highlighted the importance of social interactions while developing self-perception. Children try to behave according to role as he has when he is playing and also tries to understand this role's desires and people have this role in society. These kind of roles are so important for development of self-perception. According to Sherif (1956), self is not an innate property, self develops during social interactions. They used self and ego terms while defining self-concept.

1.1.1. Freud's Psychodynamic Approach

Instead of the self-concept, Freud has used the term of "ego" (Khantzian, 1983). He highlighted the importance of unconscious while explaining cognitive process. According to his psychodynamic approach, self-concept is separated in three parts as:

- id,
- ego and
- superego.

The ego is the rational part of the mind and allows the person to adapt to the external environment, It decides whether or not the requests are fulfilled or under what conditions.

Freud explained personality with three parts as id, ego and superego. In terms of psychodynamic approach, id refers to desires of person. In the first period of his life, human has a narcissistic tendency. He thinks that he is in the centre of world. Whatever other thinks, whatever the interests of other people, (s)he only focuses to his/her interests and wants to be satisfied. In this period, human is managed by id.

Id is the part of human life, which dates back to very old times, and formed during the first years of human life. It is therefore located at the bottom of the iceberg in Freud's iceberg metaphor. It is therefore located at the bottom of the iceberg in Freud's iceberg metaphor. The individual tries to satisfy what was throughout his life,

because he acts with the principle of pleasure and the individual's main purpose is to be happy.

Over time, ego begins to develop and human begins to be aware of the reality as he is not in the centre of the world and interests of other people are also important. Superego has an important role in this period. Superego represents the desires, interests and rights of others. After developing of ego, ego tries to construct a balance between id and superego. For being happy, id has to be satisfied. The main function of ego is to satisfy id by taking account of the desires of superego. Sometimes, super ego may have impossible can't be reached desires.

Ego has to construct a balance between superego and id. For protecting self integrity and getting rid of anxiety, people may use some ego defense mechanisms. Ego defense mechanisms are also useful for caring individuals for personality disorders and reducing cognitive dissonance. According to Lecky's self-consistency theory (1961), individuals try to behave in accordance with his self- integrity. If he can not, he will try to use some defense mechanisms. If individuals can't cope with his negative emotional condition by using these defense mechanisms, it will create psychopathology (Horowitz et al., 1992; Gürcan, 2015). However, it is not always possible for the self to be consistent. This situation explains the concept of self-discrepancy (Higgins, 1987).

In DSM-III, ego defense mechanisms were included and categorized as

- mature defenses,
- neurotic defenses,
- psychotic and
- immature defenses (DSMIII-R; American Psychiatric Association, 1987)

These defense mechanisms may be demonstrated as (Vaillant, 1994):

Defense Mechanism	Category
Altruism	<i>Mature Defenses</i>
Humor	
Sublimation	
Suppression	<i>Immature Defenses</i>
Acting Out	
Passive Aggression	
Autistic Fantasy	
Devaluation, Idealization	
Projection	<i>Psychotic Defenses</i>
Distortion (of external reality)	
Denial (of external reality)	
Repression	<i>Neurotic Defenses</i>
Undoing, rationalization	
Intellectualization, Isolation	
Displacement, Somatization	
Reaction Formation	

Source: Vaillant, G. E. (Ed.). (1986). Empirical Studies of Ego Mechanisms of Defense (pp. 103-5). Washington, DC: American Psychiatric Press.

Figure 1.1.1 : Ego Defense Mechanisms

1.1.2. Kohut's Self-Psychology

The founder of self-psychology Kohut developed the related theory in 1970s. In terms of this theory, each person needs someone else for the rest of his life. In first months, baby comes with coded development program and live self as shattered mental images but than create a holistic self by self objects (Goldberg, 1978). Kohut pointed out that narcissistic psychopathology is because of the lack of empathy. So, people can not develop self-esteem and develop irrational thoughts about himself.

Kohut (1984) put narcissistic motivation, a general program of development from the beginning or "guiding" principle, in front of the instincts of sexuality and

aggression and defined three basic narcissistic needs in early development (Baker and Baker, 1987):

- Mirroring transference refers to the need to gain self-esteem through validation and validation of competence.
- Idealising transference defines protection and support by strong people in times of tension or tension beyond its competence.
- Twinship transference refers to being accepted by a relative as a person and have the feeling of belonging.

While the baby tries to meet these needs, he constructs two sides of self through his relationship with the self objects, which are the dimension of the experience of another person that relates to the function of that person to support the self (Baker and Baker, 1987):

- Grandiose Self: Because of the behaviors belong to him, child wants to be accepted and appreciated. He accepts his father and mother as a mirror shows his grandiose self.
- Idealized Parental Imago: Child admires his mother and father as so powerful and intelligent. So the child trusts them and feels strong.

This two sides self structure leads the person to action with the tension it creates. When the needs of the child are met optimally, and when he can successfully use his skills, the integrity between these two poles forms and the self gains a solid structure (Baker and Baker, 1987).

According to Adler (1963) who established his own theory by leaving psychoanalytic theory, people come to the world with a sense of inferiority and develop some tactics to combat this feeling. As a result of these tactics, they try to reach the ideal self. Adler also argued that people are more affected by social forces.

One of the important theoreticians who contributed to the concept of self is Erik Erikson. Erikson dealt with human life, personality development and self-formation with the socialization process of human and evaluated human life in terms

of social wealth and social poverty in his theory. Erikson described this as the eight ages of man (Domino and Affonso, 1990):

- Industry / Inferiority
- Identity / Confusion
- Intimacy / Isolation
- Generativity / Stagnation
- Integrity / Despair
- Trust / Mistrust
- Initiative / Guilt
- Autonomy / Shame

Erikson (1950) mentions that self-perception has changed during certain periods of life. Erikson states that the human self develops in eight stages. The individual is faced with a number of psychosocial crises in each stage and tries to cope with these crises. Along with these struggles, the individual encounters positive and negative self-elements at each stage (McLeod, 2013).

1.2. Behavioral Approaches to Self-Concept

After James, until 1934, behaviorists only dealt with externally observed behavior. Researchers working in the field of social psychology were not interested in the concept of self. Mead (1934) explained how self developed during infancy and shaped people's social realities. The individual communicates verbally with the social environment with the acquisition of language during infancy. Mead (1934) revealed that the individual becomes more socialized with the development of language and that the individual's self-perception matures (Schultz and Schultz, 2001).

In the related literature, many of self-concepts, especially self-control and self-regulation were examined in intrapsychic personality theories. But behavioral theories also explained the importance of subjective learning process and environmental effect in shaping self-perception of individuals. In Watson's behavioral model, individuals are viewed as a behaving organism minus mind, than simply as an interacting and behaving organism. On the other hand, Skinner (1971) highlighted the importance of dignity, autonomy, freedom and responsibility with other mentalistic myths in defining

the conditions of human life. According to Skinner (1971), freedom may be evaluated as so fantastic but it is the reason of many of wars. So, it is vital to analyze the reasons (as societies role) of this thought in a behaviorist perspective.

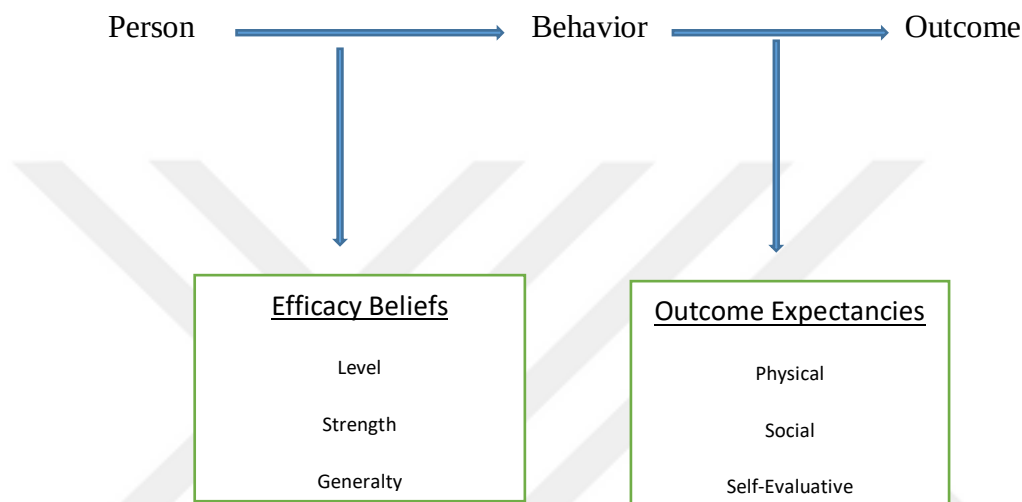
According to Bem's self-perception theory (1972) an individual tries to interpret his actions the way what he interprets others' actions. By behaving in accordance with these interpretations, individuals can be free from cognitive dissonance. According to Bem's theory, all of the individual's attitudes and behaviors are meaningful only in his own environment. Therefore, the individual prefers to evaluate himself again from the perspective of a third person (Bem, 1972).

The reemergence of the self-concept is so important in social psychology. The popularity of self-concept is because of cognitive perspective in psychology literature. Then, behaviorist theories also supported the new perspective for understanding self-concept. After this segment, self-concept was studied in behaviorism with Bem's self attribution theory in behaviorism and Bandura's Social Learning Theory (1977) in the first step.

Self-efficacy is one the most important factor for individual performance. When encountering with a difficult situation, individuals who do not consider themselves adequate, they think it is difficult, they look at everything from a narrow point of view and cannot find solutions to the problems they face. But people with a strong sense of self-efficacy are more comfortable, safe and strong in problems. Bandura (2010) mentions four factors that affect the perception of self-efficacy positively or negatively.

- Successfull Experiences: The previous successfull experience of the individual strengthens the perception of self-efficacy for future work.
- Experiences of Others: The perception of self-efficacy is strengthened when the individual witnesses the success of individuals who make similar efforts to their own efforts. On the other hand, if these observed people are not successfull, their self-efficacy will be effected negatively. If these observed people are different from himself, so this observation will not have any effect.

- Social persuasion: Individuals who can be convinced that they are adequate by others have a stronger self-efficacy perception. The individual tries to make more effort instead of avoiding from difficult situations.
- Psychological state: If the individual has a positive psychological state, self-efficacy perception is also positively affected. Otherwise, it affects the individual's perception of self-efficacy negatively.



Source: Bandura, A. (2010). Self-Efficacy. *The Corsini Encyclopedia of Psychology*, 1-3.

Figure 1.2.1 : Bandura Social Learning Theory

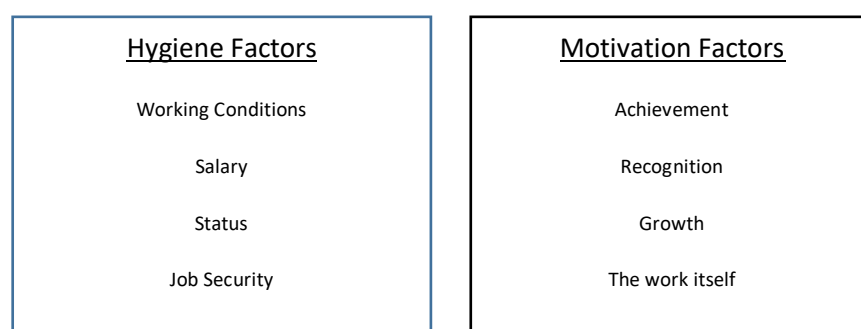
Self-esteem refers to one's value that he has placed on himself (Harter, 2006). According to Greenwald, Bellezza and Banaji (1988), self-esteem is the key point for development of a positive self-concept. In the related literature, self-esteem (or self-worth) was determined in different perspectives. But many of theorists reach to a consensus, according to this consensus self-esteem refers to overall evaluation of the individual. Self-esteem may be based on competency, power or virtue and morality manners.

According to Tajfel and Turner (1979)'s social identity theory, our identity is formed and shaped in connection with other people. People have not only individual selves, they are influenced by their personal and social identities when they perceive and make sense of themselves. The groups we are included give us belonging and social identity. Common norms, prototypic behaviors, characteristics and goals in the

group determine social identity. Groups the individuals belong to are the important sources of self-esteem. The main idea of the theory is that in-group members try to find negative issues of out-group that they are not included as a member for enhancing their self-image.

People with high self-esteem demonstrate lucid self-views about themselves. Brown and Dutton (1995) argues that people with low self-esteem can not think properly and generalize all failures to other fields of life. According to these research findings, performance is obviously correlated with self-esteem.

Herzberg's Two Factor Theory (1959) states that motivation may be categorized into two dimensions: motivation factors and hygiene factors: Being appreciated, job satisfaction, being successful and related needs refer to motivational factors. On the other hand, physical work conditions, supervision, salary, interpersonal relationships and salary can be categorized into hygiene factors. In this theory, it is stated that the presence of hygiene factors will be sufficient for motivation, but that the person cannot be motivated unless the needs in the hygiene factors are met. In order to be motivated, there must be motivating factors in the work. In terms of this theory, people will be more motivated with jobs which serve to high self-efficacy (Alshmemri, Shahwan and Maude, 2017).



Source: Alshmemri, M., Shahwan-Akl, L., & Maude, P. (2017). Herzberg's Two-Factor Theory. Life Science Journal, 14(5), 12-16

Figure 1.2.2. : Herzberg's Two Factor Theory

1.3. Humanistic Approaches to Self-Concept

Humanistic psychology refers to an understanding that takes the individual to the foundation and sees the individual as valuable and accepts people as “good”. In humanistic psychology perspective, two pioneers are so important: Carl Rogers and Abraham Maslow. Self-concept is related to self-perception, strengths and weaknesses and value systems. “Who am I?”. “What is the most valuable thing for my life?”. “What can I do and What I want?” These are the main questions placed for self-concept in terms of humanistic psychology (Schultz and Schultz, 2001)

1.3.1. Maslow’s Hierarchy of Needs

According to humanistic approach, if an individual experiences some events consistent with his self-perception, he can be happy. There is a strong relation between learning and self-perception. Knowing himself and what he wants to may effect the learning of the individual. The most important concept related to self-concept is “self-actualization”. This concept refers to top of the hierarchy of needs of Abraham Maslow (1954). Self-actualizing individuals know themselves and what they want. They act according to their needs not for others but they are sensitive to others. The most important motive for them to develop themselves and they trust their capabilities. Self-actualizing people accept their positive and negative aspects. Self-actualization is an ongoing process in which one can live from time to time (Maslow, 1954).

Theoretically, we can mention about there are different perspectives about the effects of self-efficacy, safety motivation, leadership and operational environment on safety behaviors and consequences. According to Maslow’s Hierarchy of Needs Theory (1954) people are motivated when their needs are not satisfied and if the needs placed in the lower segment are not satisfied, they can not be motivated for the needs which are placed in the upper segment. In terms of this theory, the needs can be listed hierarchically:

- Physiological Needs
- Safety and Security Needs
- Love and Belonging

- Self-Esteem
- Self-Actualization

According to Maslow's Hierarchy of Needs Theory (1954), people are motivated when their needs are not satisfied and if the needs placed in the lower segment are not satisfied, they can be motivated for the needs which are placed in the upper segment. Maslow's Hierarchy of Needs Theory supports the importance of determining those motivational factors that serve to increase proactive safety behavior of students in collegiate aviation programs. Collegiate flight students' cognitive needs have an important role on their decision-making process and mostly safety behavior, if their basic psychological needs are satisfied, safety act (McLeod, 2014).

Self-actualization refers to the last point of psychological health which every competencies and talents were made actual. Self-actualization is the need of everyone but only a few people can reach to this point. The process of self-actualization is unlimited and it continues in every part of one's life. Irena et al. (1999) states that skilled students have high level of self-actualization gather high results in the field of creative intellectual attitudes.

Maslow (1968) described some important features belong to self-actualized people as high level of creativity, peak performance and more problem focused in life. According to Maslow's theory, it can be stated that self-actualized people are more tended to achieve peak performance on their job. Theoretically, we can mention about there are different perspectives about the effects of self-efficacy, safety motivation, leadership and operational environment on safety behaviors and outcomes.

The extent to which the model of the hierarchy of needs that Maslow, an American theorist, has shaped within his own culture, fits in with other cultures is controversial. America is an individualistic culture and social needs are less important. However, in collective cultures such as Turkey and Japan, social needs can be more important than the need to succeed. Indeed, in countries with a collective culture, belonging and feeling of belonging to the group is of great importance. On the other hand, for individualistic cultures, individual needs may be more important than social

needs. So, like all motivational theories, this theory has to be evaluated with a cultural point of view.



Source: McLeod, S.A. (2007) Maslow's hierarchy of needs. Available online at <http://www.simplypsychology.org/maslow.html>

Figure 1.3.1.1. Maslow's Hierarchy of Needs

1.3.2. Carl Roger's Approach

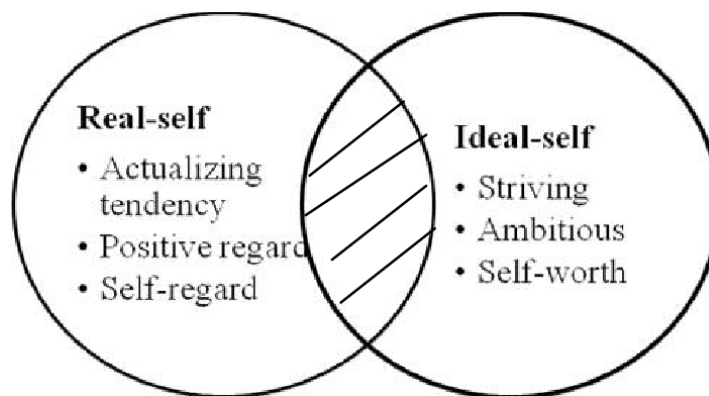
One of the Humanistic theories that values human and his abilities is Rogers' Phenomenological Self Theory (1965). According to Carl Rogers (1965), there are two factors affecting the individual's thoughts about himself; one of them is the perspective of the individual and the other is the environment. Rogers stated that it is only possible for an individual to develop a positive and strong self-concept by growing up in an unconditional love environment.

According to Lecky (1961), the personality of the individual starts to develop and develop from birth, and individuals behave according to the self-representations they create. Lecky (1961) said that the basic motivation of individuals in life is to strive for integrity (Sirgy, Johar and Claiborne, 2015). If an individual behaves incompatible with this integrity, he or she will deal with the negative emotion and defense mechanisms it creates. In cases where the individual cannot cope with defense mechanisms, it can lead to psychopathology (Stevens, 1992; Lecky, 1961). Carl Rogers was influenced by Lecky's theory and suggested that the individual's well-being was related to the harmony and consistency between self-representation and life (Feist and Feist, 2008).

Rogers (1951) defines self as an organized form of perceptions that the individual is aware of in relation to himself. According to him, the individual becomes aware of his potential in interaction with his environment and other people. People develop goals and objectives with positive or negative evaluations. Therefore, the self is a perceptual scheme of the characteristics and riches that the individual acquires and becomes aware of through their lives.

Famous clinical psychologist Carl Rogers (1951) established a theory about how self-concept effects personality of a person. We behave according to our images and these images contribute our prsonality. Rogers suggests that our personality is influenced in the situation we have reached our full potential in terms of self-worth and self- concept and request of being self-actualized person.

Self-esteem is called the evaluation of the difference between the ideal self and the real self that the individual thinks he possesses. According to Rogers, the development of self-consciousness, depends on one's experiences and self-perception occurs only in the social environment in which he lives.



Source: Ismail, N. A. H., & Tekke, M. (2015). Rediscovering Rogers's Self Theory and Personality. *Journal of Educational, Health, and Community Psychology*, 4(3), 143-150.

Figure 1.3.2.1. Carl Roger's Ideal-Self and Actual Self Congruence Situation

In this section, the meaning of the concept of self is explained in detail, where the theoretical back ground of the concept of self comes from, and how it is evaluated in which psychological approach is examined. In this study, some psychology approaches are mentioned. Approaches that look at the self from different perspectives, from the birth of psychology in philosophy to post modern approaches, are examined and the evolution of the concept is examined.

PART 2

2. General Review About Aviation Sector and Pilot Performance

The civil aviation sector in the world and in our country is developing day by day. Passenger capacities increase and airline companies try to respond to increasing demands without compromising quality. The aviation sector has many critical issues in terms of flight safety. Safety is undoubtedly important for every sector, but when compared to other sectors, it is much more important for aviation. It is not true to give a clear figure, but it is supported by a lot of research where 75% of the accidents are generally because of human errors (Aktaş, 2007; Wiener et.al., 1993).

When the studies in the field of aviation are examined, human factors in aviation are firstly modeled with the dimensions of human-hardware interface, human-environment interface and of human-human interface. Although the studies about human factors in aviation were based on before 1970s, the first systematic study was carried out in 1979 at a congress called Resource Management on the Flight Deck Amerika in America. Many non-governmental organizations, especially NASA and FAA, supported this congress (NASA Conference Pub. 2120, 1980).

International Civil Aviation Organization (ICAO) is the world's most comprehensive and top level civil aviation organization (ICAO, 2009). For this reason, ICAO lays down various rules for setting common standards, ensuring coordination and making recommendations in all member states. These rules are explained in the "Annex" documents. ICAO identified the annexes of the various subdivisions within the civil aviation system 19 as follows (ICAO, 2009).

Table 2.1.1. Annexes Explained by ICAO

Annex 1	Units of Measurement to be Used in Air and Ground Operations
Annex 2	Aircraft Accident and Incident Investigation
Annex 3	Facilitation
Annex 4	Safety Management
Annex 5	Personnel Licensing
Annex 6	Rules of the Air
Annex 7	Meteorological Service for International Air Navigation
Annex 8	Aeronautical Charts
Annex 9	Search and Rescue
Annex 10	Operation of Aircraft
Annex 11	Security: Safeguarding International Civil Aviation Against Acts of Unlawful Interference
Annex 12	Airworthiness of Aircraft
Annex 13	The Safe Transport of Dangerous Goods by Air
Annex 14	Aeronautical Telecommunications
Annex 15	Air Traffic Services
Annex 16	Environmental Protection
Annex 17	Aircraft Nationality and Registration Marks
Annex 18	Aerodromes
Annex 19	Aeronautical Information Services

Source: ICAO, A. (2009). Manual for the ATN using IPS Standards and Protocols(Doc 9896).

Flight performance of a pilot consists of a combination of the pilot's competences, technical flight skills, attitudes and personality traits. In terms of the trainings of the pilots, training programs for areas such as technical competence and expertise in flight skills have been applied intensively, while the development of behavioral skills such as team management, leadership, stress management, decision making under stress and communication have gained more importance in recent years. (Chidester et al., 1991).

Until NASA began work in 1979, traditional approaches to aviation have sought to address the causes of aircraft accidents in machine and electronic systems. Tenerife Accident, which has been described by all the experts in the field as the biggest accident in the history of aviation, has been the end of these approaches. The Tenerife disaster, which is considered the most terrible accident in aviation history, took place on 27 March 1977 (Terzioğlu, 2007).

The reason for the aviation accident in Spain, where 583 people lost their lives, is some misunderstanding with pilot errors. KLM's pilot Jacob Van Zanten was one of the airline's most educated pilots and was well known to the passengers because KLM's magazines were in a way the face. However, due to his impatience, he caused the disaster himself. This is why CRM issues have become more important (Strother, 1999).

In 27 March 1977, the pilot of the Boeing 747 aircraft of the Dutch-KLM Airlines in Tenerife Canary Islands started the engine on a fog-covered track and called the tower as: We are now at take-off. "The tower controller interpreted the pilot's words as follows: "We are at our take-off position and holding ". That is to say, the plane is on hold in the position before departure for landing. The tower controller can not adequately see the aircraft positions due to heavy fog. So first officer doesn't warn the Pan American plane pilot, which is taxiing on the runway, because first officer thinks that there is not any problem. The crew of the Pan American plane and the crew of the KLM plane see each other, but it is too late to make moves for both aircraft, and the KLM plane crashes to the right where the cockpit of the Pan American plane ends. All fourteen crew members of the KLM plane and 234 passengers died (Strother, 1999: 29).

The Tenerife accident, detailed above, is considered to be the largest in the aviation field. This accident and other accidents became a new beginning for the history of aviation, revealing the importance of the human factor in aviation, and research has begun to take more place in the human factor.

When the subject is human, it is necessary to take into account a number of human physiological, psychological and psychosocial factors for a safe flight. In the field of aviation, the human factor was investigated while at the same time the

disciplines used in aviation were investigated. The following table shows the application areas of some disciplines in the field of aviation (Safety Regulation Group, CAP 720, 2002: 3).

Table 2.1.2. Disciplines frequently involved in Human Factors Activities in Aviation

Discipline	Definition	Specific area of interest	Typical area of application
Psychology	The science of mind and behaviour.	Sensory characteristics, perceptual laws, learning principles, information processing, motivation, emotion, research methods, psychomotor skills, human errors.	Display requirements and design, control systems, design, allocation of function, training system requirements and methods, selection methods, effects of emotional and environmental stress on performance, simulation requirements.
Engineering	Applying the properties of matter and the sources of energy in nature to the uses of man.	Hydraulics, mechanical, structural, electrical, electronic, and aerodynamics design, systems analysis, simulation, optics.	Design of displays, design of controls, design of control systems, design of complex systems, design of optical systems, simulator design.
Human physiology	Deals with the processes, activities and phenomena characteristic of living matter, particularly appropriate to healthy or normal functioning.	Cell structure and chemistry, organ structure and chemistry, interaction of the various body constituents to promote health and function, functions and requirements of body systems.	Environmental systems, diet and nutrition, effects of environmental factors (heat, cold, hypoxia), establishment of environmental requirements.
Medicine	The science and art of preventing, alleviating or curing disease and injuries.	Effects of various forces, radiation, chemical and disease agents; appropriate preventive methods of protecting health and well-being.	Toxicology of smoke, chemicals, impact protection, maintenance of health.
Sociology	The study of the development, structure and function of human groups	Small and large groups or "teams"; crew composition; behaviour of passengers in emergency situations.	Crew selection, passenger safety.
Anthropometry	Study of human body sizes and muscle strength.	Anatomy, biodynamics, kinesiology.	Ground support equipment, access door size for maintenance, work station layout (reach, range of adjustment of seats, etc.)

Source: Authority-CAA, C. A. (2002). Flight Crew Training: Cockpit Resource Management (CRM) and Line-Oriented Flight Training (LOFT) CAP 720.

2.1.1. Crew Resource Management and Pilot Performance

Many of carried out research and statistics show that the most important reason of aviation accidents is human errors. For a safe flight, the captain pilot, first officer, cabin crew should be a successfull team and be able to work in harmony with traffic controllers, technicians, flight operations specialists and all employees on the ground (Terzioğlu, 2007)

People may have different roles and responsibilities in teamwork. Individual abilities may not be sufficient in all cases. Individuals may not achieve excellent performance as a team even if they perform perfectly when they are working alone. In aviation, teamwork, team members need to collaborate in complementary areas in their fields of expertise.

Crew Resource Management refers to a management system that enables the use of available resources, such as people, equipment, procedures, software and hardware, to increase the efficiency and safety of flight operations. (CAP 737, 2006).

Standards Agency (1998) proposed that Crew Resource Management (CRM) aims to improve team performance and prevent aircraft accidents and incidents by better understanding the human error factor of Crew Resource Management.

Aviation has a strategic importance in terms of both economic and socio-cultural development of countries. Technological developments in the aviation sector have brought the increase in the expectations of the people along with the competition and this situation has prepared the ground for the human factor to become more important in aviation.

In the field of aviation, there is a common opinion that the biggest cause of accidents is human error (Aktaş, 2007; Terzioğlu, 2007). Airline companies implement

a series of programs to train their employees within the framework of CRM competencies and try to recruit personnel within the framework of these competencies. Before discussing what CRM competencies are, it is useful to look at the historical back ground of the concept.

An examination of the aviation literature shows that there are basically two different perspectives: military aviation and civil aviation. Although both domains have similar internal dynamics in many respects, there are also fundamental differences. In fact, as in many fields of social sciences, developments in the field of aviation started in the military field.

For the first time in World War I, wars began to be fought in the aviation field, and both victorious and defeated states at the end of the war evaluated themselves within the framework of certain indicators. The analysis made at this point revealed the fact that human factor is more important than thought. Some innovations were made in the field of aviation until the second world war, and during the Second World War, aircraft were used more and the need for a trained and qualified pilot increased when the aircraft were used outside the military area. These developments in the field of aviation have also increased the load of pilots and the need for co-pilot has increased. Particularly in some aircraft, the fact that the crew is even more crowded has revealed the concept of team. At this point, ensuring coordination within the team was another important issue. (Terzioğlu, 2007).

In fact, three major accidents in the 1975s (one of which was the Tenerife accident mentioned above) have shown that the greatest reason why individuals do not boldly address a problem they see due to the hierarchy within the team. This has led the experts to address more problems in the communication processes within the team.

Conceptual emergence of the concept of Crew Resource Management comes from United States DC-8 accident in 1979 (Helmreich, Merritt and Wilhelm, 1999). It began at the request of the National Transportation Safety Board (NTSB) and became apparent in a NASA work shop in 1979 examining the role of human error in air accidents. The study, led by NASA psychologist John Lauber, aimed to develop a less

authoritarian culture of command by keeping the level of hierarchy culture at the required level, and to monitor the captains by other cockpit members and to encourage them to question their mistakes.

As a result of the studies, it was revealed that the biggest reason in aircraft accidents was human error and these human errors were mostly caused by leadership, communication problems and decision making (Cooper, White, and Lauber, 1980). At this time, the first name of the concept was put as Cockpit Resource Management. Thus, the training programs within the scope of today's Crew Resource Management started for the whole crew for reducing the human error on the flight deck. These were only annual repeated simulation trainings, which were related to communication within the cockpit. The activities carried out within the scope of this training correspond to the first generation part of the development phase of Crew Resource Management concept. (Helmreich, Merritt and Wilhelm, 1999).

These trainings were then diversified, and activities were developed to enhance competencies such as stress management, decision-making styles, team building and situational awareness. These activities refer to the second generation of the development of Crew Resource Management concept (Helmreich, Merritt and Wilhelm, 1999).

When it comes to the third generation definition of the concept, it is understood that the subjects studied are not only inside the cockpit. The errors are not only related to the pilot and pilot assistants; It was understood that the responsibilities of flight attendants, dispatchers, maintenance personnel and hostesses were also important. Therefore, the word of "cockpit" in the concept of cockpit resource management has been changed to "crew" and has survived as crew resource management in this way (Helmreich, Merritt and Wilhelm, 1999).

With the programs implemented by the Federal Aviation Administration (FAA) in the early 1990s, significant changes have been made regarding the qualifications of the crew members. These differences in application programs refers to step 4 of the Crew Resource Management concept.

When we reach the fifth stage of concept of Crew Resource Management development, it is understood that there is a consensus on the idea that human error is inevitable. Therefore, within the framework of some practices that we call “error management” today, what can be done to minimize human errors is discussed and effective risk management is considered. The point to be taken here is that the importance of acting proactively increases before the problem arises. It is foreseen that the scope of the Crew Resource Management concept continues to develop and that there will be more emphasis on automation in the future. (Powell and Hill, 2006).

Although Crew Resource Management applications started in the aviation field, it has found application in many sectors, especially in the health sector. In the health sector, Crew Resource Management was first implemented in 1991 at the Basel Hospital in Switzerland (Zeltser and Nash, 2010; McGreevy and Otten, 2007).

According to many of studies, Crew Resource Management has been applied in areas such as surgical intervention, nuclear power reactors industry, marine transport, oil and oil industry and it has been found to be effective in reducing errors (Diehl, 1991).

Salas et al. (2006) stated that crew resource management training was started to be used in other fields in their literature study. Based on the findings of the research on crew resource management training in order to examine the efficiency of aviation, pharmaceutical, commercial oil production and maintenance, shipping and nuclear power, it is stated that people who are trained with crew resource management training generally receive positive responses.

Although Crew Resource Management comes from the aviation field, it is understood that the approach style and internal dynamics can be applied to many sectors as health sector, such as chemical waste treatment plants sector. Indeed, Lauber (1984) defined crew resource management as the use of all available resources, such as

- equipment,
- human resources and
- information

for the efficient and safe execution of operations (Salas et al, 2006).

Brown and Moren (2001), in their study, stated that the captain pilot or first officer did not tell the mistakes they made due to shyness, and this situation constitutes a communication barrier and adversely affects flight performance. Based on this information, it is possible to say that self-efficacy perception and social anxiety are very important factors for flight performance.

The CRM Skills and Example CRM Syllabi report published by CAA in 2013 lists the competencies required for pilots. These are:

- Intelligence level
- Personality characteristics
- Leadership
- Personality type
- Team Membership and
- Psychomotor

As can be understood from the above definitions and studies carried out in the related literature, crew resource management includes a number of non-technical competencies. These competencies include (Terzioğlu, 2007; Aktaş, 2007; Salas et al.; 2006; FAA, 1995):

- Communication Skills: The individual is expected to be able to solve conflicts effectively, to be empathic, to defend his / her ideas, and to convince and be convinced when necessary. In addition, the pilot should be able to pronounce the words correctly and use the words correctly.
- Leadership: The person should be able to direct others on issues related to his field of expertise, to motivate them by setting a common goal and to direct them towards this common goal. Here, it is necessary to emphasize the different sides of leadership from management. The manager is the appointed person and can direct other people within the group based on his formal authority, but here is the ability to

influence and direct others by taking initiative without relying on the authority to make the leader. In this part, the most important thing is to reflect true leadership style.

- **Stress Management:** There is no doubt that aviation itself is a stressful business. It is indisputable that a pilot candidate should be able to manage his stress very well, especially considering the responsibilities required by the job. In emergency times, the individual should be able to maintain his / her calmness and should not adversely affect the decision-making process regardless of the stress level (Terzioğlu, 2007).
- **Situational Awareness:** Stanton, Chambers, and Piggot (2001) describe situational awareness as the pilot or flight crew's continuous perception of himself and the aircraft in a threat-filled and threatening environment, and inferences about possible negativities, to produce solutions, and therefore to apply the most optimal way of action. .
- **Decision-Making:** A pilot needs to follow a rational course in decision-making. So much so that the decision-making mechanism should not be adversely affected when the stress level is high. It is desirable for a pilot candidate to behave in accordance with the rules, but he must be able to flex the rules in place and on time. He should not make sudden decisions, in other words impulsive behaviors. When a person is caught between two or more options, he should evaluate each option in a realistic way and be able to make an effective decision.
- **Responsibility and Discipline:** It is desirable for a pilot candidate to act in accordance with the rules and not to make concessions to the rules. However, as in the case of Captain Sully above, a pilot should be able to flex the rules and take the initiative when it comes to his position. Besides, it should have self-discipline and have established its own internal discipline without any warning from outside

The following section will explain how a pilot profile in civil aviation is required within the framework of Crew Resource Management components, and what competences are included in this profile. These competencies illustrated in Crew Resource Management part will be discussed in more detail in the next section.

2.1.2. Pilot Selection Process

As a formal discipline, human factors became possible about 50 years after the first manned flight in aviation was successfully carried out by the Wright brothers (Wiener, 1988). As a result of the understanding that human errors are more important than other factors in aviation accidents, researchers have begun to investigate the human factor more.

Within the Crew Resource Management components, there are number of competencies required for pilot candidates. Pilots have to have more selective competencies than many professions. It is impossible to compensate for a mistake made by a pilot. Aircraft accidents caused by human errors in the past are examples of this reality.

Table 2.1.2.1. Comparison of Crew Resource Management (CRM) Dimensions

Prince & Salas, 1989 ⁴	FAA, 1989 ⁵	Helmreich & Foushee, 1993 ²	Lauber, 1979 ⁶ , 1987 ⁷
Situational awareness	Situational awareness	Situtational awareness	
Leadership	Interpersonal skills, team management	Leadership, workload management and task delegation	Leadership, delegation of tasks and assignment of responsibilities, establishment of priorities
Adaptation		Use of available resources	Use of information
Communication	Communication	Communication	Communication
Mission analysis	Team review or mission analysis		Monitoring and cross-checking
Decision making	Decision making		Problem assessment
	Stress management	Building and maintaining team	Distraction management

Source: 3. U.S. Federal Aviation Administration (FAA). Advisory Circular 120-51B, Crew Resource Management Training. 1995

As mentioned in the previous section, the scope and components of Crew Resource Management have changed periodically and have been reconsidered in different perspectives. This corresponds to the six-generation development phase of the Crew Resource Management concept, which is explained in detail in the previous section. In this section, the pilot competence required within the framework of agreed components will be discussed.

Hilton and Dolgin (1991) identified three main factors for the selection of pilot candidates (Carretta and Ree, 1994).

- Intelligence
- Psychomotor
- Personality

Kantor and Caretta (1988) developed the psychomotor test battery for the selection of military pilot candidates. To develop this battery, some or all of the battery was applied to 1622 Air Force pilot candidates. The researchers determined that perceptual speed, decision speed and memory function tests are two important factors of flight performance. In this study, they stated that a successful pilot should have very good psychomotor abilities (for instance hand-eye coordination), ability to make fast decisions and have the right personality traits.

Perhaps the most important problem in pilot elections is the determination of personality traits suitable for the pilot. Personality is one of the most difficult subjects for many disciplines, especially psychology, in the social sciences. There are many studies in the aviation literature on personality traits suitable for piloting. Campbell et al. (2009) examined twenty-six studies in the related field; stressed that neuroticism, extroversion and anxiety structures were most common (Helmreich and Foushee, 2010; Chidester et al., 1991)

According to Campbell, Castaneda and Pulos (2010)'s meta analysis study, there are 3 most important personality characteristics effect aviation training performance as:

- neuroticism,
- extroversion and

- anxiety

Campbell, Castaneda and Pulos (2010) have pointed out that low neurotic, extroverted candidates are more appropriate for aviation. Adding to these characteristics, there are also some abnormal features as being impulsive, highly anxious and being hostile (Callister et al., 1999). In terms of this study, they have carried out a research and describe an average pilot profile. The average pilot appears to be altruistic, in addition to that, s(he) is skeptical, thought-minded and competitive. Average pilot describes himself / herself as highly competent, responsible, achievement oriented and capable of managing high levels of stress.

In USAF (U.S. Air Force) pilot-candidate selection process, four criteria are considered for selection as (Caretta and Ree, 2003):

- College Performance
- Paper-Pencil Aptitude Test
- Flying Experience and
- Physical and Medical Fitness

While preparing TTS (The Temperament Structure Scale), mobility and vitality was occurred as the most important personality factor. The Vitality scale was prepared and demonstrates physical requirements for aviation as jet lag, preservation of physical fitness, long flights, etc.. The Mobility scale explains this reality pilots have to travel mostly and have to be ready to encounter with new challenges, these challenges sometimes may require risk-taking behavior. Risks may be social or operational (Goeters, Timmermann and Maschke, 2015).

According to Aktaş's study (2007), being extraverted, consciousness, open to experience are positively correlated with pilots' high performance in difficult conditions. This performance is also negatively correlated with neuroticism, so we can say that the performance of neurotic pilots low in these kind of situations. These kind of pilots are thought as insufficient in decision making process and not capable to cope with their stress in efficient way. In terms of this study, extraverted, consciousness ones, ones are not neurotic and more open to change pilots are more open to communication and they have more tendency on teamwork.

Hormann and Maschke (1996)'s study revealed that self-assertiveness, sociability, activity, orientation towards action and balance may be evaluated as the characteristics of successful pilots. Bartram (1995) found that pilots in the UK Army Air Corps who pass training are more extroverted, stable, independent and tough-minded than those who fail training.

In aviation sector, we can observe the reality of that female military pilots' number are increasing. In terms of King, McGlohn and Retzlaff (1997)'s study, female United States Air Force pilots were compared with male ones by using the "big five" personality model as extraversion, neuroticism, conscientiousness, openness to new experiences and agreeableness. Female Air Force pilots' scores were higher on the Conscientiousness, Agreeableness and Extraversion scales than male pilots. Female pilots were also higher than the female comparison group and lower on the Openness and Neuroticism scales than that comparison group. It is suggested that these personality traits are highly adaptive for Air Force pilots.

Levine et al. (1976) implemented a factor analysis to determine whether behavioral attitudes of pilots related with aircraft carrier accidents or not. In terms of this research, adventurousness was the only factor that correlated with accidents. According to Campbell, Castaneda and Pulos (2010)'s research for determining the effects of personality as predictors of aviation training outcome, neuroticism, extroversion and anxiety were appeared most frequently.

The success of the pilot in a real operation is an important criterion that is often neglected (Damos, 1996). In the light of the performance classifications in the literature, pilot performance is defined as "can do" and it is not only a successful completion of the flight school and being a skilled pilot. "Will do", which means that the pilot wants to do it for the long term.

Pilots have to coordinate with the flight crew, observe the environment and check the indicators while flying the aircraft. While fulfilling these responsibilities, it is possible to encounter unexpected events. The pilot has to cope with these challenging situations by using his competencies (Damos, 1996). In this context, it is obvious that the required competencies are important in the pilot elections but the quality of the

training to be given to the pilot candidates is also as important (especially for the pilot candidates to be trained).

Many countries of the Air Force (including Turkey) implement some tests when choosing the pilot candidates. The personality, psychological status, psychomotor abilities and cognitive abilities of the candidates are evaluated and appropriate candidates are selected for training. During these evaluations, some psychotechnical tests and interviews are conducted.

Within the framework of the JAR Flight Crew Licensing / JAR-FCL standards set by the Joint Aviation Authority, pilot candidates must meet the following requirements in order to obtain Commercial Pilot Licenses (<http://web.shgm.gov.tr/en/genel-duyurular/1023-pilot-to-be-wanted-on-conditions>; date of access: 31.08.2019).

- To be at least 18 years old.
- To have graduated from at least high school or equivalent
- To have the health certificate issued by the related units
- To have the necessary theoretical training and flight training for flight training from the institutions authorized by the General Directorate of Civil Aviation
- To be successful in theoretical knowledge exams and flight skill test
- To have sufficient flight experience.

Lately airlines, in World and Turkey and pare woking to train pilot candidates in their own constitution for meeting the growing needs in the. Therefore, candidates who are found suitable for certain competencies within the framework of CRM components are accepted and trained.

There is no doubt that interviewing to assess the psychosocial appropriateness of the pilot candidates is a very difficult task. However, the notion that interviews measure exactly the required competencies is also highly controversial. As a matter of fact, it is obvious whether the pilot candidates give correct answers to the questions asked during the interview, whether they reflect themselves intentionally or unintentionally, and the reasons allocated by the interviewer, the time

and environment and the interviewer's evaluation process. Although it is essential to be objective for an interviewer and interviewers try to remain as objective as possible, it should not be forgotten that the interview process is a subjective process and that the decisions taken are influenced by this subjectivity.

The literature on aviation psychology has just begun to form. Therefore, some problems and errors are corrected in the process. It should be noted that, in contrast to some sources, interviews for the selection of pilot candidates are not psychosocial assessments but psychosocial assessments. Because, it is not always possible to make advanced psychiatric diagnoses about the candidate within 45 minutes. In addition to conducting psychological evaluations related to the candidate, he / she is asked to share some aspects of his / her social environment and an assessment of the candidate's social skills.

Competence-based interview method is generally used in making these evaluations. However, the behavior of the pilot candidate during the interview, the way he uses gestures and mimics, the words he uses to answer the questions, the answers he gives to the questions that predict his cognitive skills and the decision-making processes are the main points used to test the psycho-social suitability of the candidate.

Initially, each candidate is an unknown and, when confronted by the interviewees, they send a number of messages to the experts whether they are eligible to become a pilot. Candidate's educational back ground, past experiences, and reactions to negative situations provide important evidence of whether the candidate is psycho-socially appropriate.

Knowledge and abilities of the individual; the quality of the behaviors and the relationships that it exhibits to the outside expresses the concept of competence (Spitzberg and Cupach, 1989). Competence is more important than knowledge and skills necessary for successful performance, especially in jobs that require high responsibility (Bergenhengouwen, 1996).

Although the interview applied so far is competency-based, it may not always work to use the competence-based interview technique, as hypothetical questions are invalid in the competence-based interview technique. However, it may be useful to

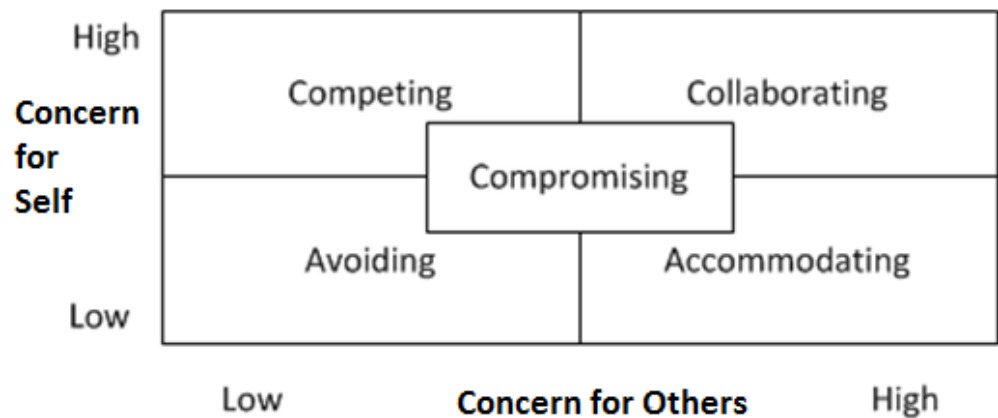
measure the response of a pilot candidate who has not yet experienced cockpit experience by asking hypothetical questions about the problems in the cockpit. For instance, the role playing during the interview can give important clues about the candidate.

First of all, the pilot candidate's communication and stress coping skills should be sufficiently developed. Poor management of stress negatively affects decision-making. Being able to work in a team is another important aspect of successfully accomplishing tasks within the cockpit. Because being a good pilot requires being able to work in harmony with the team, being a good leader if necessary and being a good team player when necessary.

Leadership is important because one should have the ability to lead in situations where he or she is more specialized than the other members of the team. He should be a good team player in situations where he is not an expert and someone else needs to lead. It should also be able to effectively manage potential conflicts.

Conflict within the cockpit is inevitable. Therefore, what is important at this point is not to experience conflict, but to manage and resolve conflicts effectively. According to Thomas and Kilmann (1974) and Rahim (1983), there are five conflict management in terms of two dimensions as being assertive and cooperative:

- Avoiding
- Competing
- Comprising
- Accomadating
- Collaborating



Source: Rahim, M. A. (1983). A Measure of Styles of Handling Interpersonal Conflict. *Academy of Management journal*, 26(2), 368-376.

Figure 2.1.2.2. Conflict Management Grid

Considering the above grid, it is seen that the most ideal conflict management style is undoubtedly collaborating. It can be said that the pilot candidates who will adopt the avoiding style will avoid conflict as much as possible and will adapt more to the group in order to avoid conflict. In this case, it is quite possible that a pilot with a high power distance and the first officer in the cockpit will avoid telling a mistake noticed. Many accidents have occurred due to this situation. It is more possible for high-level power distance cultures. According to Hofstede's culture model, in these kind of cultures, power is distributed unequally and people accept this imbalanced situation. So, position level may be the most important factor in decision-making process in which conflict occurs. So, especially for these culture, conflict management issue may seem a major potential threat for aviation.

Most of the candidates who adopt the competing style in conflict are also among the unwanted pilot candidates. Such personalities are generally dominant in their relationships and instead of solving the problem, they adopt their own ideas. Therefore, decision flexibility may be another problematic aspect. According to study carried out by Erkan, Erdem and Kafalı (2016), conflict management competency has a positive effect on job performance in aviation. Self-efficacy is the main predictor of

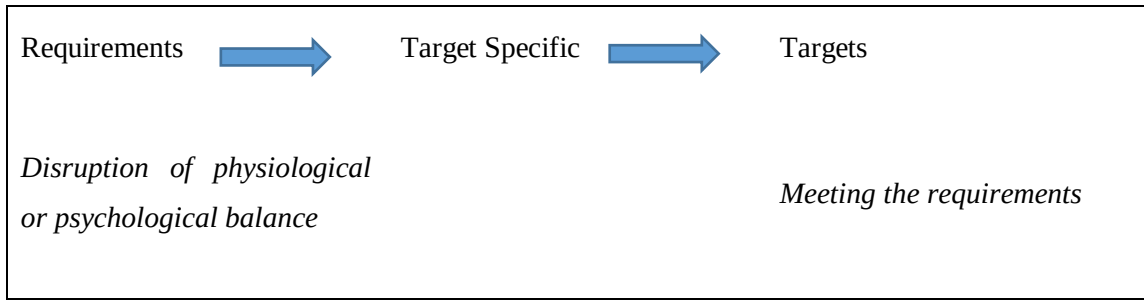
conflict management (Syna Desivilye and Eizen, 2005). People with self-efficacy can manage conflict occurs in their social relations effectively.

Within the framework of Crew Resource Management, a number of competencies are sought in pilot candidates. Of course, at the beginning of these competencies, the candidate's interest in the profession is questioned. Undoubtedly, it is significantly related to the competencies of the pilots in the cockpit and other members of the team that assist in the performance of the mission for a safe flight and how they use them. One of the basic functions of CRM is to create the motivation to use these competencies in a way that creates synergy (Terzioğlu, 2007; JAA, 2000).

There is always a desire and purpose under every behavior we exhibit, except in exceptional circumstances. So much so that, while doing our job, coming to class, meeting our friends, the existence of a motive that directs our behavior is beyond doubt. Therefore, motives have an important place to give meaning to human behavior. The word motive is derived from the word 'movere'. Movere means activation in Latin. From this definition, we can define the motive as bir an internal situation that activates and directs the behavior of the individual towards a specific target, and this process itself can be defined as motivation.

In essence, every behavior has certain motives underneath. Of course, our physical needs are just some of the factors underlying our motives. As Maslow also mentions, our psychological, social needs, thoughts, fears and values lead us to targeted behavior. The individual becomes happy if he achieves satisfaction as a result of his behavior.

Motivation is neither a predecessor nor a result; motivation refers to a process. There are three stages in the motivation process: these can be expressed as requirements, targeted behavior and objectives (Baysal and Tekarslan, 1996).



Source: Baysal, A. C., and Tekarslan, E. (1996). İşletmeciler için davranış bilimleri. İstanbul Üniversitesi İşletme Fakültesi.

Figure 2.1.2.3. Motivation Process

The pilot candidates say that they are motivated for the profession and try to convince those who will evaluate them that they have high motivation. What is important at this point is the motivation sources of the pilot candidates. If a person wishes to become a pilot for his financial benefits, he will work for this profession, in particular in the diagram above, and will do his best to be selected. However, when they become a pilot and get the financial benefits they want, they will have to have the same desires and desires again to start this motivation process again. The answer to the question whether the same needs motivate the person as in the previous sfr is quite vital at this point. Herzberg's Two Factor Theory (1959), which is mentioned at the beginning of the study, explains this issue.

According to Herzberg's Two Factor Theory (1959), motivation may be categorized into two dimensions: motivation factors and hygiene factors: Being appreciated, job satisfaction, being successfull and related needs refer to motivayional factors. On the other hand, physical work conditions, supervision, salary, interpersonal relationships and salary can be categorized into hygiene factors. In terms of this theory, Herberg states that an idividual can not be motivated without hygene factors. But hygene factors are not enough for motivating an individual. So, for the continuation of the motivation process, the presence of motivating factors is necessary.

Money is an important hygiene factor for pilots. The person will be motivated to become a pilot in order to have the standard of living they desire. However, once

this desirable life has the financial level, the income earned will be the standard of living and the standard of the person will no longer be enough to motivate him / her. Therefore, money is a hygiene factor. Motivating factors are needed to ensure the professional satisfaction of the person.

For instance, the content of the piloting profession should be attractive to the person. In order to achieve this, one must first of all know that he / she has the competencies necessary for this profession. Some reasons put forward by candidates such as liking to fly and the prestige that the profession will add to the person are not enough motivating factors. Before deciding on the piloting profession, one has to know and analyze himself very well, which requires considerable self-consciousness.

Stress interviews can be conducted from time to time in order to measure the candidate's coping skills. Whether it uses effective ways of coping with stress is also important data for the candidate's eligibility for piloting. It is known that individuals who use adaptive coping strategies to manage stressful life situations can manage their emotions better than individuals using maladaptive coping strategies. Adaptive coping strategies are as follows (Carver, Scheier and Weintraub; 1989):

- Active Coping
- Planning
- Problem-focused Coping
- Seeking out emotional social support
- Sport and implementing some exercises.

It can be understood from the above explanations that individuals who use adaptive coping mechanisms try to find solutions by confronting the situations that put them under stress and following a rational way, by doing certain activities (such as doing sports, exercising and worshipping) and seeking emotional support.

Individuals with a high level of self-control can cope with stress more actively than those with low self-control levels in coping with negative situations and may be more productive in business (Frijda, 1993). According to study implemented by Brown, Westbrook and Challagalla (2005), self-control moderates the effect of negative emotions on job performance.

On the other hand, maladaptive coping mechanisms involve dealing with the stressful situation and avoiding and denying the problem instead of solving the problem. The main maladaptive coping strategies are as follows (Hampel and Petermann, 2006).

- Passive avoidance
- Rumination
- Aggression
- Resignation

Pilot candidates share important information about their past experiences from their daily life or work life and how they respond to problems, their responses during interviews, and occasional responses to role plays, whether they are adaptive or maladaptive to his life stressors.

In this section, general issues related to aviation are mentioned, by giving examples from the history of aviation accidents, the reasons of the accidents are stated to be largely human origin and the human factor is emphasized. The scope and components of the Crew Resource Management (CRM) concept were discussed, and the development phase of the concept was examined by including the studies and views of many researchers. The competencies required for a successful pilot within the framework of CRM competencies were discussed from different perspectives and the selection methods used in the selection of the pilot candidates were given basic information about personality characteristics and some competencies.

PART 3

3. Self-Concepts

In this section, the definitions and subheadings of the self-concepts examined in the study will be introduced. The theoretical background of each self-perception will be discussed, and some studies will be conducted on the relationship between self-concepts and performance by using different perspectives.

3.1. Self-Efficacy

When the origins of the concept of self-efficacy are examined, it is seen that the concept originally comes from Albert Bandura's Social Cognitive Theory (1977) (Compeau and Higgins, 1991). The term of self-efficacy was firstly defined by Bandura (1989). Social Learning Theory has established a bridge between Cognitive Approaches and Behavioral Approaches in Psychology. According to Bandura, an individual's behavior is influenced by cognitive and environmental factors.

Self-efficacy refers to the one's belief about his ability to influence and control the events that effect his life (Bandura, 1989). Self-efficacy is conceptly different than self-esteem. It refers to one's perception about the belief of achieving a specific task as this task may be associated with work life or other life domains. According to research implemented by Hysong and Quinones (1997), self-efficacy is moderately correlated with good job performance. Self-efficacy enables employees to select challange goals and getting commitment to their work (Bandura, 2004).

Jakubowski and Dembo (2004) also defined self-efficacy as a judgement of individual that he has the required ability for acomplishing a spesific task. So, it is so important to reserach basic assumptions, beliefs and judgements of individuals for understanding their behavior in terms of self-efficacy.

People with high self-efficacy are more likely to achieve their goals, they can quickly resolve difficult tasks and they are confident in their decisions. People with low self-efficacy tend to avoid difficult tasks and tend to give up (Bandura, 2004). Self-efficacy refers to an individual's belief in accomplishing a given task or a task that must be overcome. Self-efficacy is the motivation for accomplishing a task.

Bandura (1998) mentioned that there are four factors that affect an individual's self-efficacy :

- The motivation of individuals about a behavior affects the outcome of the behavior. The individual who wants to perform a behavior increases his motivation if he wishes and contributes to the positive self-efficacy perception.
- Behavior-related psychological conditions can positively and negatively affect the development of self-efficacy.
- Before an individual behaves, he makes predictions about the outcome of his behavior. Individuals with low self-efficacy think more about negative outcomes. However, individuals with high levels of self-efficacy think that their behavior will have positive effects in the future.
- The fact that individuals perform an attitude because of their individual preferences also affects the self-efficacy they will feel about that behavior.

Bandura (1997) has also carried some studies and extended social cognitive theory from individual level to group level. So, he analyzed group efficacy by examining group of people and their self-efficacy level and called as "collective efficacy". Collective efficacy refers to the shared values and belief of group and joint capabilities to perform duties successfully.

Bandura (1997) mentioned about number of factors that affect an individual's self-efficacy level. We can list them as follows:

- The first place that contributes to the socialization of the individual is the family. The individual develops some skills by observing and imitating the behavior of his parents. Therefore, skills acquired in the family environment have an important role in the development of self-efficacy perception.
- The other individuals around him are the ones with whom he interacts the most after his family. Individuals both socialize and gain various experiences in such environments.

- The individual socializes with different people in the school and experiences about feelings of success or failure. Successful and positive relationships with friends and teachers also affect self-efficacy beliefs positively.
- Previous experiences of the individual play an important role in the development of the perception of self-efficacy, and individuals with high self-efficacy beliefs can easily cope with the problems they will face in the future and live happier. Thus, the individual knows better how to cope with the problems that he will encounter in the future.

After the self-efficacy scale developed by Bandura, alternative scales were developed by many researchers and another valuable contribution was made by Sherer and others. The General Self-Efficacy Scale developed by Sherer et al. (1982) is an evaluation tool that can be used in almost every field. This scale was then adapted to Turkish by Yıldırım and İlhan (2010) and validity and reliability studies were conducted. In this study, a 13-word scale was developed and three factors were identified and the related scale was also used in this study :

- Starting,
- Resisting
- Efforting to Continue a Job.

According to research findings implemented by Sanna (1992), individuals with high self-efficacy perform better in the situations where the presence of others than individuals with low self-efficacy. In the framework of the findings, we can say that individuals with high self-efficacy are more tended to work in groups and teams and perform better than others who have low self-efficacy. There is a positive relation between self-efficacy, motivational and behavioral outcomes in educational, clinical and organizational settings (Stajkovic and Luthans, 1998; Bandura, 1988)

As the meta analysis implemented by Stajkovic and Luthans (1998) documented, there may be some important variables as a moderator or mediator in the relation between self-efficacy and job performance. In this framework, the arguments will be developed in this study are based on social cognitive theory for organizations. Before the beginning of the performing of a task, performer must know

the task well. Being complex of a task cause the wrong assessment of the performance because complex tasks need diferent abilities and behavioral aspects. So, performer may not evaluate his\her efficacy accurently.

According to Schwarzer and Jerusalem (1996), Individuals with a sufficient level of self-efficacy have more confidence in their abilities and competencies and have high beliefs that they can achieve their goals that pilots with high level of self-efficacy perception are more tended to better resist pressure and perform more efforts for improving work performance.

According to study carried out by Hirshleifer and Subrahmanyam (1998) states that there is a significant relationship between poor performance and over-confidence. At the same time, the results of the study by Odean (1998) confirm this information.

Self-efficacy has a role as the predictor in many of studies that explain pilots' work-related behaviors in the related litrature (Prinzel, 2002; Parasuraman, Molloy, and Singh, 1993;). Schunk and Usher's study (2011) claims that motivation level of individuals is effected by self-efficacy. According to Graham and Weiner (1995), self-efficacy is the important predictor of behavioral change. In terms of the study varried out by Neal and Griffin (2002), it found that safety behavior may be specified by some construct measures of safety participation and safety compliance.

A research implemented by Hysong and Quinones (1997) demonstrates that self-efficacy is moderately correlated with good job performance. Self-efficacy enables employees to select challange goals and getting commitment to their work (Bandura, 2004). So, in this manner, it is thought that self-efficacy of pilots will effect their emotional stability, learning motivation and relations in group.

Self-confidence has a positive effect on the pilot performance but it's leve is also important. Jensen (1997) points out, excessive self-confidence is an important threat in aviation. In this study, a result was obtained about self-efficacy, but it was understood that the results were supported by the literature on the basis of the fact that individuals with more self-confidence would feel more competent, so may have high level of self-efficacy.

The Dunning–Kruger Effect (Dunning, 2011) argues the negative effect of over-confidence in aviation. It refers to a cognitive bias as people can not evaluate themselves correctly. If pilots were over-confident about their ability, they might not be aware of their limitations. At a minimum, the pilots have to be more aware of the difficulties in situation and evaluate themselves with a real perspective (Pavel, Robertson and Harrison, 2012).

Chen and Chen (2014) carried out a study. In terms of this study, of pilots' perceptions as self-efficacy, fleet managers' morality leadership and Safety Management System (SMS) practices' effect on flight crews' safety behaviors was examined. In terms of this study's results, self-efficacy has direct and positive effect on safety behavior of pilots.

3.2. Self-Monitoring

Every person desires to have a positive impression on other people about themselves. So they want to know how other people evaluate themselves. Therefore, people use some tactics to influence others' feelings and thoughts about themselves. When the theoretical development of the concept is considered, it can be said that James (1890), Cooley (1902) and Mead (1934) were the leading researchers and Goffman (1959) was the first person to bring the concept into the literature. These researchers are also the pioneers of symbolic interactionist theory.

Another approach that contributes greatly to the self is symbolic interactional theory. Erving Goffman, another advocate of this approach, reveals that the self develops and shapes with interpersonal relationships. According to Goffman, the world is a kind of play scene, and everyone plays his role in this theater in his own way (Bock, 1988).

According to Mead (1970), self is a concept that can be examined in the process of communication. In this process, one can look at his own self from another person's eyes. Self-development depends on this process and the self cannot develop unless there is social interaction.

Snyder and Gangestad (1985) argue that self-monitoring is not caused by genetic factors, but self-monitoring behaviors are learned later. From this point of view, it can be said that it is close to researchers with a behavioral approach. However, some studies in the literature say that genetic factors play an important role in the development of self-monitoring (Graziano et al., 1987).

According to Adler (1963) who established his own theory by leaving psychoanalytic theory, people come to the world with a sense of inferiority and develop some tactics to combat this feeling. As a result of these tactics, they try to reach the ideal self. Adler also argued that people are more affected by social forces.

Cooley (1968) discussed the concept of looking-glass self and self-perception within the framework of social influence. According to Cooley, we cannot isolate a person from his community.

Goffman (1959) compared social interactions to a theater scene. The person's words and behaviors differ according to the person and environment. In a theater, the actor is asked to play the role in the best way. In doing so, verbal and non-verbal behaviors need to be well controlled. In everyday life, people, like an actor, present their different selves to others.

Mill (1984) in his research showed that individuals with high self-monitoring level are more empathic but do not show empathic responses in society. According to Dabbs et al. (1980), individuals with a high level of self-monitoring tend to make more friendships and are very likely to be the initiators of the conversation in social settings.

Based on these differences in self-presentation, Synder was the first to turn this concept into a theory in the literature using the concept of self-monitoring. Synder (1974)'s self-monitoring theory proposes that individuals want other people to see them as they see themselves. Synder highlights individual skills in self-monitoring. He states that not every individual is capable of this, that some individuals are better at monitoring themselves. Individuals who are successful in this regard pay attention to whether their self-presentation is socially appropriate and try to obtain appropriate information by comparing their behaviors with others' behaviors. They are also so flexible about conforming their behaviors to situation and interpersonal relations.

Self-monitoring people may be labelled as a successful role player and think about the effect their behavior on others. Also they think others behave intentionally (Synder, 1974). From this information, it can be said that high-self-monitoring is alert to the possibility of deceiving individuals. Of course, this situation may lead to the possibility of problems in the suitability of teamwork.

Self-monitoring is important for people because it makes world more simple. Some people have abilities about directing others' perception about themselves but

some people fail in this manner. The most important aspect of self-monitoring is to be able to vary and change according to observers. Self-monitoring theory emphasizes that the self can change. The basis of this approach is that people want to direct others' thoughts about themselves (Briggs and Cheek, 1986).

When the related literature is examined, it is seen that self-monitoring was evaluated in two factors: high self-monitoring and low self-monitoring. Subsequent studies have focused on the motivation of individuals in self-monitoring. Within this framework, two basic motivations were noticed and called as two factors:

- The first factor is Protective Self-monitoring, which means that the individual does not look bad to others and avoid social rejection, and
- The second is the Acquisitive Self-monitoring, which refers to the individual's efforts to be accepted by society (Laux and Renner, 2002; Youyou et al., 2015).

Lennox and Wolfe (1984) reconsidered the concept of self-monitoring to a narrower extent than Snyder (1974) described. Lennox and Wolfe reconsidered the self-monitoring structure to a narrower extent than Snyder described. They also argued that self-monitoring means something different from extraversion and did not include extroversion in the scale they were preparing. This scale consists of thirteen items and was translated into Turkish by Özalp Türetgen and Cesur (2006). Özalp Türetgen and Cesur (2006) examined the factor analytical structure of the related scale and found that twelve items constitute two main factors. These factors were called as " sensitivity to others' expressive behavior and " monitoring personal presentation".

Lennox and Wolfe (1984) revised this scale. Although the scale is criticized in terms of its scope, its wide popularity shows that it is capable of evaluating both theoretical and applied fictions. Since self-monitoring scale focuses on social and interpersonal relationships, it is related to understanding behavioral approaches and outcomes that constitute the primary criteria areas in institutional environments (Day et al., 2002).

In the psychology literature, Briggs, Cheek and Buss (1980) has implemented a factor analysis and these factors are used and referenced in many of studies. There are three factors as:

- Extraversion
- Role Playing
- Other-Directedness

In terms of the study, other directedness has been found as positively correlated with being shy and neurotism.

Barrick et al. (2005) proposed that self-monitoring has moderator role in the relation between personality traits and academic performance. In terms of this study; emotional stability, openness to change and extraversion dimensions are strongly related to academic performance of executive mba students when self-monitoring level is high.

In their study, Snyder, Berscheid and Matwycuck (1988) stated that interviewers with high self-monitoring level gave more importance to the appearance of the candidates and interviewers with low self-monitoring level gave more importance to the personality traits of the candidates. Addition to this result, successfull high self-monitoring people have more advance to be selected from decision-makers in interview.

The process of situation evaluation may need more than the pattern- matching competencie. According to other studies carried out in the related literature, people are more tended to create explanations and stories to report for problems that are not suitable to previous experiences (Kontogiannis and Malakis, 2009; Klein et al., 2004; Cohen et al., 1996;). According to Kilduff and Day (1994), high self-monitoring people are more closed to be promoted to managerial positions.

In terms of the study implemented by Barrick, Parks and Mount (2005), self-monitoring has a moderate role in the relationship between extraversion, openness to

experience and emotional stability personality and academic performance of the students. In other words students who emotionally stable, open to experience and extraverted ones are more successful in academic life and self-monitoring is also a positive factor.

The first one is a general work habit called as a routine check on performed duties. The second part refers to a preview or rehearsal of future actions that may be performed then under time pressure. The third one is related with task triggers, barriers and the creation of reminders for catching errors in the act or preventing them. The cause of when and why an action sequence is controlled related with the limitation of the task, the operator idiosyncratic attitudes and the context of work.

Self-monitoring has a strong and positive relationship with interpersonal competencies, organizational success, and career success. Venkatapathy (2006) argues that individuals who resort to self-monitoring often perform better in comprehensive jobs that require sensitive behaviors in the face of social clues, unlike those who do at low levels, solve problems collaboratively, receive much promotion, and succeed in becoming group leaders.

According to Day et al. (2002), people with high self-monitoring have more interactions but they don't have more close relationships (Day and Kilduff, 2003; Day et al., 2002) and they are not committed to their work relationships as people with low self-monitors. So, for low self-monitoring people, their relation and network are not an important factor for their performance. Mehra, Kilduff and Brass (2001) stated that high self-monitoring people are evaluated as more successful in business life while comparing low self-monitoring.

The above definitions and research results show that individuals with high levels of self-monitoring are successful in establishing relationships and have a high potential to leave a positive impression on other people. However, it is argued that efforts to make others like themselves are indicative of an important problem. It is not easy to answer the question of whether self-monitoring is a positive or negative feature. The same uncertainty exists as to whether impression management, one of the political behaviors, is ethical. In the literature of aviation psychology, there is no

research examining the relationship between self-monitoring and pilot performance. In this study, the effect of self-monitoring on aviation has been investigated as high level of self-monitoring has a negative or positive effect on the performance of pilot candidates.

3.3. Self-Regulation

Beebe and Lachmann (2002) pointed out terms of self and self objects after the 18th month, and these terms begun to be integrated and evaluated as a function as a center that constructs the personality. When self-regulation skills are acquired, people can control their affect, increase tolerance, provide mind-body coordination, settle in the body, conduct communication and coordination between the biological and the psychological. Self regulation includes self-generated thoughts, emotions and behavior that are systematically designed to affect human learning. (Zimmerman, 2000, 2002).

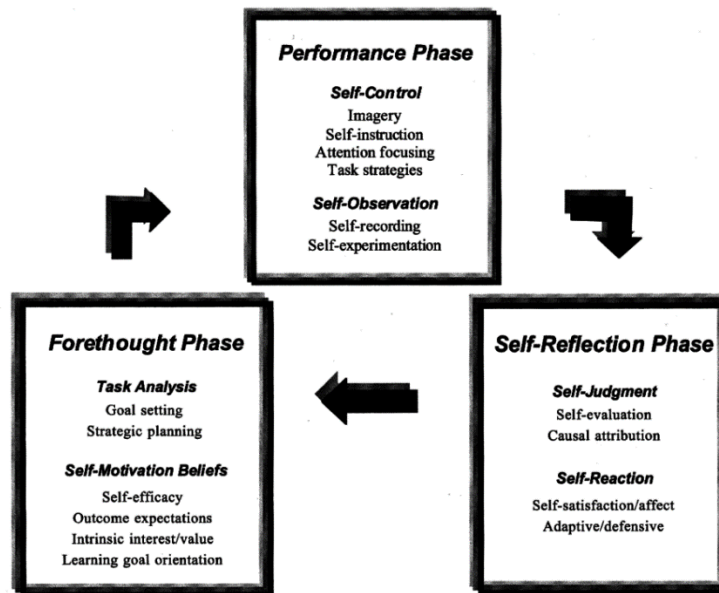
When the related literature is examined, it is seen that self-regulation is mostly studied in the field of educational sciences. The researches focused on the students' capacities in learning and self-regulation strategies in the learning process. No doubt, each student's capacity to receive and process information is different. However, the point that should be underlined here is the difference, not a rating. Up to 19. century, students' learning problems were attributed to a number of factors such as students' intelligence and motivation, this understanding has changed in the 20th century. Within this framework, individual differences of students have started to be taken into consideration while preparing curricula. There are two important paradigms for self-regulation (Zimmerman, 2002):

- Metacognition
- Social Cognition.

While metacognition points to an awareness of what a person thinks, researchers adopting a social cognition perspective focus more on environmental factors that affect self-regulation skills (Zimmerman, 2002).

Zimmerman et al. (1992) state that self-regulated learning consists of four interrelated cycles:

- Self-evaluation and monitoring: The individual evaluates their own productivity with the feedback they receive from their environment. When making these evaluations, they record their previous performances and make comparisons.
- Goal setting and strategic planning: Describes the process in which the individual determines his goals and forms strategies for these purposes.
- Strategy-implementation monitoring: It refers to the stage in which the individual evaluates the learning method after defining the needed strategies for learning.
- Strategic-outcome monitoring: At this stage, the individual evaluates the efficiency of the learning process as a result of the strategies it applies by examining the performance.



Source: El-Henawy, W. M., Dadour, E. S. M., Salem, M. M., & El-Bassuony, J. M. (2012). The Effectiveness of Using Self-Regulation Strategies on Developing Argumentative Writing of EFL Prospective Teachers. *Journal of the Egyptian Association for Reading and Knowledge*, 27(1), 1-28.

Figure 2.3.1. Zimmerman Self-Regulated Learning

Each student can learn to some degree of self-regulation, but a student must be constantly using self-regulated learning strategies to say that he is self-regulated. Self-regulation is not a mental ability or an academic performance skill, but a self-guiding process that allows individuals to transform their mental ability into academic performance skills (Zimmerman, 2002). In addition, an important factor in self-regulated development is self-efficacy. In fact, the common goal of all studies on this subject is to train individuals with self-efficacy.

According to social cognitive theorists, self-efficacy is the key factor for self-regulated learning. Bandura in his social cognition approach revealed that the self-efficacy perception of the individual is very important factor in self-regulated learning, and that the individual must first believe in his efficacy to use self-regulated learning strategies and that the individual can be motivated in this way.

According to Baumeister and Vohs (2007), we can sort four components in terms of self-regulation

- Motivation, is needed for achieving the standards,
- Standards refer to expected behavior
- Willpower define internal resources to control urges
- Monitoring refers to thoughts and conditions that precede breaking standards.

In the related literature, theorists stated there are three self-regulated learning model that includes three category as (Zimmerman, 2002; Pintrich et al., 1999; Pintrich, 1990) :

- Cognitive Learning Strategies (Weinstein and Mayer, 1986)
(organizing, rehearsal and elaboration strategies)
 - ✓ Organizing refers to the organization of the information that is learned by the person, the order of importance and the general idea to draw a main idea.
 - ✓ Rehearsal means repetition of information and transferring the information to short-term storage in a quick way.

- ✓ It refers to summarizing and paraphrasing strategies of information.
- Resource Management Strategies (Pintrich, 1999) (managing of environment, effort management and time management)
 - ✓ These strategies are generally related to how the learner manages his environment during the learning process. Here are some situational factors, time, effort, and other persons, which are meant by the environment, and it is important to determine how to benefit from them in the learning process.
- Metacognitive and Self-Regulatory Learning Strategies (Regulating, Planning and Monitoring Strategies)
 - ✓ Planning: As the student starts learning, he first makes a plan to understand what is important, determines where he needs to focus and plans within this framework.
 - ✓ Monitoring: The individual can control himself / herself while listening to a lesson or trying to learn, by asking him questions from time to time to realize whether he / she is spending his / her time effectively.
 - ✓ Regulating: Regulating strategies are not very different from monitoring strategies. Here the individual evaluates the learning process according to these criteria by putting some criteria on performance.

In terms of Porter and Lawler model (1968), there is a positive relation between performance and effort. This effort is correlated with the relation of performance and the level of goals. (Robbins and Judge, 2001). Vandewalle et al. (1998)'s research indicated that there is a positive relation between job performance and goal orientation. In this relation, self-regulation is in the position of mediator role.

Self-determination theory clarifies the relation between personality and human motivation. This theory emphasizes importance of humans' internal resources for behavioral self-regulation and personality development (Ryan, Kuhl, and Deci, 1997). People have growth tendencies and some psychological needs. These factors are the basis for personality and self-motivation integration and self-determination theory researches this field. According to self-determination theory, internal motivators as

relatedness, autonomy and competence are more important than external motivators on work motivation.

According to social cognitive theory, self-regulation is the result of interaction of individual behaviors and environmental requirements. Within the framework of this theory, there are three functions of self-regulation (Bandura, 1991):

- evaluation process made within the framework of environmental and personal criteria,
- self-given emotional reactions,
- monitoring of behavior

Workers try to compare their standards with their actual performance and these standards are defined by themselves. When a discrepancy occurs between these standards and actual performance, there will probably be three responses:

- Individuals may try to show more performance,
- decrease these standards to reach these standard or
- Third way refers to Adam's Equity Theory as individuals may give up the task and self-regulation process.

Prinzel, Pope and Freeman (2002) implemented a study and analyzed the use of adaptive automation with psychophysiological self-regulation practice that sufficient for pilots to deal with some problems about automation-human interaction by cognitive resource management skills. In the study, participants were classified into false feedback, self-regulation training and control groups and expected to perform monitoring, tracking tasks and resource management from the Multiple Attribute Task Battery.

The tracking task contained manual, automatic, cycled and aiding between 3 levels of task difficulty (manual, automatic and adaptive aiding) on the basis of the electroencephalogram-derived engagement index. For the other tasks, they had a single automation error and they were automatic mode. The participants who took training about self-regulation were successful and their performance were significantly better and recorded Space Administration Task and Load Index lower

National Aeronautics scores than participants in the control groups and false feedback.

In terms of Kellar et al. (1993)'s study, importance of physiological self-regulation for managing stress responses to emergency flying conditions is highlighted. Kellar et al. (1993) carried out a study that has been carried out a technic related with self-regulation, termed Autogenic-Feedback Training (ATF), which was originally prepared to treat space motion sickness (Cowings, Naifeh, & Toscano, 1990; Cowings, Suter, Toscano, Kamiya, & Naifeh, 1986). The technique leaned on improving cockpit and crew performance during periods of high physiological and physiological arousal through stress-challenge training, directed feedback and discrimination training

Physiological data (heart rate, respiration, temperature, electromyography and skin conductance) were taken during an initial onboard flight for each crew member, and an observer instructor pilot evaluated performance of individual crew member. In terms of the study, control group didn't take any training but the treatment part was taught to regulate their own physiological response levels in period of the ATF sessions. All members participated in an emergency in-flight scenario (Kellar et al., 1993). These authors said that training related with communication and crew coordination in emergency situations and self-regulation training may be effective for preventing the decrease of the performance of pilots because of the stress.

3.4. Self-Control

When psychology literature is examined, it is seen that self-regulation and self-control are used interchangeably. But there are some important differences between these two concepts as critical for aviation psychology. Self-control defines managing conscious and purposeful processes and controlling impulses. In contrast, self-regulation often regulates unconscious and automated processes that require physiological regulation. In this context, self-control is the regulation of thoughts, behaviors and emotions by consciously controlling socially unacceptable impulses (Vohs and Baumeister, 2016).

Based on these definitions, self-control can be defined as the fulfillment of needs and obligations by the self considering external limitations. Self-control is a more immediate process while comparing with self-regulation. Self-control is not related with instant needs.

Self-control can be also defined by some researchers as the ability to suppress or change one's instinctive needs and avoid exhibiting unwanted behavioral tendencies (Tangney, Baumeister and Boone, 2004). Rosenbaum (1980) states that self-control has three interrelated functions:

- Reformative function: Individuals with high levels of self-control have fewer problems adding a new behavior to their behavioral repertoire
- Redressive function: The individual may experience some disruptions from time to time while displaying behaviors towards his goals. As a result of these disruptions, they may have emotional problems and may be demotivated. Individuals with self-control can be less demotive at this point, they can come to balance more quickly by controlling their thoughts and emotions.
- Experiential function: After the individual controls himself cognitively and emotionally, he turns to pleasant activities and wants to experience the activities he enjoys.

Hedonism means that people should pursue pleasures whatever they may be. According to Hedonism, everything that gives man pleasure is absolutely right and good (Veenhoven, 2003). At this point, researchers investigating the concept of self-

control stood opposite to this idea. Tice and Bratslavsky (2000) state that self-control is one's coercion against hedonist desires. In fact, this approach also reflects the perspective of psychoanalytic theory. Freud mentions that the individual tries to meet the demands of the id by balancing the super ego, which represents the social obligations, against the requests coming from the id moving with the principle of pleasure. But in this perspective, self-control has different perspective while comparing suppressing the needs. In self-control, it is mentioned about controlling and managing of some desires, not suppressing.

Ridder et al. (2012) state that self-control is a conscious effort that benefits the individual and leads to the right behavior, and states that individuals with high levels of self-control can control emotion thoughts and behaviors. According to definition by Baumeister, Bratslavsky, Muraven, and Tice (1998), self-control refers to the control of thoughts and behaviors, and the regulation of the factors that affect emotions. The concept of self-control is a concept that has been studied in many disciplines including clinical psychology, social psychology and psychiatry.

The issue of control focused on the determining of the boundary between acceptable and unacceptable external factors' effect on human behavior. It is asserted that society have to give the opportunity to everyone about selecting the rights freely but also minimize the negative outcomes of this freedom selection process. So determining the limit of this freedom is so vital. For the individuals who reject the excessive control highlighted the inner manners as ethic, superego, etc. Behaviorists pointed out the importance of the environmental factors and culture and their effects on individuals' self-control. Only focusing to inner process will not give reliable outcomes for analyzing impulsive behaviors.

As we know there are some managerial control mechanisms for rewarding or punishing the performance. With this perspective, we can also encounter with other standpoint as points out that workers have also self-control mechanisms. These self-control systems have reward and punishment, performance and appraisal standards. Organizations have some important values, at the same time workers establish their self-values in the long run. Organizational control systems are defined at the edge that will effect the workers' self-control mechanisms (Lubatkin, Ling and Schulze, 2007).

Control theory declares the importance of this self-control system of workers (Carver and Scheier, 1982). Evaluation of risk scale is to rate risk tendency of pilots (Sicard et al., 2003). This scale includes 5 factors as

- self-control,
- danger seeking,
- impulsiveness,
- invincibility and
- energy.

In terms of this study, self-control was seen as correlated with invincibility and energy. In terms of this study, it was found military pilots were more self-controlled than commercail pilots.

According to some important studies, when individuals experience these kind of discrepancies, those with high self-efficacy and self-esteem try to give more performance to reach to defined standardars (Judge, Erez and Bono, 1998; Bandura and Cervone, 1983; Brockner, 1988; Weiss and Sherman, 1973). Adding to these findings, individuals with low self-esteem and self efficacy tend to decrease the standards or give up the task while experiencing inconsistency between actual performance and standards.

In terms of Rosenbaum (1990)'s self-control model, there are four assumptions:

- People act for a specific purpose.
- The individual may encounter certain obstacles while behaving towards his goal. The ability to cope with these obstacles is called self-control behavior.
- Self-Control refers to a structure that regulates the individual's cognitive processes.
- There are some factors effect self-control behavior and and cognitive regulation process.

According to the results of the research examining the relationship between self-control and conformity, the conformity of emotional and behavioral self-control

with academic and social competences; low self-control is associated with emotional and behavioral problems (Buckner et al., 2009; Baumeister and Heatherton, 1996).

Individuals with high levels of self-control can better manage their feelings and thoughts in line with their goals and make a systematic effort for their purposes. (Baumeister and Vohs, 2007). Individuals with a high level of self-control can cope with stress more actively than those with low self-control levels in coping with negative situations and may be more productive in business (Frijda, 1993). According to study implemented by Brown, Westbrook and Challagalla (2005), self-control moderates the effect of negative emotions on job performance.

Tangney, Baumeister and Boone (2004) reported that students with high self-control skills had more secure and satisfactory relations, better grades in their classes and exhibited less angry, less aggressive behavior. In terms of this study, they have also developed self-control scale consists of two factor as self-discipline and impulsive behaviors.

According to research findings carried out by Mele (1992), individuals with low levels of self-control consider behaviors that need to be exhibited to be more difficult, while individuals with high levels of self-control see most behaviors as rewarding and think that challenging conditions are opportunities for their goals.

According to the study carried out by Thomson et al. (2004), overconfidence effects the risk-taking tendency in aviation. So it is thought that overconfidence is so important threat for aviation. This risk-taking tendency is also related with impulsivity as mentioned above. So self-control is thought an important factor for pilot's performance in aviation. In the aviation psychology literature, there are many of studies claim the negative effect of overconfidence on pilot performance. In terms of this study, the effect of high level of self-efficacy is researched as comprehend overconfidence.

When the studies conducted in the literature on self-control were examined, it was seen that the relationship between self-control level and performance of pilots was not examined and in order to fill this gap, the relationship between pilot candidates' self-control level and performance was examined. The findings are

thought to contribute significantly to the criteria selection process for pilot selection proc

3.5. Self-Consciousness

The awareness of the individual himself is perhaps the greatest discovery in his life. In fact, even though we never reach the final result, we constantly try to discover ourselves. We can reach or not, may be it is the most important discover for human life. According to Germer, Siegel and Fulton (2005), consciousness is the approach to everything that is not passive, active, negative, positive, judgmental, and acceptive.

According to Goleman et al. (2002), self-awareness is the knowledge of the effect of an individual's desire, taste and emotion on his life. When the related literature is examined, it is seen that the concepts of self-awareness and self-consciousness are sometimes used interchangeably. While the concept of self-awareness, which Goleman (2000) includes within the dimensions of emotional intelligence, expresses self-awareness, self-consciousness includes self-awareness as well as self-evaluation and awareness of how it looks to others.

Most of today's thoughts about consciousness are focused on seeing. The sense of sight is the most advanced and the most well-known sense about it. However, consciousness covers many parts of the mind. We have conscious memories, conscious plans as well as conscious sensations. Any theory of consciousness should take these into account; memory and movement in the research on the results of studies related to vision has been parallel to some important discoveries (Zeman, 2005).

Much of our mental activity is to understand and influence the mental states of others. The ability to read our own state of mind and to recognize the state of mind of others is a central part of self-consciousness that can be expressed as ins being conscious of consciousness (Zeman, 2005).

The concept of self-consciousness was first introduced by Fenigstein, Scheier and Buss in 1975. Researchers investigating the issue of self-conscious have stated

that individuals have two different orientations. Some individuals focus on what they think and feel, while others give importance to how they look and understand by others.

According to Scheier and Carver (1985), the individual focuses his attention on the hidden aspects of his self, his inner feelings and thoughts, or on the external world, the direction of his self that is open to others, to present and describe himself.

According to Daryl Bem's theory (1972), all of the individual's attitudes and behaviors are meaningful only in his own environment. Therefore, the individual prefers to evaluate himself from the perspective of a third person. According to Rogers (2003), the development of self-consciousness depends on one's experiences and self-perception occurs only in the social environment in which he lives.

Fenigstein et al. (1975) proposed that individuals refrain from a healthy state of self-consciousness when they think deeply of their feelings and actions in a humiliating way. Also they have classified self-consciousness in three dimensions as general self-consciousness, private self-consciousness and social anxiety.

- General self-consciousness refers to being awareness of individual as a social object.
- Private self consciousness defines individual's being awareness about his emotions and thoughts.
- Social anxiety refers to the level of anxiet in social environment.

In terms of this study, private self defines that one's behavior is guided by his own feelings and thoughts, and therefore moves more within the system of values within himself, and therefore the attitudes and behaviors must be very consistent. The concept of general self-consciousness implies that the individual shapes his behavior according to the situation and therefore the consistency of attitude - behavior is not as important as the concept of private self-consciousness.

Goleman (2000) mentions five elements of emotional intelligence, which he defines as emotional intelligence components in his studies. These are:

- Self-Regulation,
- Empathy

- Relationship Management
- Self-Awareness,
- Motivation

In this perspective, Goleman (1998) defined self-consciousness is an emotional competence that includes the ability to know one's own inner state, preferences, resources and intuition. Here, self-consciousness defines the situation in which the person is aware of himself / herself even when the emotions are intense. It is thought that an individual who understands his / her own feelings and thoughts will also understand others' feelings and thoughts better.

According to Goleman (1998), emotional intelligence enables ,to learn to recognize and evaluate our own and others' emotions, to respond to them in an effective way by reflecting the information and the energy of emotions to life and work. According to Titrek (2007), self-consciousness is the foundation of emotional intelligence.

Mittal and Balasubramanian made important contributions to self-consciousness research in 1987 and, as mentioned above, showed that self-consciousness, which was previously used as a three-factor, constitutes a five-factor tractor analytical structure. These factors include:

- 1) internal state awareness,
- 2) self-reflection,
- 3) appearance consciousness,
- 4) style consciousness,
- 5) social anxiety

as determined. In the present study, the scale which was developed by the relevant researchers and adapted to Turkish by Akın, Abacı and Öveç (2007) was used.

Appearance consciousness defines describes the individual's tendency towards physical attractiveness and awareness of the individual's physical appearance (Mittal and Balasubramanian, 1987)

In studies on personality, it is possible to clearly see the relationships between personality traits and behaviors. Studies on the reflections of the self on behavior are quite interesting and exciting. One of the first studies on this subject is Wicklund (1975). Wicklund (1975) introduced the concept of self-awareness. In this perspective, individuals can focus their attention on the environment and themselves. There will be some differences in the behavior according to the preferred focus.

Every person cares about how they are perceived by others and desires to be perceived in the way of they desire. Style consciousness defines his awareness of the image he wants to present to others. This need means that the person avoids expressing himself in real terms, that is, he is hesitant to express himself emotionally. At this point, the concept differs from the concept of appearance consciousness. Appearance consciousness tells us that the person is aware of his or her physical appearance and tends to present it peacefully.

Social anxiety can be explained as dislike or disapproval in the face of society. Hatzigeorgiadis (2002) in his study revealed that individuals with high self-consciousness have increased anxiety in negative evaluation. This may be correlated with social anxiety as included as a dimension of self-consciousness in terms of present study.

Internal state awareness refers to the individual's awareness of his / her feelings, thoughts and behaviors. The individual focuses on his feelings and thoughts, the source of his / her feelings and thoughts and by the way he becomes aware of his behaviors. Internal state awareness is the inner consciousness that is developed with objective and positive awareness by focusing on the causes of one's own feelings, thoughts and actions (Mittal and Balasubramanian, 1987)

Weinstein, Brown, and Ryan (2009) reported that individuals with high self-consciousness use adaptive coping strategies more than avoidant coping strategies

while coping with their stress. In this point, we can say that individuals with high self-consciousness will cope with their stress in a positive way. Maladaptive coping strategies may be useful for short-time but may be problematic for the self-development of individual in long-run.

A research carried out by Brockner (1979), self-consciousness is positively correlated with task performance. In this model, self-esteem was also another independent variable to explain task performance.

People with high level of self-consciousness know their strengths and weaknesses well. So they are psychologically healthy (Fenigstein and Venable, 1992). In the selection of the candidate pilots processes, self-consciousness is taken account as so important factor because self-consciousness effects the performance of candidates in interviews and this aspect is obviously effect their flight performance.

The Dunning–Kruger Effect (Dunning, 2011) argues the negative effect of over-confidence in aviation. It refers to a cognitive bias as people can not evaluate themselves correctly. If pilots are not aware of themselves, they might not be aware of their limitations. At a minimum, the pilots have to be more aware of the difficulties in situation and evaluate themselves with a real perspective (Pavel, Robertson and Harrison, 2012).

In this section, the self-concepts examined in the study are emphasized and each self-perception is explained in detail. The studies investigating the relationship between these self-perceptions and job performance have been included and the theories explaining the relationship between these two variables have been mentioned. After explaining each self perception, the studies in the field of aviation are mentioned. When the literature was examined, it was seen that four of the five self-perceptions investigated in the current study were examined in the studies conducted with the pilots. This variable was added as a result of the observations and results obtained in the preliminary study.

PART 4

4.Perceived Safety Culture

The concept of culture is a concept that we are familiar with from daily life and many definitions have been made about it. Based on a large number of cultural definitions, Kroeber and Kluckhohn scanned the culture definitions in 1952 and identified 164 culture definitions in order to make a definition on which consensus can be obtained (Tayeb,1988).

The concept of culture has been defined in the light of different perspectives in many areas of social sciences, especially anthropology and social anthropology. Tylor (1871) defined culture as a complex entity in which mankind learns tradition, customs, beliefs, knowledge, art, talent, skills and habits.

Edgar Schein (1990), who has worked mostly on organizational culture, defined culture as habits, skills, experiences, methods, tradition, tradition and belief system that were learned during the solution of the problems arising from struggling with the environment and living together in the community.

According to Geert Hofstede (2001)'s culture definition, culture is the common program placed in human mind which differentiates people in terms of some values. These differences may be called as religion, nations, ethnicities, nations and organizations. For a national culture, culture of a nation can be defined with six dimensions as :

- Individualism-Collectivism
- Uncertainty Avoidance
- Power Distance
- Masculinity-Femininity
- Indulgence-Restraint
- Short Term Orientation-Long Term Orientation

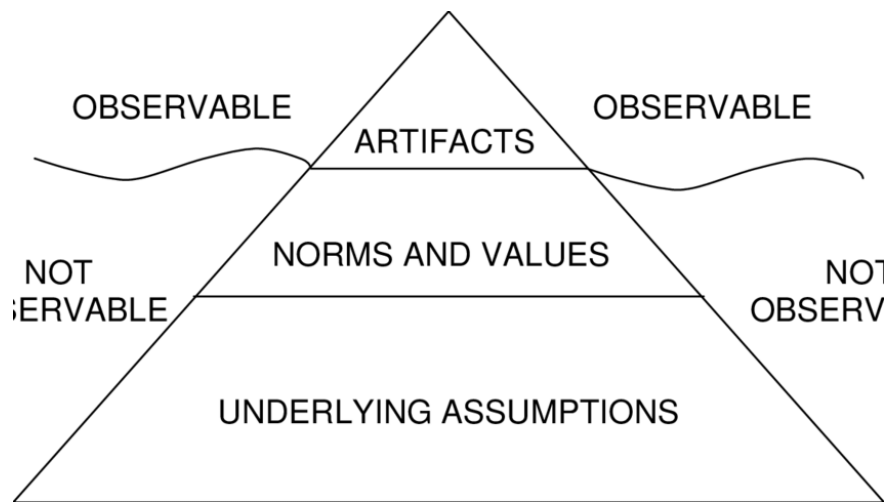
Before explaining organizational culture, it is necessary to understand the interaction between culture and organization. Approaches that deal with organizations from a cultural perspective are based on the idea that the attitudes and behaviors of

managers and employees within the organization's system are significantly influenced by the culture of the organization. This perspective considers organizations as a part of their environment. As a matter of fact, the open system approach, which sees organizations as structures that interact with their environment and is affected by the environment, defends the same idea. The organization and the environment must be in harmony. The existence of the organization depends on this compliance (Koçel, 2005).

The system approach in organizational theories sees the environment as a general system and asserts that organizations are a subsystem of this system and these subsystems are affected by the general demand. Within the system approach, objectives, values, technical and physical system, structural system and managerial system are the sub-systems that constitute organizations which are a sub-system of environmental system (Koçel, 2005)

According to Schein (1997), organizational culture is one that distinguishes one organization from the other, in particular the norms, beliefs and underlying assumptions. The features that distinguish an organization from other organizations can be listed as follows:

- A number of values, such as quality, customer orientation, and price leadership, are adopted by the members of the organization for the purposes of the organization.
- Rules of the game to be transferred to the new participants
- A set of symbols that have special meaning for the organization
- The skills required to perform certain tasks
- Thinking habits, mental models
- Behavioral arrangements covering interpersonal relationships
- Norms related to working groups



Source: Gerras, S. J., Wong, L., & Allen, C. D. (2008). Organizational Culture: Applying a Hybrid Model to the US Army. Army War College Carlisle Barracks PA.

Figure 4.1. Schein Organizational Culture Model

Based on the above approaches, it can be said that the cultures of the organizations are absolutely influenced by the nation culture. In this context, it will not be wrong to say that organizational culture is a special form of general culture. Safety culture is a concept that should be evaluated within the organizational culture and is directly affected by the organization's attitude towards safety.

Organizational culture, safety culture and professional culture are different concepts. The belief, value, attitude and thought system formed within the organization are known as organizational culture. Norms and rules related to organizational culture have an impact on the occurrence of accidents. Reason (2000) states that organizational culture is an important factor in the formation of major accidents in nuclear power plants and oil refineries. Safety culture is born as a result of organizational culture.

Rousseau (1990) specifically determined culture as the ways of thinking, believing and behaving that unit members of a have in common. On the other hand, safety culture is the special form of this culture. In this culture safety has a key role in the members of those who work for the organisation. Safety is labeled as an ubiquitous concept. Especially for some industries like oil and gas industry, health sector, banking, aviation, etc..

Reason (2016) has defined some characteristics of safety culture as shown below:

- A reporting culture: This dimension refers to the tendency of people work in organization to report mistakes and problems. These failures may be individual or may berelated with system.
- An informed culture: It means that the people in the organization have up-to-date information and are informed within a certain system.
- A flexible culture: Culture within the organization is expected to be strong, but should be flexible enough to shift into a different form when faced with different problems.
- A learning culture: It refers to a culture in which people can get accurate results from safety information system and provide continuous learning and development.
- A just culture: A culture should be established in which individuals trust each other and reward those who provide important information, provided that there is a clear limit between acceptable and unacceptable behavior.

Hudson (2001) classified safety culture in four components as:

- Corporate Beliefs
- Corporate Values
- Common Working Practises
- Common Problem-Solving Methods

Table 4.1. Safety Culture Components

Safety Culture Components	Definition
Safety Beliefs	The organisation believes that safety makes commercial sense; that individuals are not the sole causes of incidents; that the next accident is waiting to happen.
Safety Values	The organisation regards safety as sacrosanct and provides the licence to operate.
Common Working Practices	It refers to Safety integral to design and operations practice, safetyhow problems are handled in the organization and what perspective is in this issue.
Common Problem-Solving Methods	It refers to how problems are handled in the organization and what perspective is in this issue. In terms of these issues, Risk assessment, cost-benefit analyses, accident analysis as well as investigation, proactive search for problems in advance of incidents.

Source: Hudson, P. T. W. (2001). Safety Management and Safety Culture: The Long, Hard and Winding Road. Occupational Health and Safety Management Systems, 3-32.

The effectiveness of the training was measured with the evaluations made before and after the training activities that started under the heading of CRM and preventive errors and it was understood that the trainings contributed positively to the elimination of errors (Musson and Helmreich, 2004).

Looking at the relevant resources, there are many definitions of crew resource management (CRM). In CAP 737 (2006), Crew Resource Management is defined as the prevention of aircraft accidents by integrating the knowledge and skills related to the subject in accordance with the organizational culture. In terms of this definition, the role of organizational culture in aviation is highlighted. Successful implementation

of CRM-related issues and achieving successful results are highly dependent on the compliance of CRM practices with the cultural values of team members and the internalization and cultural acceptance of these practices.

Culture, as a factor, is one of the concepts which is thought by researchers to affect CRM applications. The reason for this is that there are findings and opinions that cultural values, understanding, beliefs and attitudes may have an impact on flight crew's attitudes and behaviors (Helmreich and Merritt, 1998).

As it can be understood from the definitions and explanations, the organizational culture has a significant effect on the employees' perspective on CRM. For example, it significantly affects the organization's view of human error in processes, the way it communicates between employees, rules and procedures, and the tendency to follow these rules. It can be said that a strong organizational culture that has updated itself according to today's conditions, maintains its functionality and responds to needs will be a very powerful factor in preventing aviation accidents.

In the input-process-output model developed by Helmreich and Foushee (1993), which factors affect the behavior of pilots in the cockpit. Among the factors that affect the behaviors of the pilots, individual attitudes are listed in physical conditions, regulatory environment as well as occupational culture, organizational culture and national cultural factors are evaluated as important factors that effect pilot behavior (Helmreich and Merritt, 1999).

Guldenmund (2000), in his study, emphasized the differences between safety culture and safety climate in Schein's organizational culture model. In the related study, at the level of espoused values and attitudes, some aspects were evaluated as similar between two terms. There may be a safety culture within the organization, but the individual may find some rules meaningless. But this does not change the fact that rules exist within the organization. So, safety climate may be labeled as an important indicator of safety performance.

Organizational culture has an important effect on work motivation (Lok and Crawford, 2001). According to the study implemented by Siehl and Martin (1990), organizational culture has a central role on job satisfaction and commitment. Deci and Ryan's (1985) self-determination theory of motivation, Cameron and Quinn's (1999)

competing values framework is the general framework for the moderating role of organizational culture on the relation between job commitment and work motivation (Irfan and Marzuki, 2018).

According to Towers (2006), a strong organizational culture affects the motivation of employees. The study implemented by Panagiotis, Alexandros and George (2014) stated that there is a negative correlation between hierarchy culture and motivation level, in terms of this study clan culture was found as positively correlated with motivation.

Juechter, Fisher and Alford (1998) implemented a research and found that the organizational culture has an effect on the organizational effectiveness of business (Aktaş, Çiçek and Kıyak, 2011). Kotter and Heskett (1992) analyzed the relation between organizational effectiveness and strength of culture. Ostroff and Schmitt (1993) claimed that organizational culture has an effect on the organizational effectiveness.

Each organization has a set of values that have its own differences, indicating what employees should do and how, what is right and what is wrong. These values are developed after the intention and intentionless experiences within the organization. These values lead to the formation of norms of behavior and each individual within the organization is expected to comply with these norms. The basis of culture within the organization can be said to be these norms.

On the other hand, when the relevant literature is examined, it is understood that the concepts of culture and climate are used interchangeably by some researchers. The definitions of culture are explained in detail above. Organizational climate expresses how employees perceive the dominant culture in the organization. It is the organizational climate that is felt when you first enter the organization.

There are some issues that reflect the climate of an organization (Strickoff, 2000).

- Employees' behavior,
- Attitudes,
- Communication style,
- Business style.

It defines what employees perceive, how they are rewarded, what is expected of them and their expectations. Culture is deeper, it takes time to change. The climate can change faster (Şerifoğlu and Sungur, 2007; Strickoff, 2000).

Safety culture has been started to be researched as of 1800s. Approximately 90% of the work accidents were occurred because of unsafe behaviors exerted by the employees (Tomas et al., 1999: 49).

Safety culture can be determined as a form includes attitude, permanent value and behavior union in employees. In this situation, the main goal of the safety culture is to define safety behaviors and transferred these behavioral patterns to workers to take personal responsibility for safety, to increase the interest in protective action and safety, to maintain active learning to adopt the lessons learned from mistakes on the basis of behavior and to continuously reward these values in (Wiegmann et al., 2002)

Wiegmann et al. (2002) has revealed the safety culture dimensions that have been accepted by many researchers under five headings: participation in management, organizational commitment, reward system, reporting system and employee participation.

The objectives mentioned in the ILO and WHO joint committee's definition of occupational health in the 1950s are as follows (Güven, İSG Congress, 2007):

- Protecting and improving the health and working capacity of employees,
- To make the work environment and work health and safety appropriate,
- Supporting the health and safety of work organization and working cultures developing

The deficiencies that cause an accident or event, deficiencies, events, conditions, conditions or combinations of these conditions are evaluated as the cause of accidents. According to the flight safety rules of the American Aviation Authority, it is defined as the all 5M model consisting of machinery, people, management, duties and environment. One or more of these concepts come together and cause accidents.

According to Swiss Cheese error model; most of the accidents that occur are not only the result of a single omission but also a result of violations in more than one

level. In terms of this perspective, accidents can be prevented if one of the different stages can be eliminated. The first step, which is the first step when it comes back from the accident, is the flight crews / pilot errors that have the most effect on the accident, and it is the stage where the accident experts are the most concentrated in the accidents that cannot be found (Yilmaz, 2005).

According to Neal and Griffin (2002), safety climate is one of the most important predictor of safety behavior, Neal and Griffin then specified other potential safety behavior predictors as consciousness and supportive leadership. They have found out that conscientiousness has an effect on safety participation, safety motivation and safety compliance. According to some studies self-efficacy is the key component of conscientiousness (Chen, 2014; Schwarzer & Jerusalem, 1995). On the other hand, Neal and Griffin (2006) stated that knowledge perception about motivation to perform work functions safely and safety are important factors for safety behavior.

In terms of the study implemented by ICAO (2015) about the perception of safety culture, the safety culture perceptions and effect of the culture on employees in the aviation sector have been tried to be measured. The related data were published at the Asia Pacific Regional Aviation Safety Meeting held in Thailand. In terms of this study, these following findings were gathered in this study (ICAO, 2015).

- Contract workers had lower scores than full-time ones
- Young employees had lower scores than older colleagues
- Over training and overall safety culture rating has a low effect.
- Quick response to reports on safety hazards and concerns, employees increases the perception of the safety culture.

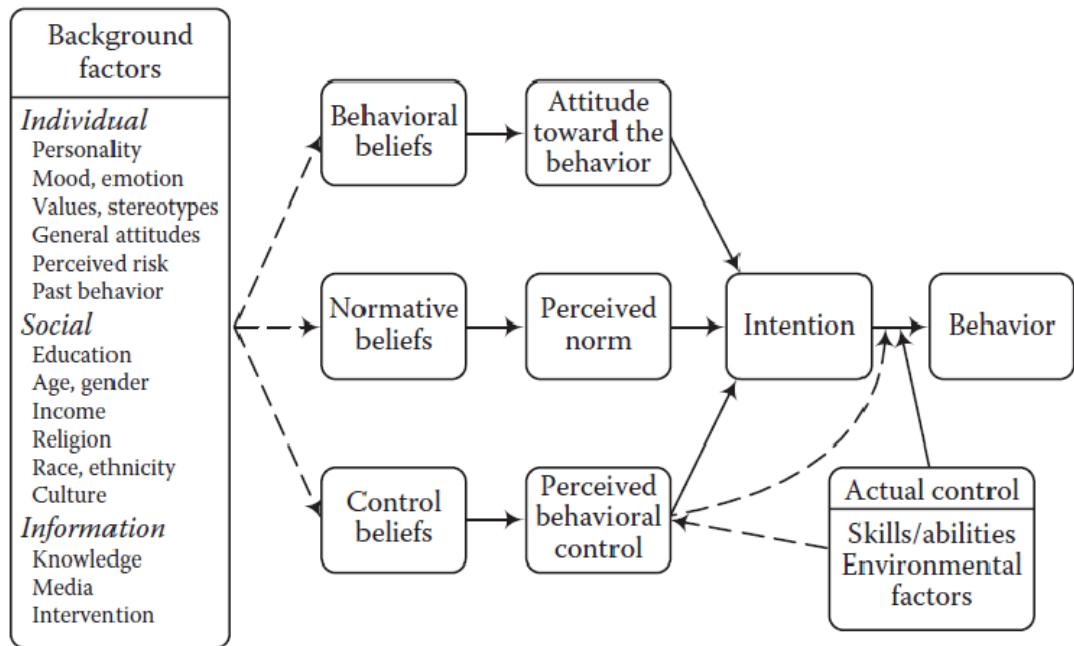
According to research findings, self-perceptions as have more effect on the job performance will be determined and these findings are assumed that help the selection process of pilot candidates. The main problems about safety culture are also defined. In the framework of this present study, safety culture will have a moderate role between self-perceptions and flight performance. Also safety culture's effect on

performance of pilot candidates will be examined. Which self-perceptions are crucial and which self-perceptions are together more effective on job performance will be researched.. Research findings will reveal important factors for interviewers while evaluation of pilot candidates.

In the study as Ford, Henderson and O'Hare (2014) carried out; it was revealed that there were highly significant changes in flight safety attitudes following crew resource management training, and experience, team position, seniority, leadership role, crew size and length of flight changes were determinant in safety attitudes.

Elbaşı (2003)'s study shows that safety culture is at different levels in each organization, that the current situation and the expectations of teachers show different results and that positive changes are desired. Furthermore, it is stated that automation and technology affect the working environment in the cockpit and that automation policies are needed in all organizations.

Another theoretical background was stated by Ajzen (1991; 2005) as called Theory of Planned Behavior (TPB). The theory finds out employee behavior's psychological aspects and according to this theory, intentions behind any human action is so important. In terms of the study carried out by Per Fogarty and Shaw (2009), an individual's own attitude toward behavior, perceived behavioral control and subjective norms may be used to forecast intentions related with issues about safety. Intentions may be useful for forecasting actual safety behavior.



Source: Antawati, D. I. (2017). Parent Role In Promoting Children's Entrepreneurship Intention. ADRI International Journal of Marketing and Entrepreneurship, 1(1).

Figure 4.2: Ajzen's Theory of Planned Behavior

In this section, firstly, the concepts of culture and organizational culture are briefly introduced, the concept of safety culture and its components are examined in detail and the theoretical background explaining the relationship between business performance and information is given.

Maslow's Hierarchy of Needs Theory (1943) supports the importance of determining those factors as motivate students to increase proactive safety behavior (McLeod, 2014). If these students' basic physiological needs are satisfied, their cognitive needs which affect their safety behavior and decision-making process can be improved.

PART 5

5. Relation Between Self-Concept and Job Performance

5.1.The Relation of Self-Perception and Job Performance in Terms of the Related Theories

Studies and theories explaining the relationship between self-perceptions and performance are discussed in detail in the previous chapters. In this section, some theories explaining the relationship between self-perceptions and performance are briefly mentioned.

Positive self-concept includes four dimensions: locus of control, low neuroticism, generalized self-efficacy and self-esteem (or self-worth). According to research findings implemented by Judge, Erez and Bono (1998), there is a positive correlation between having positive self concept and job performance because employees with positive self concept are more motivated in their job

People with positive self-concept are more likely to behave in a positive way than others who have negative self-concept. According to Judge, Erez and Bono (1998), poor self-concept is correlated with incomplete and inaccurate self-knowledge. Also individuals with poor self-concept are more tended to have negative negative habits and they try to escape to think about themselves (Baumeister, 1997).

According to research findings, self-perceptions as have more effect on the job performance will be determined and these findings are assumed that help the selection process of pilot candidates. The main problems about safety culture are also defined. In the framework of this present study, safety culture will have a moderate role between self-perceptions and flight performance. Which self-perceptions are crucial and which self-perceptions are together more effective on pilot performance will be researched. Research findings will reveal important factors for interviewers while evaluation of pilot candidates

Some self-evaluations and the answers of these questions as "Can I do it", "Am I capable for performing this task" are so crucial for the beginning of the

motivation process. As four important motivation theory explains, if one's evaluations about himself is negative, it will be so difficult solve the problem when he faced.

5.1.1. Self-Consistency Theory

According to self-consistency theory (Korman, 1970), while other variables are stable, people will demonstrate the behavior more which maximize their sense of cognitive balance. People want to work in a job that permits them preserve their self-image. In this manner according to Korman, if a person has high self-esteem, he will choose the job which he can effort well. Because this good performance will permit him to maintain the level of self-esteem. Other important issue as Korman pointed out, content of the job must be compatible to one's self-image.

5.1.2. Learned Helplessness

Learned helplessness theory argues that people seemed to be convinced as they lack control over some specific situations after experiencing failure for many of times. This lack of control block workers from performing well and taking responsibility (Abramson, Seligman and Teasdale, 1978). These workers with learned helplessness will be more pessimistic and while comparing the performance and time duration as seniority on a job, optimistic workers' performance are better and they are more tended to remain in their job than pessimistic ones (Judge, Erez and Bono, 1998; Seligman and Schulman, 1986).

5.1.3. Core Self-Evaluation Traits

According to Judge et al. (1998), core self-evaluations are basic conclusions that individuals have about themselves, self-efficacy and self-esteem is directly or indirectly related to job satisfaction. As placed in the related literature, job satisfaction is strongly related to job performance. In terms of this study, self-esteem is the fundamental indicator of one's giving value to himself.

After this section, the method section of the research will be presented, information about the scales of the research will be given and the results will be evaluated.

6. Method

This study has used the survey method for collecting data and uses the scanning model for the research. Two preliminary studies were conducted in this study. First of all, personality factors and self-perceptions of the pilots were examined and the books and articles published on CRM were examined to determine the self-perceptions that would affect the flight performance of the pilots. Interviews with pilot candidates who were successful in CRM were conducted and self-perceptions were identified and it was revealed that six self-perceptions could significantly affect flight performance. Self-esteem, which is one of these six self-perceptions, is excluded from the study because it is a general concept and self-efficacy will be examined in the study. Then, the studies about the selected self-perceptions were examined and applied scales were found for each self-perception. Finally, the selected scales were applied to 75 participants and factor analytical structure was examined, two experts were consulted and the questions were arranged according to the preliminary study results and the inappropriate questions were extracted.

It is seen that organizational culture and organizational climate variables play a moderator role in many studies. In addition, as mentioned in the theoretical part of the study, it has been seen that the perception of safety culture is used as a moderator in some researches related to aviation. Based on this information, this study examines how perceived safety culture affects the relationship between self-perceptions and performance.

The population of the study consisted of pilot candidates studying in flight schools operating in Turkey. In order to have a better view of the training performances of the pilot candidates, a PPL certificate was required. Thus, it is thought that the pilot candidates who are researched to be sufficiently certain about flight performance will be beneficial for the scales which will be established in the aviation field in the future. Another point that should be taken into consideration in the selection of the sample is that the pilot candidates who participated in the sample have taken the ATPL exam and have taken all the courses and flight training they need to take until then. Within the framework of these criteria, it is thought that the research results will provide useful results both in theory and in practice.

In terms of present study, there are three research model. In the first research model, there are four independent variables as self-consciousness, self-control, self-regulation, self-monitoring and self-efficacy. Training performance will be dependent variable. In this relation, safety climate will have a moderator role. The research model is illustrated below.

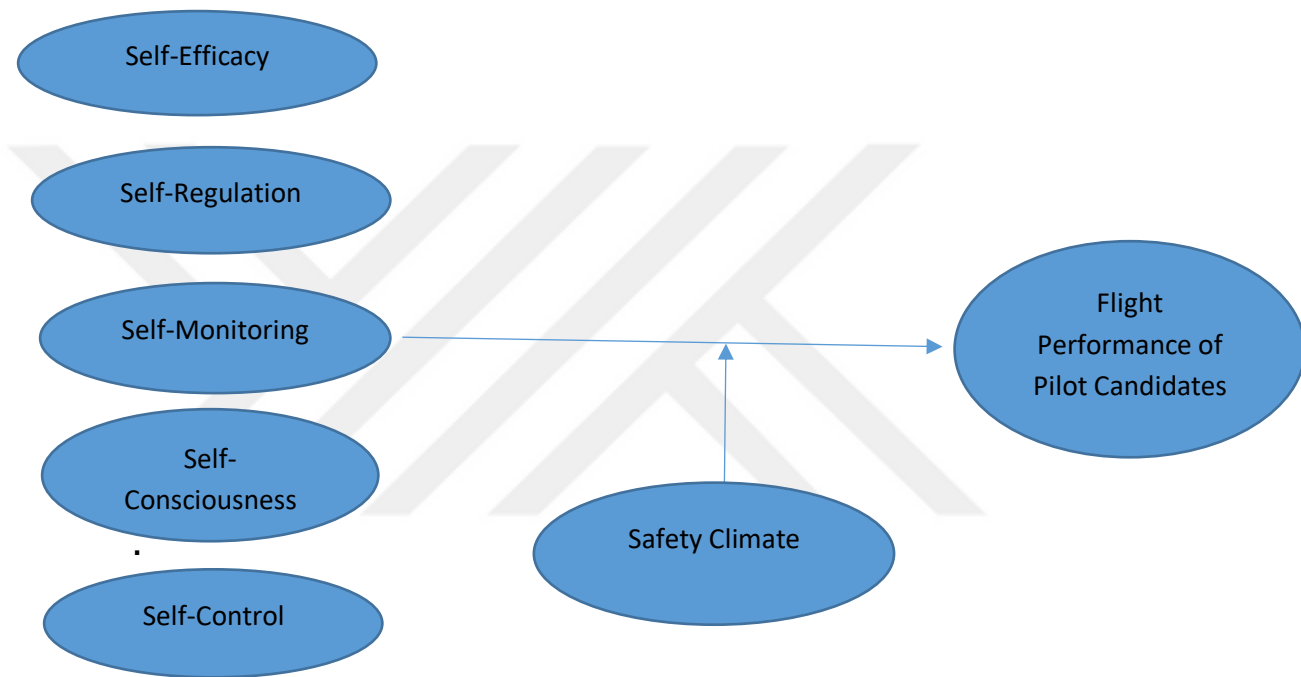


Figure 6.1. The Research Model 1

In terms of the research model, the following hypotheses were created:

Hypothesis 1: There is a significant relationship between pilot candidates' self-perception and pilot candidates' flight performance.

Hypothesis 2: Safety climate significantly affects the relationship between pilot candidates' self-perception and pilot candidates' flight performance.

In the second research model, there are four independent variables as self-consciousness, self-control, self-regulation, self-monitoring and self-efficacy. Training performance will be dependent variable. In this relation, safety climate will have a moderator role. The research model is illustrated below.

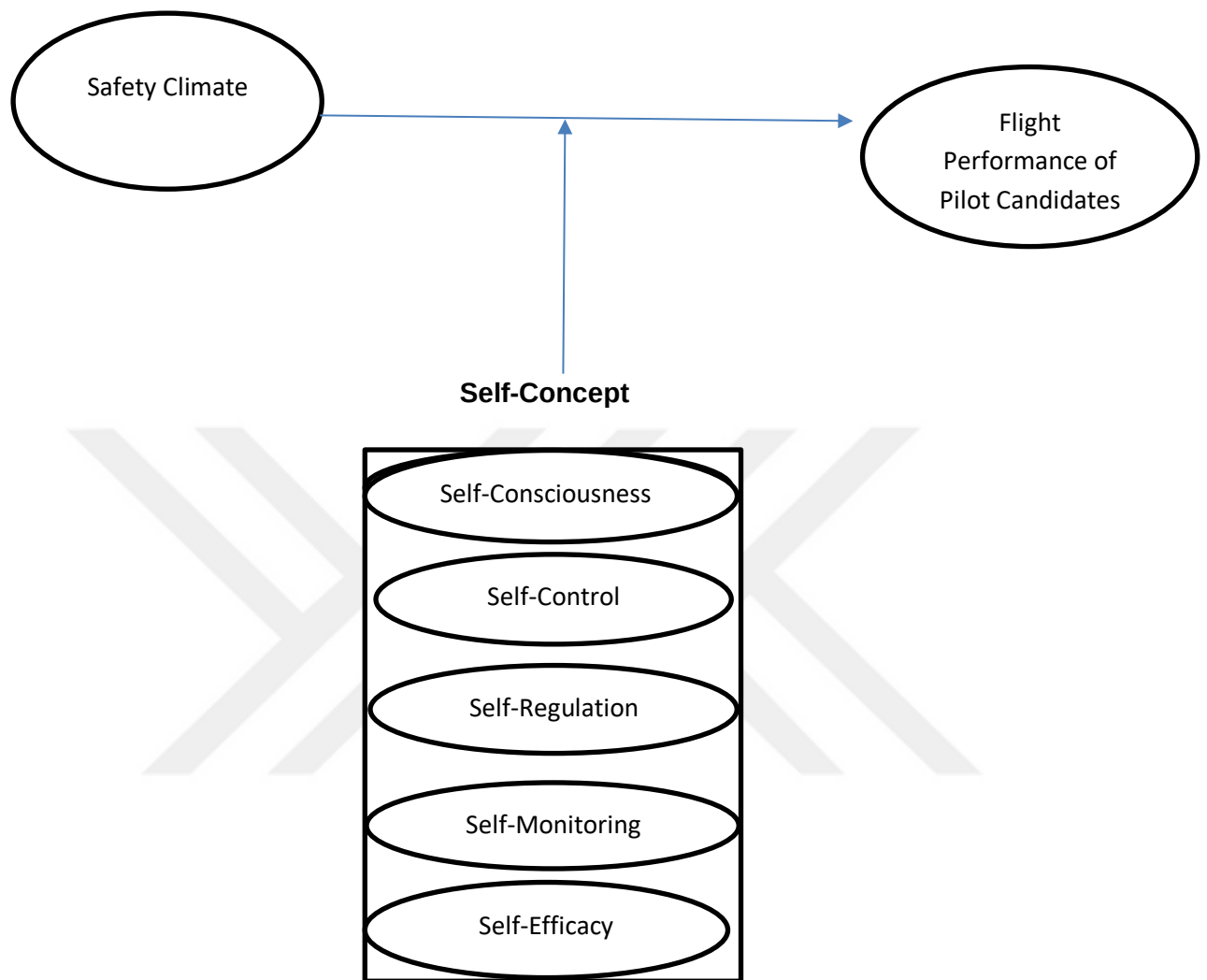


Figure 6.2. The Research Model 2

Hypothesis 3: There is a significant relationship between safety climate and flight performance of pilot candidates.

Hypothesis 4: Self-perception significantly affects the relationship between safety climate and pilot candidates' flight performance.

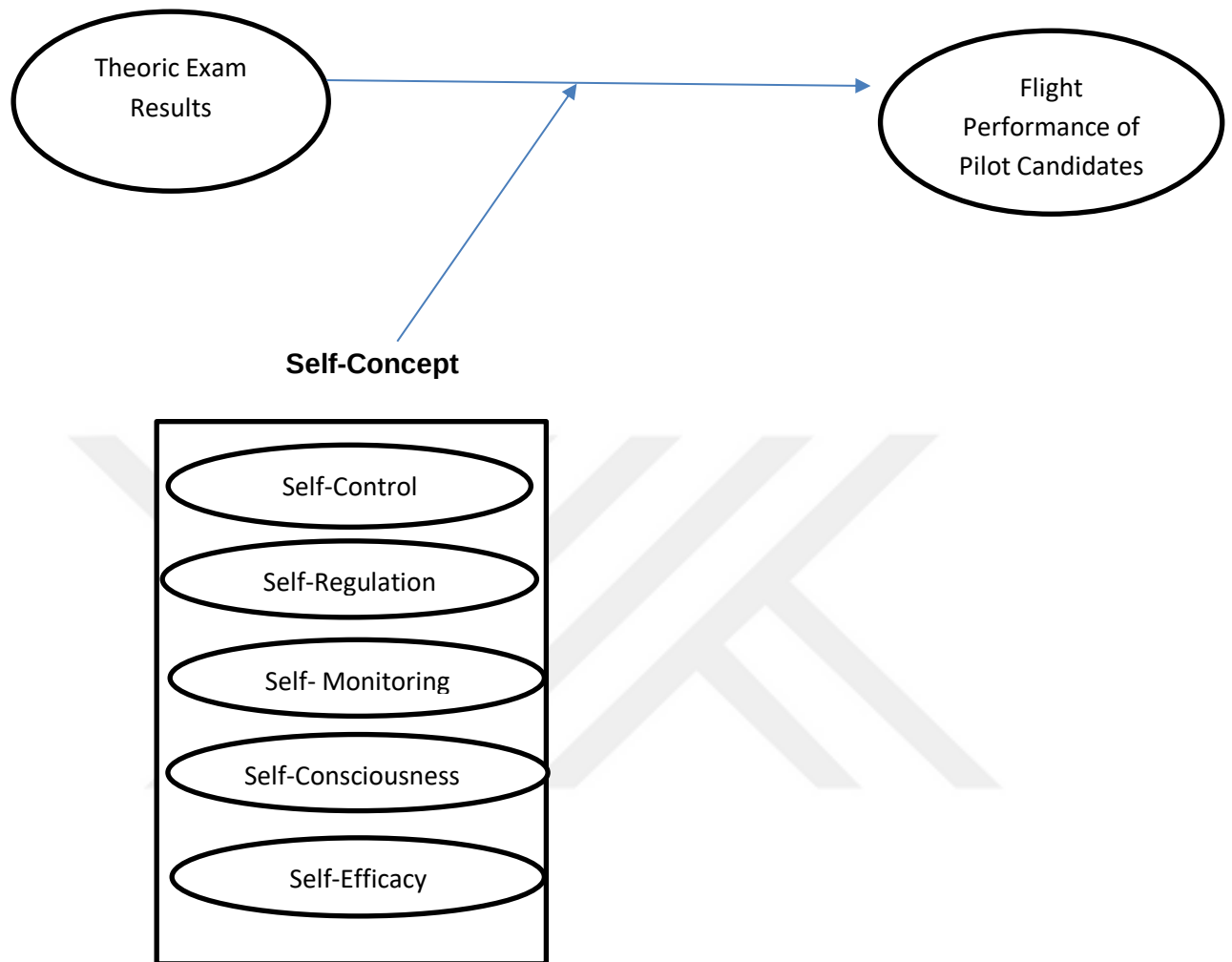


Figure 6.3. The Research Model 3

Hypothesis 5: There is a significant relationship between theoric exam results and flight performance of pilot candidates.

Hypothesis 6: Self-perception of pilot candidates significantly affects the relationship between theoric exam results and flight performance of pilot candidates.

6.1.1. Sample

The population of the study consists of pilot candidates who are studying at flight schools in Turkey and abroad. Located some flight pilot candidates at schools located within the borders of Turkey constitute the sample of the study.

Recently, the subject of aviation psychology has become more and more important in the literature. Within the framework of this trend, many studies have been conducted between the personality characteristics of the pilots and their flight performances, but how the self-perception of the pilots affects the flight performance has not been investigated sufficiently. As it is difficult to obtain air performance data for the pilots currently employed, the sample of the study consists of pilot candidates who continue to receive training.

6.1.2. Research Instruments

Demographic Information Form, Self-Efficacy, Self-Control, Self-Regulation, Self-Monitoring, Self-Consciousness and Safety Culture Perception Scales were used in this study.

6.1.2.1. Demographic Information Form

Demographic Information Form gender (female - male), age (23 years, 23 - 30 years, 30 years and over), education level (high school, associate degree and graduate). The participants evaluated the questions by choosing the most appropriate choice from multiple choice options.

6.1.2.2. Self-Efficacy Scale

Self-efficacy scale was developed by Sherer and others (1982) and adapted into Turkish by Yıldırım and İlhan (2010). In terms of related instrument, there are 17 items and three factors as willingness to initiate behavior, willingness to expend effort completing the behavior and persistence in the face of adversity. These factors refers to general self-efficacy but while examining the original form of the scale, there are also another subscale as called social efficacy placed under self-efficacy instrument.

6.1.2.3. Self- Control Scale

Self-control instrument was developed by Tangney, Baumeister and Boone (2004) and adapted by Nebioglu and others (2012) into Turkish. There are 13 items and two factors as self-discipline and impulsivity.

6.1.2.4. Self-Regulation Scale

The related scale was developed by Arslan and Gelişli (2015) and implemented on students. Scale was consisted of 16 items and two factors as being open and looking.

6.1.2.5. Self-Monitoring Scale

Self-monitoring scale was developed by Lennox and Wolfe (1984) and translated by Türetgen and Cesur in 2006. There are 12 items and some items were regulated for making appropriate in aviation.

6.1.2.6. Self-Consciousness Scale

Instrument was developed by Mittal and Balasubramanian (1987) and adapted into Turkish by Akin and others (2007). There are 19 items and 6 factors as social anxiety, self-reflection, style consciousness, internal self-consciousness and appearance consciousness.

6.1.2.7. Perceived Safety Culture Scale

Perceived Safety culture scale was developed by ICAO in 2015. Related instrument was translated in Turkish by Kurnaz's master thesis (2018) and implemented on technicians working in aviation. There are 31 items and 7 factors as safety politics, safety undertakings, safety communication, safety training, safety management and reporting, working condition and safety risk management.

6.1.2.8. Theoric Exam Results of Pilot Candidates

In order to determine the theoretical test performance of pilot candidates, ATPL results were obtained from flight schools. The fact that the questions in the ATPL exams were standard and generally asking similar questions caused the differences between the exam averages not to be much, and in order to better measure the relevant variable, the average and standard deviation of the exam results

of the candidates were determined and their performance was graded between 1 and 4 in terms of means and standard deviations of each exam results.

6.1.2.9. Flight Performance of Pilot Candidates

In order to determine the flight performance of the pilot candidates, the measured performances of the candidates on the test flights were taken into consideration by the flight instructors at the flight schools where the candidates were trained. These performance data are given in consideration of certain criteria. Situational Awareness, Leadership, Use of Theoretical Knowledge, Attitudes and Behaviors, Stress Management and Communication Skills are the main criteria of these performance data and the average of the scores obtained from each criterion is calculated and the flight performance data of the candidates are created.

6.2. Data Analysis

Results of this study are evaluated by using the Statistical Package for the Social Sciences (SPSS) version 25.0 for Windows. In terms of the statistical analysis, significance level of 0.05 was taken into consideration. Descriptive statistics is used to present the main characteristics of the sample. For the factor structure of the scales, factor analysis is implemented with principal components model and factor loadings are evaluated. Also bivariate correlations are evaluated for descriptive purposes. Multiple Regression analysis is used to test the hypotheses.

6.3. Findings

In the Findings section, the findings of the study will be mentioned under three headings. In the first part, factor analytical structures of the variables in the study will be discussed and factor loads will be compared with the pilot study data and Cronbach Alpha values will be presented.

6.3.1. Factor Analyses and Internal Consistencies

For presenting factor analytical structure of scale, exploratory factor analysis is conducted with principal component analysis (PCA) and varimax rotation on the

factorial structure of the scales. Then, the reliability analysis is made by computing Cronbach's alpha to see whether it is greater than 0.7.

6.3.1.1. Factor Analytical Structure for Self-Control Scale

Self-Control variable is examined with an 13-item scale, response alternatives ranging from 1 to 5.

Alternatives are coded as : [(1) = absolutely uncertain, (2) = Certain, (3) =Undecided, (4) = Certain, (5) =Absolutely Certain].

Kaiser-Meyer-Olkin (KMO) indicates sampling adequacy test and Bartlett's Test of Sphericity are implemented to see whether the data for this variable is convenient for conducting factor analysis or not. According to statistical results, KMO values is 0,789, Bartlett's Test of Sphericity is significant ($p = 0.000 < 0.001$); as presents that the data is appropriate and adequate to conduct factor analysis.

According to the reliability test before the factor analysis, the reliability coefficient (Cronbach Alpha value) of the scale appears to be over 0.7. This result shows that the scale is reliable and factor analysis can be applied.

Table 6.3.1.1.1. Factor Analysis of Self-Control Scale

5. Eğlenceli olmaları durumunda benim için kötü olan bazı şeyleri yaparım.	0,788	
12.Bazen yanlış olduğunu bilsem de bazı şeyleri yapmaktan kendimi alamam.	0,730	
4. Uygun olmayan şeyler söylerim.	0,605	
2. Kötü alışkanlıklarımı terk etmekte zorlanırım.	0,550	
1. İnsanların beni kötülüğe yönlendirmesine karşı koymada başarılıyım	0,477	
9. Zevkli ve eğlenceli şeyler yapacağım işten beni alıkoyar.	0,461	
8. İnsanlar güçlü bir öz-disipline sahip olduğumu ifade ederler.		0,719
10. Konsantrasyon sorunum var.		0,663
7. Daha fazla öz-disipline sahip olmayı isterdim.		0,644
11. Uzun vadeli amaçlarıma ulaşmak için verimli biçimde çalışabilirim.		0,593
3. Tembel biriyim.		0,482

Table 6.3.1.1.2. Total Variance Explained of Self-Control Scale

Rotation Sums of Squared Loadings			
Factors	Factors	% of Variance	Cumulative %
Factor 1	2,469	22,443	22,443
Factor 2	2,183	19,843	42,286

As shown in the table, the 6th, 10th and 13th questions in the self-control scale were excluded from the analysis because they did not fit the factor analytical structure of the scale. Cronbach alpha value was found to be 0,758 according to reliability analysis results after factor structure became final. Self-control instrument was developed by Tangney, Baumeister and Boone (2004) and adapted by Nebioğlu and others (2012) into Turkish. There are 13 items and two factors as self-discipline and impulsivity.

After the validity and reliability studies of the scale by Nebioğlu and others (2014), it was found that the scale consisted of two main factors, one of which was called self-discipline and the other as impulsivity. In the pilot study to reveal the factor analytical structures and test the scales, KMO value and Cronbach alpha value were found to be lower, but in both studies two factor structure was found and the first factor group was called impulsivity and the second factor group was called self-discipline.

6.3.1.2. Factor Analytical Structure for Self-Efficacy Scale

Self-efficacy scale was developed by Sherer and others (1982) and adapted into Turkish by Yıldırım and İlhan (2010). In terms of related instrument, there are 17 items and three factors as willingness to initiate behavior, willingness to expend effort completing the behavior and persistence in the face of adversity.

These factors refers to general self-efficacy but while examining the original form of the scale, there are also another subscale as called social efficacy placed under self-efficacy instrument. Alternatives are coded as : [(1) = absolutely uncertain, (2) = Certain, (3) =Undecided, (4) = Certain, (5) =Absolutely Certain

Before applying factor analysis to the scale, reliability test value was examined and it was found that Cronbach alpha value was above 0.7 and the scale was reliable. Then, Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity results were examined and KMO value is 0.823, Bartlett's Test of Sphericity is significant ($p = 0.000 < 0.001$); as presents that the data is appropriate and adequate to conduct factor analysis. When the Rotated Component Matrix table is examined, the factor structure of the scale is finalized as shown below.

Table 6.3.1.2.1. Factor Analysis of Self-Efficacy Scale

	Factor 1	Factor 2
3.Hayatta karşıma çıkacak sorunların çoğuyla baş edebileceğimi sanmıyorum	0,723	
4. Bana zor görünen yeni şeyleri öğrenmeye çalışmaktan kaçınırım.	0,717	
2.Zorluklarla yüz yüze gelmekten kaçınırım.	0,650	
8. Her şeyi yarım bırakırım.	0,644	
1.Eğer bir iş çok karmaşık görünüyorsa onu denemeye bile girişmem.	0,621	
12. Kolayca pes ederim.	0,581	
6.Yeni bir şey denerken başlangıçta başarılı olamazsam çabucak vazgeçerim	0,513	
9. Sorunlarımdan biri bir işe zamanında başlayamamamdır	0,453	
17. Planlar yaparken, onları hayata geçirebileceğimden eminimdir.		0,742
16. Bir şey yapmaya karar verdiğimde hemen işe girişirim.		0,618
14. Yeteneklerime her zaman çok güvenmem.		0,591
7. Beklenmedik sorunlarla karşılaştığımda kolayca onların üstesinden gelemem.		0,542
10. Kendine güvenen biriyim.		0,498
5. Belirlediğim önemli hedeflere ulaşmada pek başarılı olamam		0,477

Table 6.3.1.2.2. Total Variance Explained of Self-Efficacy Scale

Rotation Sums of Squared Loadings			
Factors		% of Variance	Cumulative %
Factor 1	3,906	27,900	27,900
Factor 2	1,810	12,930	40,830

The validity and reliability studies of the scale were conducted by Yıldırım and İlhan (2010) and it was understood that the scale is consisted of three factors as mentioned above. However, in the present study and the pilot study, it was found that there are two main factors on the scale. As a result of this study, the first factor was named as persistence in the face of adversity and the second factor as self confident. After performing reliability analysis, Cronbach alpha value is evaluated as 0,748 that related scale is reliable.

6.3.1.3. Factor Analytical Structure for Self-Consciousness Scale

Self-consciousness scale was developed by Mittal and Balasubramanian (1987) and adapted into Turkish by Akin and others (2007). There are 19 items and 6 factors as social anxiety, self-reflection, style consciousness, internal self-consciousness and appearance consciousness. Alternatives are coded as : [(1) = absolutely uncertain, (2) = Certain, (3) =Undecided, (4) = Certain, (5) =Absolutely Certain

Before applying factor analysis to the scale, reliability test value was examined and it was found that Cronbach alpha value was above 0.7 and the scale was reliable. Then, Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity results were examined and KMO value is 0.798, Bartlett's Test of Sphericity is significant ($p = 0.000 < 0.001$); as presents that the data is appropriate and adequate to conduct factor analysis. When the Rotated Component Matrix table is examined, the factor structure of the scale is finalized as shown below.

Table 6.3.1.3.1. Factor Analysis of Self-Consciousness

	Factor 1	Factor 2	Faktor 3
1. Her zaman kendimi anlamaya çalışırım.	0,761		
2. Genellikle kendimin farkındayım	0,725		
12. Duygularımdaki değişikliklere karşı dikkatliyimdir.	0,653		
7. Genellikle içsel duygularıma karşı özenliyimdir	0,650		
6. Kendi hakkımda çok düşünürüm.	0,506		
4. İnsanlara nasıl görüldüğümün bilincinde olurum	0,484		
13. Genellikle diğer insanlarda iyi bir izlenim bırakmak için endişelenirim.		0,841	
18. Diğer insanların hakkımda ne düşündükleri beni endişelendirir.		0,782	
8. Kendimi diğer insanlara nasıl sunacağıma ilişkin kaygı yaşarım.		0,716	
3. Yapacağım işleri ne tarzda yapacağıma ilişkin kaygı yaşarım.		0,599	
5. Yeni ortamlara katıldığımda utangaçlığımı yenmem zaman alır			0,766
15. Çok kolay utangaçlığa kapılırım.			0,756
19. Bir grup önünde konuşurken kendimi gergin hissedirim.			0,571
10. Birisi beni izlerken çalışmakta zorlanırım.			0,563

Table 6.3.1.3.2. Total Variance Explained of Self-Consciousness Scale

Factors	Total	% of Variance	Cumulative %
1	3,874	27,672	27,672
2	2,224	15,884	43,557
3	1,199	8,565	52,122

In the present study and the pilot study, it was found that there are five main factors on the scale. Although there was a five-factor structure in the original scale and the pilot study confirmed this structure, a three-factor structure emerged in this study. As a result of this study, the first factor was named as persistence in the face of adversity and the second factor as self confident. After performing reliability analysis, Cronbach alpha value is evaluated as 0,761 that related scale is reliable. While comparing the related literature and the original scale of self-consciousness, factor one is determined as internal state awareness, factor two refers to public self-

consciousness and third factors is determined as social anxiety. This factor analytical structure is consistent with Fenigstein, Scheier and Buss (1975)'s scale.

6.3.1.4. Factor Analytical Structure for Self-Regulation Scale

The related scale was developed by Arslan and Gelişli (2015) and implemented on students. Scale was consisted of 16 items and two factors as being open and looking. Alternatives are coded as : [(1) = absolutely uncertain, (2) = Certain, (3) =Undecided, (4) = Certain, (5) =Absolutely Certain

Before applying factor analysis to the scale, reliability test value was examined and it was found that Cronbach alpha value was above 0.7 and the scale was reliable. Then, Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity results were examined and KMO value is 0,844 , Bartlett's Test of Sphericity is significant ($p = 0.000 < 0.001$); as presents that the data is appropriate and adequate to conduct factor analysis. When the Rotated Component Matrix table is examined, the factor structure of the scale is finalized as shown below.

Table 6.3.1.4.1. Factor Analytical Structure for Self-Regulation Scale

	Factors		
	1	2	3
3. Yeni bir şeyi rahatlıkla öğrenebilirim.	0,843		
1. Eğer istersem en zor konuları bile rahatlıkla öğrenebilirim	0,731		
2. Belirlediğim hedefler doğrultusunda çalışmalarımı yapabilirim.	0,671		
5. Bir konuyu öğrenirken yenilikleri kolaylıkla fark edebilirim.	0,605		
13. Bir konuyu öğrenirken yapmış olduğum plana uyarım.		0,732	
8. Bir konuyu öğrenirken o dersteki notlarıma bakarak başarıımı sorgularım.		0,668	
14. Çoğu zaman bir konuyu öğrenirken neler yaptığıma dikkat ederim.		0,656	
11. Hedeflerime doğru ilerleme sürecimi takip edebilirim.		0,493	
7. Hatalarımdan öğrenebilirim.		0,468	
15. Yanlış öğrendiğimi fark ettiğim bir şeyi değiştirmek için birçok farklı yolu deneyebilirim.		0,451	
9. Bir konuyu öğrenirken farklı yollar bulmaya çalışırım.			0,760
12. Bir konuyu öğrenirken karşılaştığım problemlerin çözümü için farklı yollar geliştiririm.			0,722
10. Başarısız olduğumda çalışma yöntemimi değiştiririm.			0,670

Table 6.3.1.4.2. Total Variance Explained of Self-Regulation Scale

Rotation Sums of Squared Loadings			
Factors	Total	% of Variance	Cumulative %
1	2,715	20,882	20,882
2	2,321	17,852	38,734
3	2,118	16,291	55,026

In the present study and the pilot study, it was found that there are three main factors on the scale. The scale developed by Arslan and Gelisli had a two-factor structure, but in this study, a three-factor structure emerged similar to the results of the pilot study. While comparing the related literature and the original scale of self-regulation, factor one is determined as being open to learning, factor two refers to regulation of learning effort and time, third factors is determined as looking for learning. At the end of the related analysis, cronbach alpha value is evaluated as 0,826 that related scale is reliable.

6.3.1.5. Factor Analytical Structure for Self-Monitoring Scale

Self-monitoring scale was developed by Lennox and Wolfe (1984) and translated by Türetgen and Cesur in 2006. There are 12 items and some items were regulated for making appropriate in aviation. . Alternatives are coded as : [(1) = absolutely uncertain, (2) = Certain, (3) =Undecided, (4) = Certain, (5) =Absolutely Certain

Kaiser-Meyer-Olkin (KMO) indicates sampling adequacy test and Bartlett's Test of Sphericity are implemented to see whether the data for this variable is convenient for conducting factor analysis or not.

According to statistical outcomes, KMO values is 0,890, Bartlett's Test of Sphericity is significant ($p = 0.000 < 0.001$); as presents that the data is appropriate and adequate to conduct factor analysis.

According to the reliability test before the factor analysis, the reliability coefficient (Cronbach Alpha value) of the scale appears to be over 0.7. This result shows that the scale is reliable and factor analysis can be applied. When the Rotated

Component Matrix table is examined, the factor structure of the scale is finalized as shown below.

Table 6.3.1.5.1. Factor Analytical Structure for Self-Monitoring Scale

5. Diğer insanların duygu ve isteklerini anlama konusunda sezgisel güçlerim vardır.	0,815	
6. İnsanlar inandırıcı bir şekilde gülseler bile, bir şakayı kötü bulduklarını anlayabilirim.	0,753	
2. İnsanların gerçek duygularını gözlerinden doğru olarak okuyabilirim.	0,729	
11. Eğer birisi bana yalan söylüyorsa, bunu o kişinin davranışlarından hemen anlarım.	0,705	
8. Söylediğim bir şeyin uygunsuz olduğunu, dinleyenin gözlerinden anlayabilirim.	0,641	
4. Biriyle konuşurken, karşımdakinin yüz ifadesindeki en ufak bir değişikliğe bile duyarlıyım.	0,631	
12. Ortamın gerektirdiklerini bildikten sonra davranışlarımı buna göre düzenlemek benim için kolaydır.		0,766
10. Davranışımı, içinde bulunduğum herhangi bir ortamın gereklerini karşılayacak şekilde ayarlayabildiğimi fark ediyorum.		0,741
9. Davranışlarımı farklı insanlara ve farklı ortamlara uyacak şekilde değiştirme konusunda sorun yaşarım.		0,738
3. Vermek istediğim izlenime bağlı olarak insanların karşısına çıkma biçimlerimi kontrol etme yeteneğim vardır.		0,659
1. Sosyal durumlarda başka bir şeyin istendiğini hissettiğimde, davranışımı değiştirme yeteneğim vardır.		0,656
7. Sergilediğim imajın işe yaramadığını hissettiğimde, bunu kolaylıkla işe yarar başka bir imajla değiştiririm.		0,557

Table 6.3.1.5.2. Total Variance Explained of Self-Monitoring Scale

Factors	Total	% of Variance	Cumulative %
1	3,382	28,184	28,184
2	3,199	26,660	54,844

In the present study and the pilot study, it was found that there are two main factors on the scale. The scale was developed by Lennox and Wolfe (1984) and translated by Türetgen and Cesur in 2006, in this study, the same factor analytical structure emerged as similar to the results of the pilot study. So, at the end of the related analysis, cronbach alpha value is evaluated as 0,868 that related scale is reliable. So, the first factor refers to sensitivity to others' expressive behaviorability, second factor refers to monitoring personal presentation.

6.3.1.6. Factor Analytical Structure for Perceived Safety Culture Scale

Perceived Safety culture scale was developed by ICAO in 2015. Related instrument was translated in Turkish by Kurnaz's master thesis (2018) and implemented on technicians working in aviation. There are 31 items and 7 factors as safety politics, safety undertakings, safety communication, safety training, safety management and reporting, working condition and safety risk management. In Kurnaz's thesis study, a factor analytical structure with four factors emerged.

According to statistical outcomes, KMO values is 0,952, Bartlett's Test of Sphericity is significant ($p = 0.000 < 0.001$); as presents that the data is appropriate and adequate to conduct factor analysis. . Alternatives are coded as : [(1) = absolutely uncertain, (2) = Certain, (3) =Undecided, (4) = Certain, (5) =Absolutely Certain

According to the reliability test before the factor analysis, the reliability coefficient (Cronbach Alpha value) of the scale appears to be over 0.7. This result shows that the scale is reliable and factor analysis can be applied. When the Rotated Component Matrix table is examined, the factor structure of the scale is finalized as shown below.

Table 6.3.1.6.1. Factor Analytical Structure for Perceived Safety Culture Scale

	Factor			
	1	2	3	4
27.Emniyet için görevlendirilmiş yeterli insan gücü ve kaynak var.	0,825			
25.İş yerimde emniyet olayları ve kazalar meydana geldiğinde uygulanacak acil eylem planları vardır.	0,814			
28.İş yerimde emniyet kültürü mükemmel ve örnek niteliğindedir.	0,741			
15.Kuruluşun emniyet politikası, yönetmelikleri ve çalışma usulleri, tüm çalışanlar arasında periyodik olarak eğitim veya toplantı yapılarak dağıtılır ve personel bilgilendirilir.	0,718			
26.İşyerindeki emniyet tesisleri iyi kurulmuş ve muhafaza edilmiştir	0,715			
16.Emniyet eğitimi, pratik çalışma koşullarımıza çok yardımcı olur.	0,658			
24.Emniyet raporları, herkesin ders çıkarması için ilgili kişilere düzenli olarak tebliğ edilir.	0,656			
14.İş yerimde emniyet eğitimi, daha iyi bir emniyet kültürü oluşturma için ayrılmaz bir parçası olarak görülüyor.	0,621			
17.Herkes, örgütsel emniyetin artırılması için kendi bilgi ve becerilerini geliştirmeye ve uygulamaya teşvik edilir.	0,604			
23.Rapor edilen emniyet kaygıları analiz edilir ve uygun bir müteakip işlem uygulanır.	0,586			
22.Kabul edilebilir ve kabul edilemez davranışlar açıkça tanımlanmış ve anlaşılmıştır.	0,578			
13.Emniyet endişeleri ortaya çıktığında; zamanında ve kapsamlı bir şekilde ele alınmaktadır.	0,574			
12.Emniyet konusundaki herhangi bir endişe, cezalandırıcı olmayan bir atmosferde etkili bir şekilde bir üst kademeye iletilir.	0,433			
6.İyi bir emniyet kültürünün geliştirilmesi ve artırılması için üst yönetimin açık bir desteği vardır.		0,820		
7.İş yerimde olumlu bir emniyet kültürünün uygulanması ve sürdürülmesi için yeterli kurumsal destek bulunmaktadır.		0,785		
8.Emniyetten sorumlu yönetici, emniyetin uygulaması ve geliştirilmesi için gerekli olan kaynakların tam kontrolüne sahiptir.		0,734		
4.İş yerimizin emniyet politikası ile çalışma usulleri, emniyet konusundaki sözlerinin doğru bir şekilde yansımalarıdır.		0,583		
11.Kurumumda diğer kurumların deneyimlerinden öğrenme isteği vardır.		0,514		
21.Yönetim, gerçek insan hatası ile kasıtlı ihlaller arasında ayırım yapmaktadır.		0,508		
10. İş arkadaşlarım her zaman emniyetli çalışma yöntemlerini takip ederler.		0,500		
9.Sağlıklı ve iyi iletişim ve bilgi paylaşımı, emniyet kültürünün geliştirilmesinde anahtar olarak görülmektedir.		0,496		
2.İş arkadaşlarım, iş yerimizin emniyet hedeflerinden haberdardır.			0,842	
1.İş arkadaşlarım, iş yerinde emniyet politikalarının farkındadır.			0,821	
3.İş arkadaşlarım, iş yerimizde emniyetli çalışma için gerekli olan prosedürlerden haberdardır.			0,812	
5.Emniyet gereklerine uyma, emniyet kültürünün sürdürülmesinde esas teşkil etmektedir.			0,494	
18.İş arkadaşlarım emniyet tehditlerini tanımlamak ve aşmak için sürekli çalışıyorlar.				0,782
19.İş arkadaşlarım kendi çalışmalarının tehlikelerini ve risklerini tam olarak anlamışlardır.				0,774
20.İş arkadaşlarım her zaman emniyetli çalışma yöntemlerini takip ederler.				0,762

Table 6.3.1.6.2 .Factor Analysis for Perceived Safety Culture Scale

Rotation Sums of Squared Loadings			
	Total	% of Variance	Cumulative %
1	7,150	25,537	25,537
2	5,284	18,872	44,409
3	3,652	13,042	57,451
4	3,575	12,767	70,218

In the present study, it was found that there are four main factors on the scale. This factor analytical structure is consistent with findings of Kurnaz (2018)'s master thesis So, at the end of the related analysis, cronbach alpha value is evaluated as 0,957 that related scale is reliable. So, the fist factor refers to safety work and management, second factor refers to training and communication, third one can be named as safety politics and fourth one refers to safety undertaking.

6.3.2. Descriptive Statistics

In this section, some information about the sample is shown in tables.

The avaragescores of each variable are shown in the table.

Table 6.3.2.1. Mean and Standard Deviation of the Variables

Variables	Mean	Standard Dev.
Self Control	4,28	0,41
Self-Consciousness	3,94	0,43
Self-Regulation	4,34	0,34
Self-Monitoring	4,08	0,40
Self-Efficacy	4,40	0,31
Safety Climate	4,13	0,57
ATPL Performance	2,58	0,90
Flight Performance	4,18	0,79
Impulsivity	4,29	0,46
Self-Discipline	4,27	0,50
Internal State Awareness	4,01	0,46
Public Self-Consciousness	3,79	0,70
Social Anxiety	4,01	0,61
Being Open to Learning	4,45	0,43
Regulation of Learning	4,33	0,39
Looking for Learning	4,25	0,46
Sensitivity to Others' expressive Behaviors	3,81	0,59
Monitoring of Personal Presentation	4,36	0,36
Safety Work Management	4,14	0,68
Training and Communication	4,19	0,64
Safety Policies	4,29	0,58
Safety Undertaking	4,00	0,80
Self-Confidence	4,14	0,43
Persistence	4,67	0,33

Table 6.3.2.2. Demographic Characteristics

Characteristics	Frequency	Percent	Valid Percent	Cumulative Percent
Gender				
Female	20	0,07	0,07	0,07
Male	224	0,93	0,93	1,00
Total	244	1,00	1,00	
Age				
<25	11	0,04	0,04	0,04
25-30	107	0,43	0,43	0,47
30<	126	0,53	0,53	1,00
Total	244	1,00	1,00	
Faculty (Top 5)				
Makine Müh.	30	0,12	0,12	0,12
İşletme	22	0,09	0,09	0,21
Elektrik-Elekt.	20	0,08	0,08	0,29
İnşaat Müh.	18	0,07	0,07	0,36
Endüstri Müh.	10	0,04	0,04	0,40
Others	144	0,60	0,60	1,00
Total	244	1,00	1,00	
University (Top 5)				
Y.T.Ü.	25	0,10	0,10	0,10
İ.T.Ü.	21	0,08	0,08	0,18
İstanbul Üni.	14	0,05	0,05	0,23
Marmara Üniv.	13	0,05	0,05	0,28
ODTÜ	11	0,04	0,04	0,32
Others	169	0,68	0,68	1,00
Total	244	1,00	1,00	

6.4. Correlations and Regressions

6.4.1. Correlations

In order to indicate the correlations between the variables included in the study, the correlation table is shown below. The sub-dimensions of each of the variables were also included in the analysis and their correlations with each other were examined and only the relationships between the main variables were included in the correlation table below.

Table 6.4.1.1. Correlation Table of The Variables

	Self-Control	Self_Consc	Self_Regulation	Self_Monitor	Self_Efficacy	Safety_Climate	Theoric Exam Performance	Flight Performance
Self_Cont	1	.585**	.511**	.440**	.638**	.473**	.337*	.399*
Self_Consc	.585**	1	.537**	.357*	.808**	.373*	.237	.317*
Self_Regulat	.511**	.537**	1	.831**	.640**	.751**	.264	.321*
Self_Mon	.440**	.357*	.831**	1	.459**	.677**	.371*	.331*
Self_Effic	.638**	.808**	.640**	.459**	1	.483**	.177	.243
Safety_Climate	.473**	.373*	.751**	.677**	.483**	1	.431**	.515**
Theoric Exam Performance	.337*	.237	.264	.371*	.177	.431**	1	.753**
Flight Performance	.399*	.317*	.321*	.331*	.243	.515**	.753**	1

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

* . Correlation is significant at the 0.05 level (2-tailed).

As it is understood from the table, there are significant relationships between self-perceptions, safety climate, flight performance and theoretical exam performance of pilot candidates. In the next section, each variable and its sub-factors will be included and regression tables will be given for the relationships where there is a significant difference between the variables.

6.4.2. Regression Results

Hypothesis 1: There is a significant relationship between pilot candidates' self-perception and flight performance .

Hypothesis 2: Safety climate significantly affects the relationship between pilot candidates' self-perception and pilot candidates' flight performance.

Table 6.3.2.1. Model Summary of Self-Control and Flight Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,399 ^a	,159	,137	,68399

a. Predictors: (Constant), Self_Control

Table 6.4.2.2. Coefficient Table of Self-Control and Flight Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,993	1,196		,830	,412
	Self_Cont	,732	,273	,399	2,679	,011

a. Dependent Variable: Flight Performance

Table 6.4.2.3. Model Summary of Impulsivity and Flight Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,349 ^a	,122	,099	,69878

a. Predictors: (Constant), Impulsivity

Table 6.4.2.4. Coefficient Table of Impulsivity and Flight Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,545	1,153		1,340	,188
	Impulsivity	,596	,259	,349	2,299	,027

a. Dependent Variable: Flight Performance

Table 6.4.2.5. Model Summary of Self-Discipline and Flight Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,350 ^a	,123	,100	,69854

a. Predictors: (Constant), Self_Discipline

Table 6.4.2.6. Coefficient Table of Self-Discipline and Flight Performance

Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1,887	1,002		1,883	,067
	Self_Discipline	,536	,232	,350	2,305	,027

a. Dependent Variable: Flight Performance

In the results of the above regression table, it is understood that self-control variable has a significant effect on flight performance. In particular, it can be stated that the higher the self-control level of the pilot candidates, the higher their flight performance.

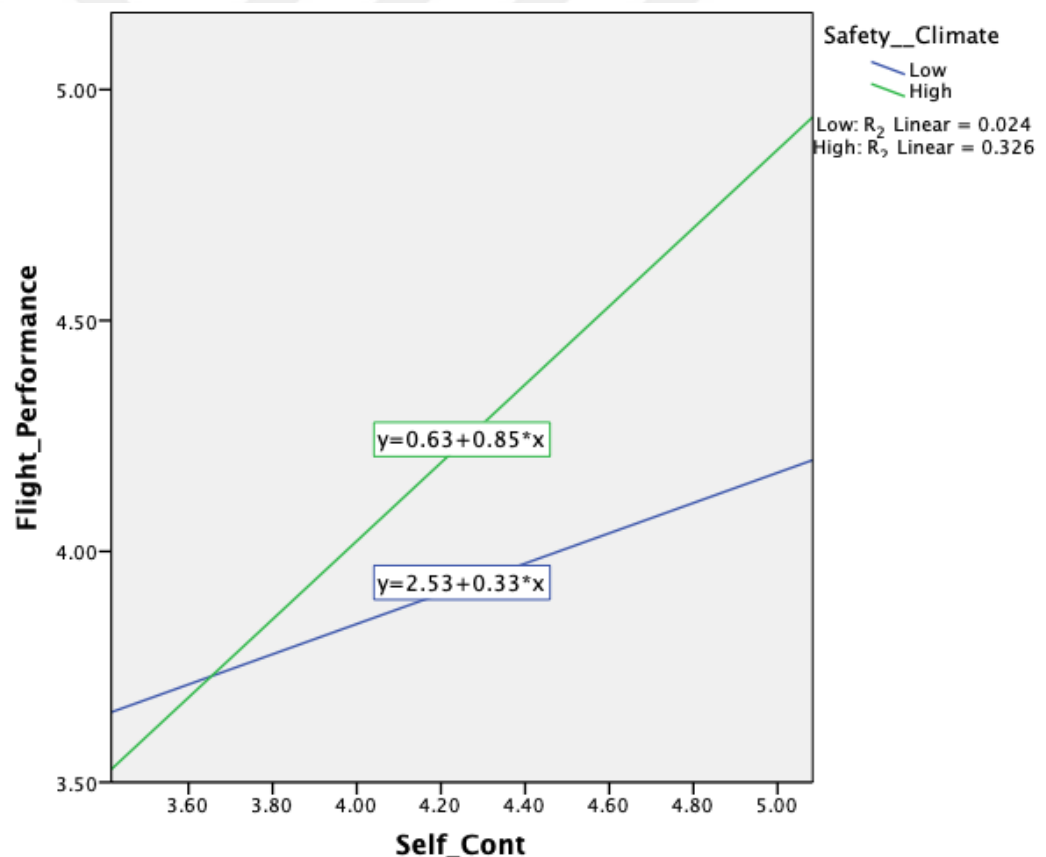
Regression analysis revealed that two sub-factors of self-control variable, self-discipline and impulsivity, have positive effects on flight performance of pilot candidates. The regression tables of the relevant analyzes are shown below.

Items measuring impulsivity on the Self-control scale were reversed, so increasing impulsivity indicates that the pilot candidate is less impulsive and can control himself better. These results shows that the flight performance of pilot candidates with high impulsivity level was negatively affected and the flight

performance of self-disciplined pilot candidates were higher. Self-discipline and impulsivity is found to have a significant effect on flight performance as self-control.

The relationship between self-control and flight performance has been investigated to determine whether safety climate influences the relation as a moderator. The moderator role of safety climate is examined with scatter plot and shown below.

Graphic 6.4.2.1. Moderator Role of Safety Climate in the Relationship between Self-Control and Flight Performance



As can be seen from the table above, there is a moderator effect of safety climate on the relationship between self-control and flight performance. In other words, the higher the self-control level of the pilot candidates, the better their flight performance. However, the higher the perception of safety at the flight school where

the pilot candidates are studying, that is to say the importance given to safety, it can be stated that relation will be stronger.

Table 6.4.2.7. Model Summary of Self-Consciousness and Flight Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,317 ^a	,100	,076	,70516

a. Predictors: (Constant), Self-Consciousness

Table 6.4.2.8. Coefficient Table of Self-Consciousness and Flight Performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	2,104	1,019		2,064	,046
Self- Conscious.	,518	,255	,317	2,031	,049

a. Dependent Variable: Flight Performance

According to the results of regression analysis, , it is understood that self-consciousness variable has a significant effect on flight performance. In particular, it can be stated that the higher the self-consciousness level of the pilot candidates, the higher their flight performance

There is a significant relationship between internal state-awareness and flight performance, one of the sub-dimensions of self-consciousness. There was no significant relationship between public self-consciousness, social anxiety and flight performance. The regression table showing the relationship between internal-state awareness and flight performance is given below.

Table 6.4.2.9. Model Summary of Internal State Awareness and Flight Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,346 ^a	,120	,097	,69961

a. Predictors: (Constant), internal state awareness

Table 6.4.2.10. Coefficient Table of Internal State Awareness and Flight Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,089	,926		2,255	,030
	Internal State Awareness	,528	,232	,346	2,276	,029

a. Dependent Variable: Flight Performance

In terms of this relationship, the moderator role of safety climate is also indicated and found that it doesn't have a significant effect on the relationship between self-consciousness and flight performance of pilot candidates.

Table 6.4.2.11. Model Summary of Self-Regulation and Flight Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,321 ^a	,103	,080	,70625

a. Predictors: (Constant), Self-Regulation

Table 6.4.2.12. Coefficient Table of Self-Regulation and Flight Performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,440	1,316		1,094	,281
Self_Regulation	,630	,301	,321	2,091	,043

a. Dependent Variable: Flight Performance

In the results of the above regression table, it is understood that self-regulation variable has a significant effect on flight performance. In particular, it can be stated that the higher the self-regulation level of the pilot candidates, the higher their flight performance.

In terms of this relationship, safety climate's moderstor role was also indicated but according to rekated analysis, it is understood that safety climate doesn't have a significant effect on the relationship between self-regulation and flight performance of pilot candidates.

Table 6.4.2.13. Model Summary of Self-Monitoring and Flight Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,331 ^a	,110	,086	,70371

a. Predictors: (Constant), Self-Monitoring

Table 6.4.2.14. Coefficient Table of Self-Monitoring and Flight Performance

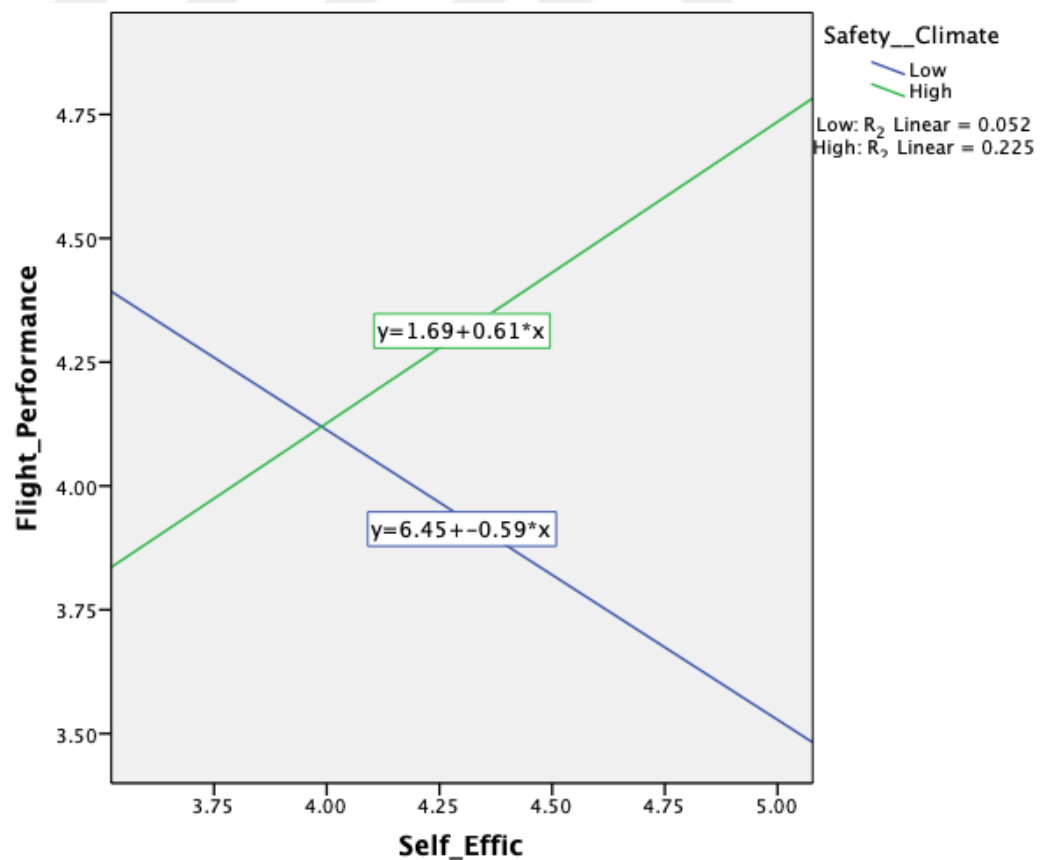
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,640	1,181		1,388	,173
Self_Monitoring	,622	,287	,331	2,163	,037

a. Dependent Variable: Flight Performance

According to the results of the above regression table, it is understood that self-monitoring variable has a significant effect on flight performance. In particular, it can be stated that the higher the self-monitoring level of the pilot candidates, the higher their flight performance.

In terms of this relationship, safety climate's moderator role was also indicated but according to related analysis, it is understood that safety climate doesn't have a significant effect on the relationship between self-monitoring and flight performance of pilot candidates.

Graphic 6.4.2.2. Moderator Role of Safety Climate in the Relationship between Self-Efficacy and Flight Performance



Up to this segment, the relationship between self-concept and flight performance of pilot candidates and the role of safety climate are indicated. Apart from self-efficacy, it was found that other self-perceptions have a positive and significant effect on flight performance. But for the relationship between self-efficacy and flight performance of pilot candidates, safety climate has a negative effect. In other words, if pilot candidates' safety perception level is high, self-efficacy has a negative effect on their flight performance. This result is thought as an important contribution to the related literature and also discussed in the discussion part.

For self-control, self efficacy and self-consciousness, hypothesis 2 is supported. Apart from self-efficacy, other self-perceptions have a significant effect on pilot candidates' flight performance. So it can be said that Hypothesis 1 is supported. After this segment, the relationship between theoretic exam results and flight performance of pilot candidates and the role of self-perceptions in this relation is indicated and relevant tables are shown.

Hypothesis 5: There is a significant relationship between theoretic exam results and flight performance of pilot candidates.

Hypothesis 6: Self-perception of pilot candidates significantly affects the relationship between theoretic exam results and flight performance of pilot candidates.

Table 6.4.2.15. Model Summary of Theoric Exam Performance and Flight Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,753 ^a	,567	,556	,49060	2,060

a. Predictors: (Constant), Theoric Exam Result

b. Dependent Variable: Flight Performance

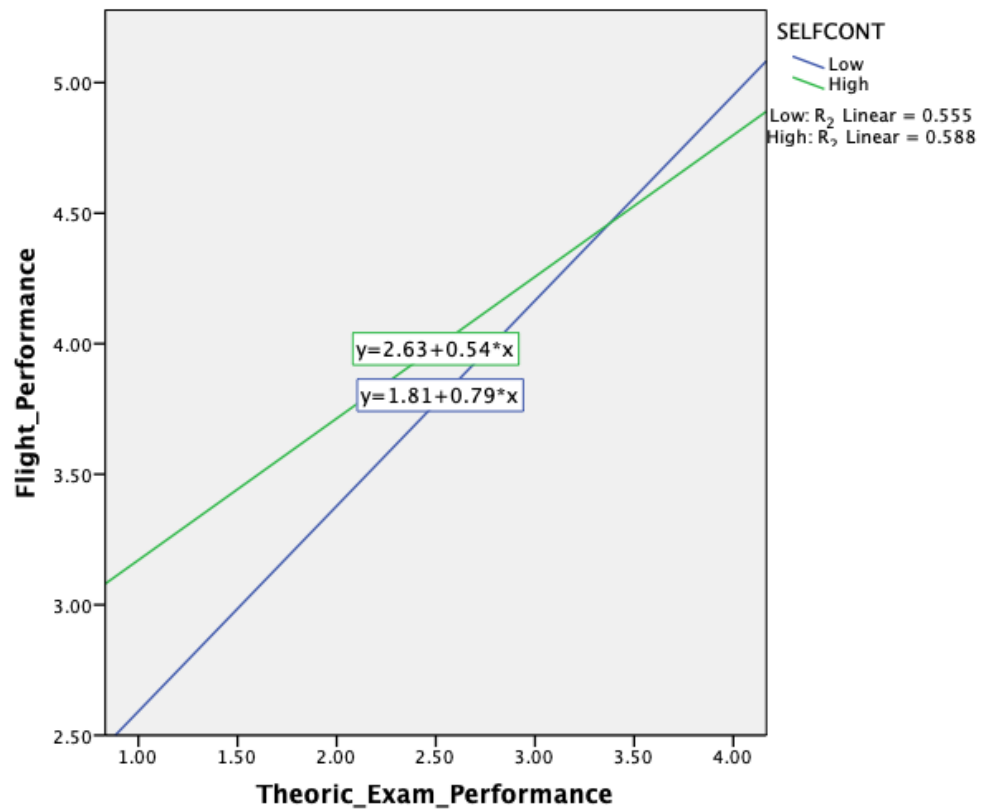
Table 6.4.2.16. Coefficient Table of Theoric Exam Performance and Flight Performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	2,465		9,653	,000
	Theoric Exam Performance	,587	,753	7,058	,000

a. Dependent Variable: Flight Performance

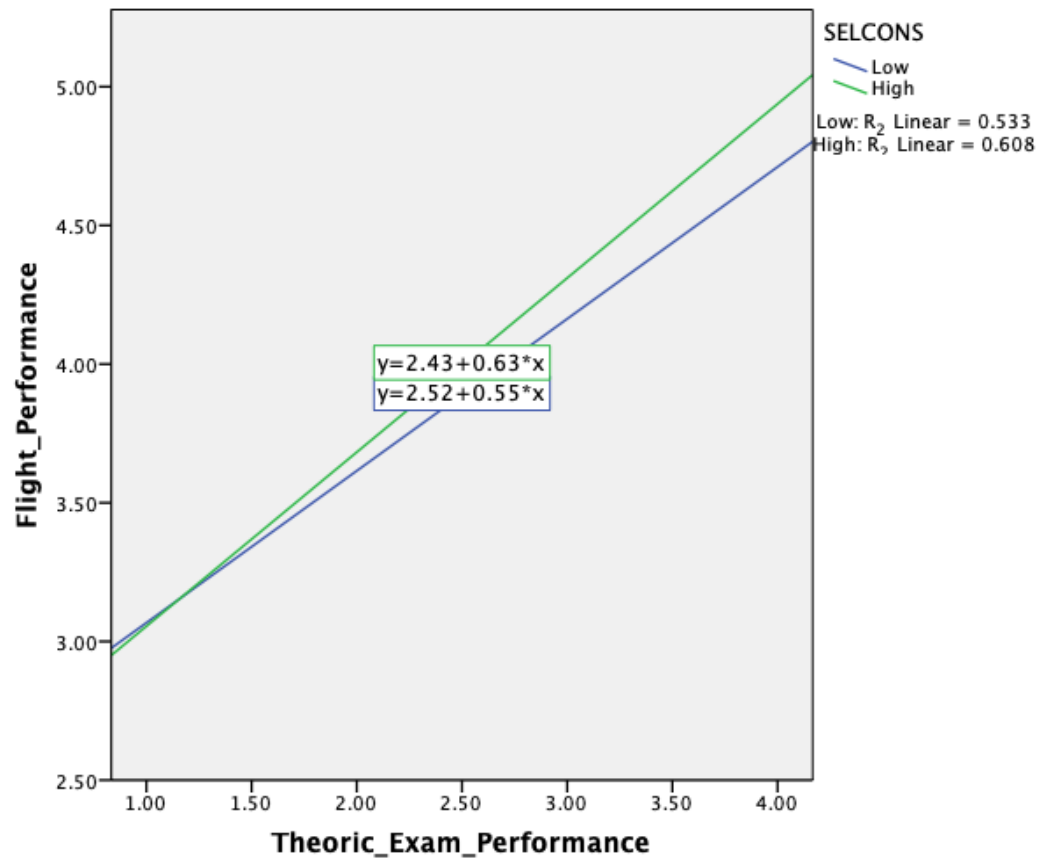
According to the results of the above regression table, it is understood that theoric exam performance has a significant effect on flight performance. In particular, it can be stated that the higher point of pilot candidates, the higher their flight performance. In terms of this relation, self-perceptions' effect is also indicated and related tables are shown below.

Graphic 6.4.2.3. Moderator Role of Self-Control in the Relationship between Theoric Exam Performance and Flight Performance



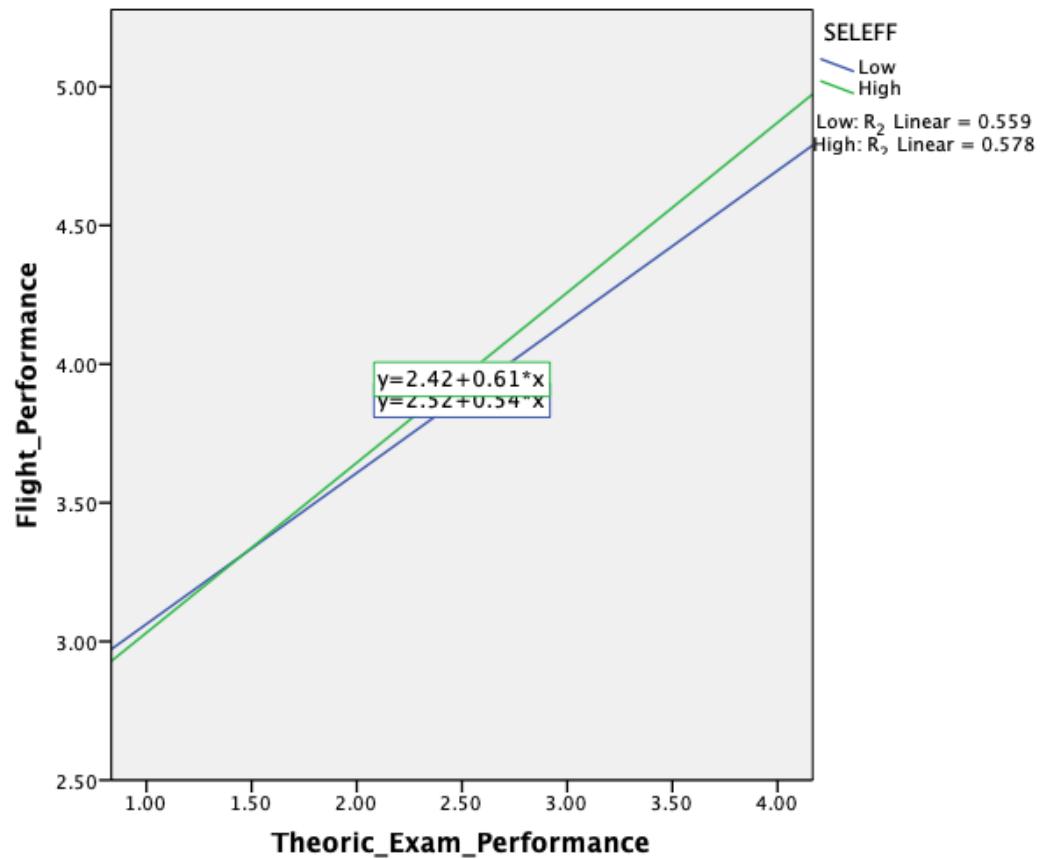
According to Table 6.3.2.11, it is understood that self-control has a moderator effect on the relationship between flight performance and theoric exam performance of pilot candidates. But high self-control has a negative effect on this relationship. In other words, the higher theoric exam results, the higher flight performance of pilot candidates but these candidates with high level of self-control are less successful in flight trainings.

Graphic 6.4.2.4. Moderator Role of Self-Consciousness in the Relationship between Theoric Exam Performance and Flight Performance



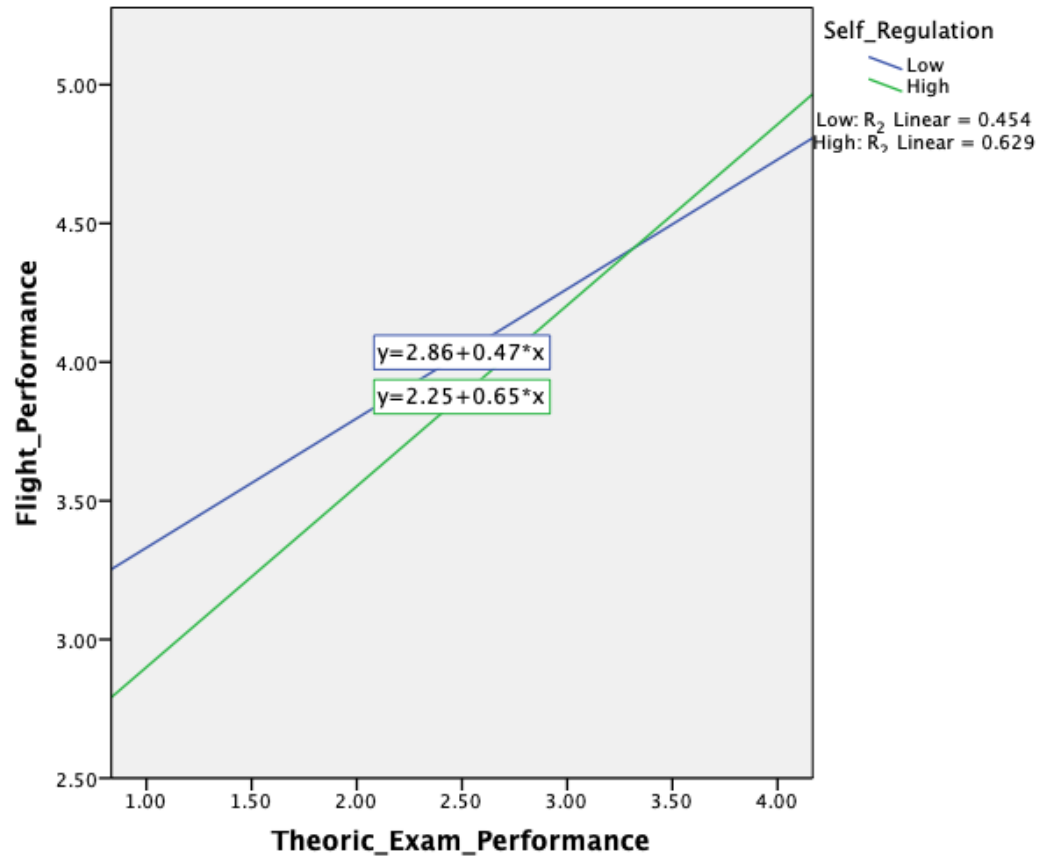
As the results of moderator analysis shown on the Table 6.3.2.12, it is understood that self-consciousness has a moderator effect on the relationship between flight performance and theoric exam performance of pilot candidates. In other words, the higher theoric exam results, the higher flight performance of pilot candidates and these candidates with high level of self-consciousness are more successful in flight trainings.

Table 6.4.2.5. Moderator Role of Self-Efficacy in the Relationship between Theoric Exam Performance and Flight Performance



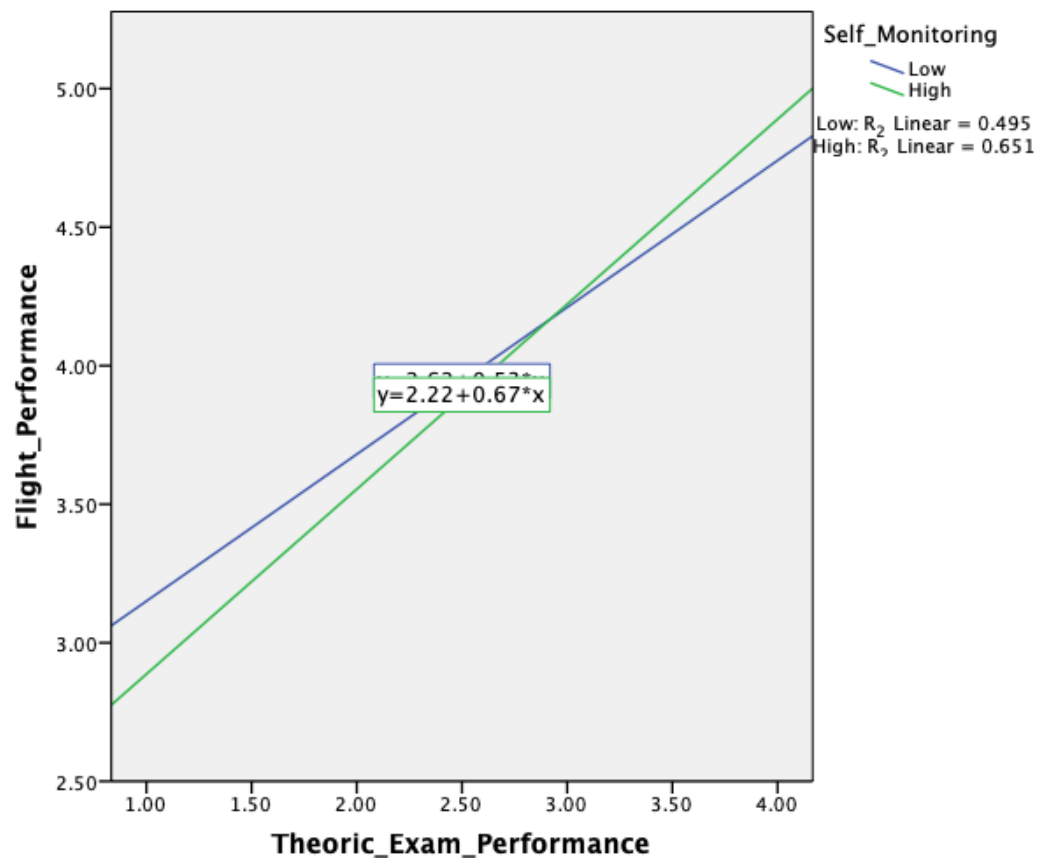
According to Table 6.3.2.13, it is understood that self-efficacy has a moderator effect on the relationship between flight performance and theoric exam performance of pilot candidates. But self-efficacy has a negative effect on this relationship. In other words, the higher theoric exam results, the higher flight performance of pilot candidates but these candidates with high level of self-efficacy are less successful in flight trainings.

Graphic 6.4.2.6. Moderator Role of Self-Regulation in the Relationship between Theoric Exam Performance and Flight Performance



In terms of the results as shown on the Table 6.3.2.14, it is understood that self-regulation has a moderator effect on the relationship between flight performance and theoric exam performance of pilot candidates. In other words, the higher theoric exam results, the higher flight performance of pilot candidates and these candidates with high level of self-regulation are more successful in flight trainings.

Graphic 6.4.2.7. Moderator Role of Self-Monitoring in the Relationship between Theoric Exam Performance and Flight Performance



According to the results as shown on the Table 6.3.2.15, it is understood that self-monitoring has a moderator effect on the relationship between flight performance and theoric exam performance of pilot candidates. In other words, the higher theoric exam results, the higher flight performance of pilot candidates and these candidates with high level of self-monitoring are more successful in flight trainings.

Up to this part, regression and moderator role of variables are indicated in terms of hypothesis 6, hypothesis 6 and hypothesis 7. According to results, it can be said that hypothesis 5, hypothesis 6 and hypothesis 7 is supported. The negative affect of high level of self-efficacy and self-consciousness is stated as important

contributions to related literature and also discussed in the discussion part of present study.

After this segment, the relationship between safety climate and flight performance of pilot candidates and the role of self-perceptions in this relation is indicated and relevant tables are shown.

Hypothesis 3: There is a significant relationship between safety climate and flight performance of pilot candidates.

Hypothesis 4: Self-perception significantly affects the relationship between safety climate and pilot candidates' flight performance.

Table 6.4.2.17. Model Summary of Safety Climate and Flight Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,515 ^a	,265	,246	,63940

a. Predictors: (Constant), Safety-Climate

Table 6.4.2.18. Coefficient Table of Safety Climate and Flight Performance

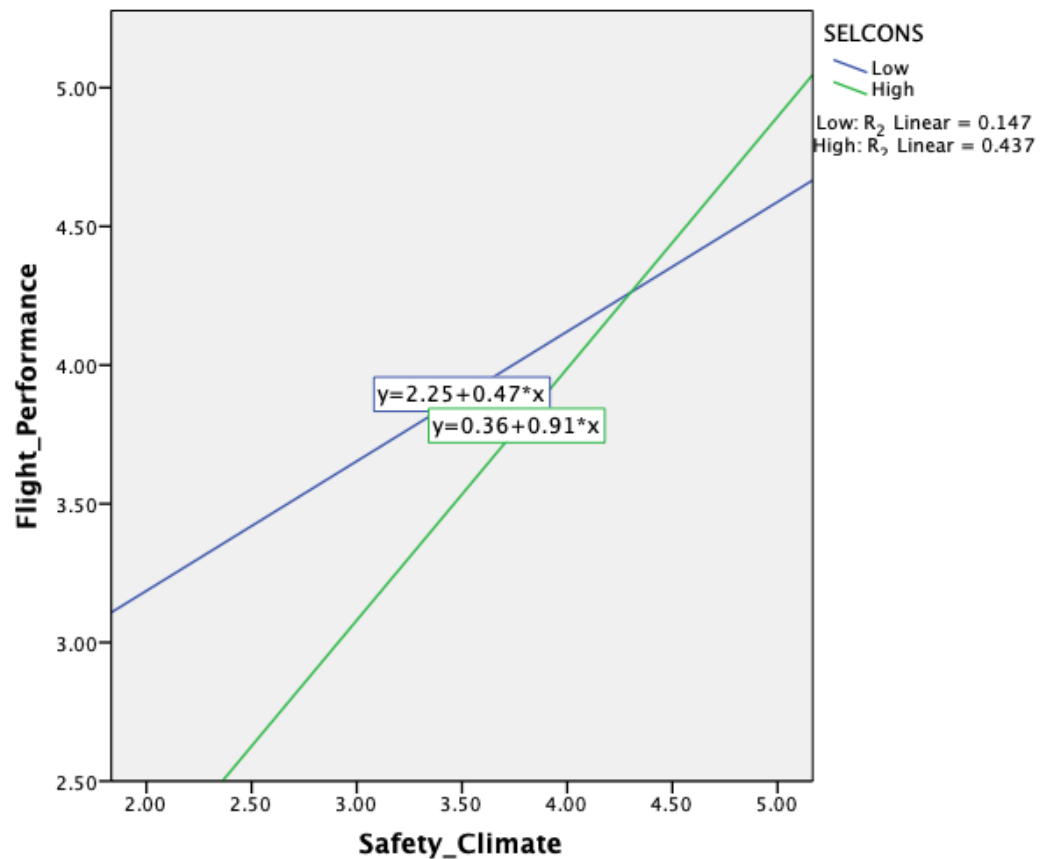
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,677	,685		2,449	,019
Safety Climate	,612	,165	,515	3,701	,001

a. Dependent Variable: Flight Performance

According to the results of the above regression table, it is understood that safety climate has a significant effect on flight performance. In particular, it can be stated that the higher safety climate, the higher pilot candidates' flight performance.

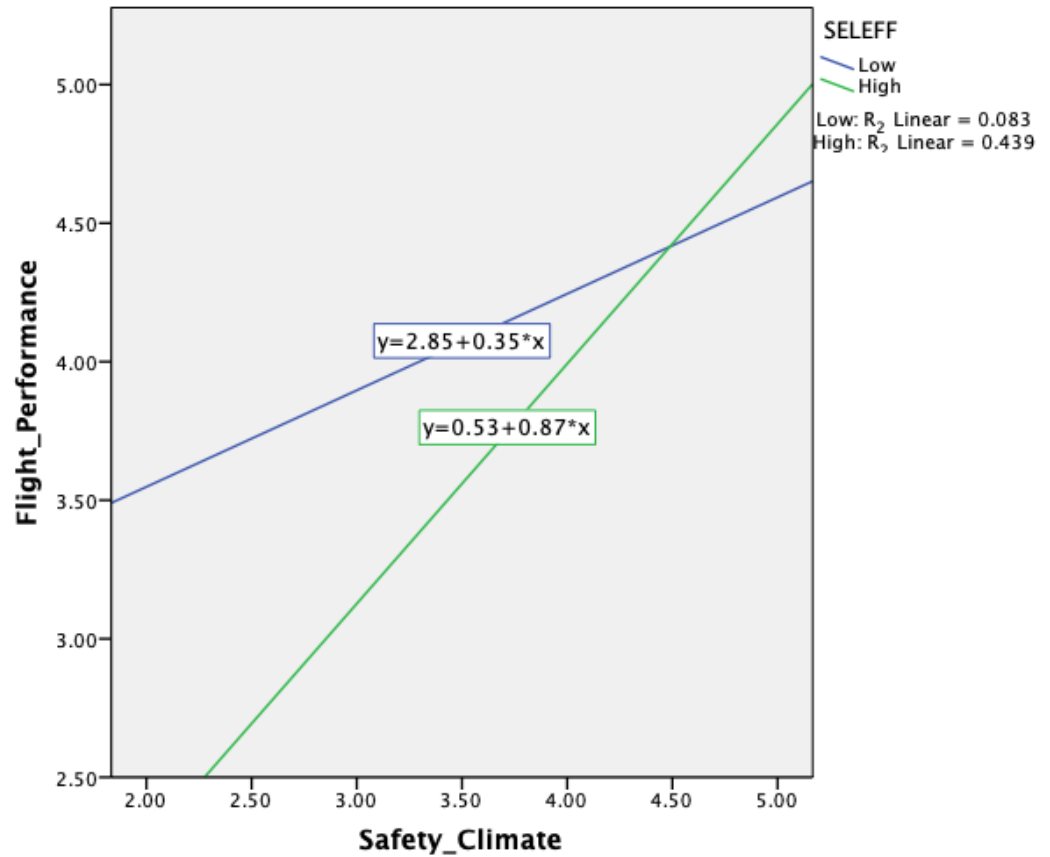
In terms of this relationship, self-perceptions' moderator role are indicated and relevant tables are shown below.

Graphic 6.4.2.8. Moderator Role of Self-Consciousness in the Relationship between Safety Climate and Flight Performance



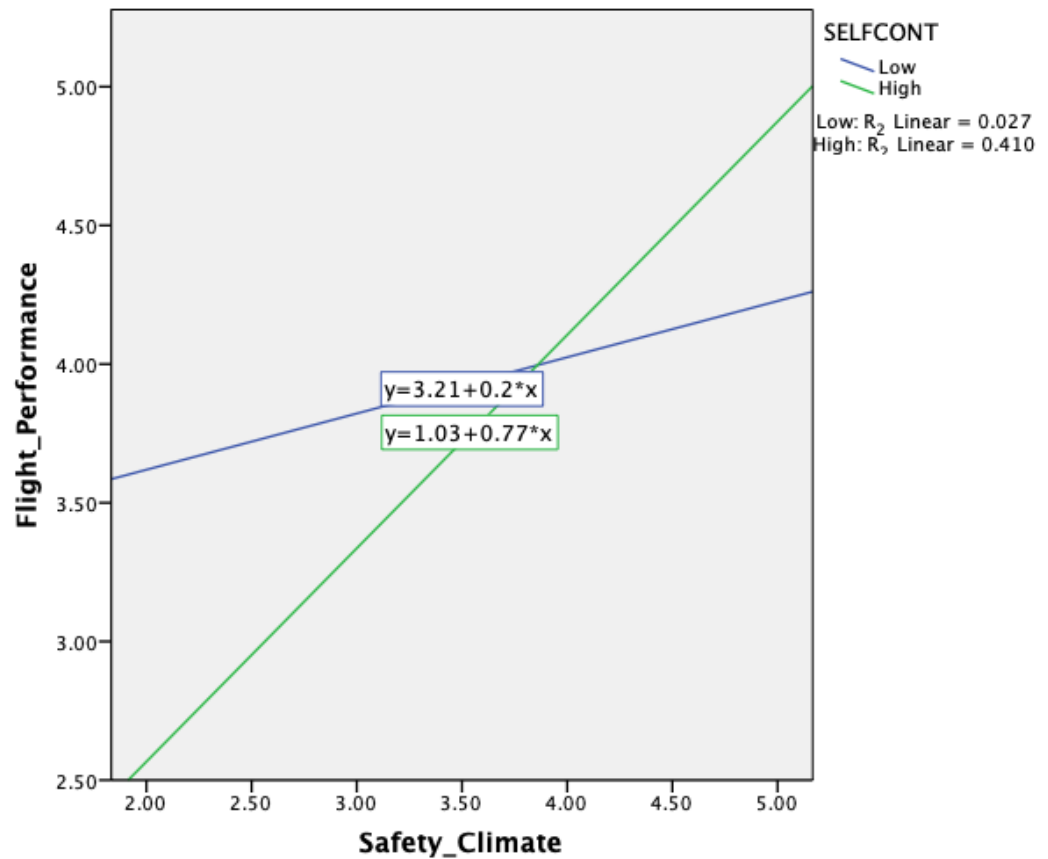
According to the results as shown on the Table 6.3.2.16, it is understood that self-consciousness has a moderator effect on the relationship between flight performance of pilot candidates and safety climate. In other words, the higher level safety perception of pilot candidates, the higher flight performance of pilot candidates and these candidates with high level of self-consciousness are more successful in flight trainings.

Graphic 6.4.2.10. Moderator Role of Self-Efficacy in the Relationship between Safety Climate and Flight Performance



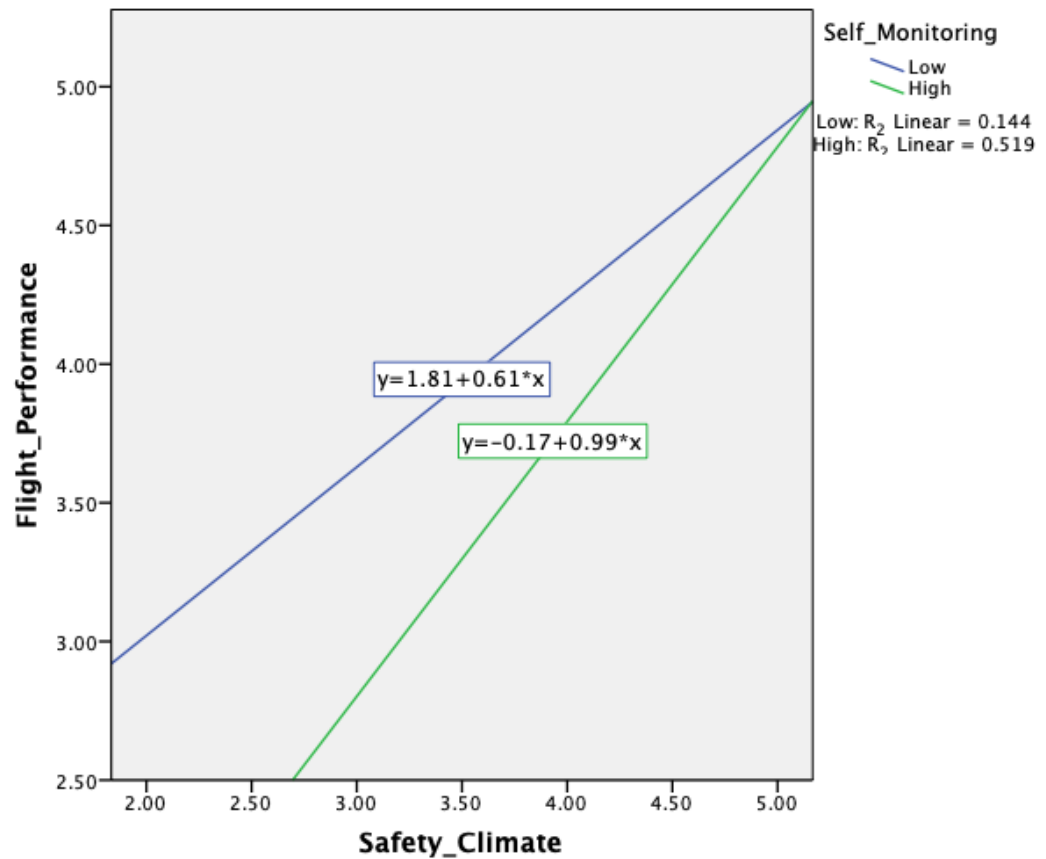
As stated in the table 6.3.2.17, it is understood that self-efficacy has a moderator effect on the relationship between flight performance of pilot candidates and safety climate. In other words, the higher level safety perception of pilot candidates, the higher flight performance of pilot candidates and these candidates with high level of self-efficacy are more successful in flight trainings.

Graphic 6.4.2.11. Moderator Role of Self-Control in the Relationship between Safety Climate and Flight Performance



According to the results as shown on the Table 6.3.2.18, it is understood that self-control has a moderator effect on the relationship between flight performance of pilot candidates and safety climate. In other words, the higher level safety perception of pilot candidates, the higher flight performance of pilot candidates and these candidates with high level of self-control are more successful in flight trainings.

Graphic 6.4.2.12. Moderator Role of Self-Monitoring in the Relationship between Safety Climate and Flight Performance



As stated in the table 6.3.2.19, it is understood that self-monitoring has a moderator effect on the relationship between flight performance of pilot candidates and safety climate. In other words, the higher level safety perception of pilot candidates, the higher flight performance of pilot candidates and these candidates with high level of self-monitoring are more successful in flight trainings.

Up to this part, regression and moderator role of variables are indicated in terms of hypothesis 3 and hypothesis 4. According to regression results, it is found that safety climate has a significant effect on the flight performance of pilot candidates. So it can be said that hypothesis 3 is supported. Apart from self-regulation, all other self-perceptions have moderator role in the relationship between safety climate and flight performance of pilot candidates and for these self-perceptions, it can be said that hypothesis 4 is supported.

RESULTS

The fact that most of the accidents in the field of aviation is due to human error caused the researchers working in the field of aviation to start to investigate the human factor more. It is an undeniable fact that competencies within the CRM concept are the main factors in the performance of the pilots. In terms of CRM concept, many of studies were carried out by researchers and indicate some individual factors related with pilot performance.

For this purpose, it was found that the relationship between the personality of the pilots and many variables, especially performance, was examined. However, there are very few studies in the aviation psychology literature on the self-perception of pilots or pilot candidates. It was noted that most of the studies on self-perceptions mostly focused on the concept of self-efficacy. Although it is an undeniable fact that the concept of self-control is important in the context of both personal observations and indirect relationships, it is interesting to note that it is not included in the relevant literature and has been an important source of motivation for the beginning of this study.

Self-control was the best predictor of both flight performance and theoretical exam performance of pilot candidates. It is of great importance for the contribution of this result to the literature. Another important issue that makes the study important is the examination of the relationship between two individual variables together with the moderator effect of an organizational factor as stated in the model expressed by hypothesis 2.

Three different models have been studied in terms of the present study. Firstly, the relationship between self-perception of pilot candidates and their flight performance and theoretic exam performance was examined. Although there were found a significant relationship between theoretic exam performances and self-perception, explanatory rates were very limited. Therefore, the relevant analyzes are shown in the appendix of the study. It is thought that the questions in the ATPL exams are standard and asking similar questions significantly affect this result.

Hypothesis 1: There is a significant relationship between pilot candidates' self-perception and flight performance.

Hypothesis 2: Safety climate significantly affects the relationship between pilot candidates' self-perception and pilot candidates' flight performance

Firstly, the relationship between self-perception and flight performance was examined and it was understood that safety climate had a moderator role in this relationship. The higher the self-efficacy level of the candidates, the lower their flight performance, this finding is so meaningful in terms of the present study.

Regression analysis revealed that two sub-factors of self-control variable, have a significant effect on flight performance and the flight performance of pilot candidates with high impulsivity level was negatively affected and the flight performance of self-disciplined pilot candidates were higher.

Studies in the related literature suggest that increasing self-efficacy positively affects the performance of pilots. However, analyzes conducted in this study reveal that excess self-efficacy affects performance negatively. As excessive self-confidence is determined as a negative factor for aviation in the related literature, a similar result for self-efficacy is considered to be an important finding for future studies.

According to the results of regression analysis, it is understood that self-consciousness variable has a significant effect on flight performance. In particular, it can be stated that the higher the self-consciousness level of the pilot candidates, the higher their flight performance.

There is a significant relationship between internal state-awareness and flight performance, one of the sub-dimensions of self-consciousness. There was no significant relationship between public self-consciousness, social anxiety and flight performance. The regression table showing the relationship between internal-state awareness and flight performance is given below.

There is a moderator effect of safety climate on the relationship between self-control and flight performance. In other words, the higher the self-control level of the pilot candidates, the better their flight performance. However, the higher the perception of safety at the flight school where the pilot candidates are studying, that is to say the importance given to safety, it can be stated that relation will be stronger.

Apart from self-efficacy, it was found that other self-perceptions have a positive and significant effect on flight performance. But for the relationship between self-efficacy and flight performance of pilot candidates, safety climate has a negative effect. In other words, if pilot candidates' safety perception level is high, self-efficacy has a negative effect on their flight performance. This result is thought as an important contribution to the related literature.

In the related literature, in many of studies, the relationship between self-concept and job performance is supported. According to research findings implemented by Judge, Erez and Bono (1998), there is a positive correlation between having positive self concept and job performance because employees with positive self concept are more motivated in their job. It is understood that the results of this study are parallel to the findings in the literature.

According to Chen and Chen (2014)'s study as examined the effects of pilots' perceptions of Safety Management System (SMS) practices, pilots' self-efficacy, fleet managers' morality leadership and on flight crews' safety behaviors. In terms of this study's results, self-efficacy has direct and positive effect on safety behavior of pilots. In terms of this study, findings support the literature but as understood from the moderator analysis table, excessive level of self-efficacy negatively effects the flight performance. When the related literature is examined, it is seen that this result is supported.

Indeed, as Jensen (1997) points out, excessive self-confidence is an important threat in aviation. In this study, a result was obtained about self-efficacy, but it was understood that the results were supported by the literature on the basis of the fact that individuals with more self-confidence would feel more competent. The Dunning–Kruger Effect argues the negative effect of over-confidence in aviation. It refers to a

cognitive bias as people can not evaluate themselves correctly. If pilots were overconfident about their ability, they might not be aware of their limitations. At a minimum, the pilots have to be more aware of the difficulties in situation and evaluate themselves with a real perspective (Pavel, Robertson and Harrison, 2012).

According to the study carried out by Thomson et al. (2004), overconfidenciy effects the risk-taking tendency in aviation. So it is thought that overconfidenciy is so important threat for aviation. In terms of the findings of present study, the effect of self-control is so meaningful and parallel to related literature.

In terms of this relationship, the moderator role of safety climate is also indicated and found that safety climate has a moderator role in the relationship between self-control, self-efficacy and flight performance of pilot candidates. For other relationships between self-perceptions and flight performance of pilot candidates, safety climate doesn't have a moderator role.

As mentioned in the literature and later in the discussion part of present study, safety climate has a very important role in aviation. It also significantly affects the relationship between some self-perceptions and the performance of pilot candidates confirmed the hypothesis in terms of this study.

Although the issues related to self-control have been investigated in the field of aviation psychology, there has not been enough research and the concept of self-control has not been considered as a variable. In this study, it was understood that self-control significantly predicted both the flight performance and the theoretical test performance of the pilot candidates. Based on these findings, it is of utmost importance for the future of the aviation field to give importance to the studies that will increase the self-control level of pilot candidates studying in flight schools. In addition, it is recommended that airlines that will select a pilot candidate include candidates with sufficient self-control level.

However, the extent of this level is also important. As discussed for the relationship between theoric exam performance and flight performance of pilot

candidates, high level of self-control negatively effects this relationship. This manner is also discussed for hypothesis 5 and hypothesis 6 later.

Hypothesis 3: There is a significant relationship between safety climate and flight performance of pilot candidates.

Hypothesis 4: Self-perception significantly affects the relationship between safety climate and pilot candidates' flight performance

In the third research model of the study, the relationship between safety climate and flight performance of pilot candidates' was examined. According to research findings, safety climate has a significant effect on the flight performance of pilot candidates. In other words, If the pilot candidates have a greater perception of the importance of safety at the flight school they are trained in, their flight performance is also better.

In particular, it can be stated that the higher safety climate, the higher pilot candidates' flight performance. In terms of this relationship, self-perceptions' moderator role are indicated. In terms of the research implemented by ICAO (2008) about the perception of safety culture, the safety culture perceptions have an important effect on the employees in the aviation sector. So, at the beginning of the research, safety climate was evaluated as an important factor for pilot performance and included as a variable. In terms of the present study, findings support the related hypothesis

It is understood that self-monitoring has a moderator effect on the relationship between flight performance of pilot candidates and safety climate. In other words, the higher level safety perception of pilot candidates, the higher flight performance of pilot candidates and these candidates with high level of self-monitoring are more successful in flight trainings.

Self-control has a moderator effect on the relationship between flight performance of pilot candidates and safety climate. In other words, the higher level safety perception of pilot candidates, the higher flight performance of pilot candidates

and these candidates with high level of self-control are more successful in flight trainings.

According to results, self-consciousness has a moderator effect on the relationship between flight performance of pilot candidates and safety climate. In other words, the higher level safety perception of pilot candidates, the higher flight performance of pilot candidates and these candidates with high level of self-consciousness are more successful in flight trainings.

It is understood that self-efficacy has a moderator effect on the relationship between flight performance of pilot candidates and safety climate. In other words, the higher level safety perception of pilot candidates, the higher flight performance of pilot candidates and these candidates with self-efficacy are more successful in flight trainings.

In order to improve safety in aviation, ICAO (2009) defines some requirements included in Safety Management System for guiding professionals in aviation and published Safety Management Manual. According to Safety Management Manual, organizational culture has to foster all members to perform safety practises and maintain effective safety reporting. This organizational culture refers to safety culture (Akselsson et al., 2009).

In the light of this literature information, safety should be given more importance in the flight schools where they are trained so that pilot candidates can perform better and become a good pilot. In the case of the study, it would be correct to comment. The more the pilot candidates understand and believe in the importance of safety in the flight schools they are trained in, the higher their performance would be.

Hypothesis 5: There is a significant relationship between theoretic exam results and flight performance of pilot candidates.

Hypothesis 6: Self-perception of pilot candidates significantly affects the relationship between theoretic exam results and flight performance of pilot candidates.

Hypothesis 7: Safety climate significantly affects the relationship between theoretic exam results and flight performance of pilot candidates.

In the second model of the study, the relationship between the theoretical exam performance and flight performances of the candidates was examined and it was found that the flight performances of the candidates with good theoretical exam scores were also significantly good. This relationship shows the extent to which candidates internalize and use the theoretical training they receive in flight schools. Apart from self-control, it was found out that self-perceptions had a significant positive effect on this relationship, and the moderator effect of self-control was found to be negative. This result is quite thought provoking. It is understood that pilot candidates with high levels of self-control are more dependent on the criteria they have established for themselves than they have learned, and from this point of view, more than necessary self-control may be a threat to aviation.

According to the results of the related regression table, it is understood that theoretic exam results has a significant effect on flight performance. In particular, it can be stated that the higher point of pilot candidates, the higher their flight performance. In terms of this relation, self-perceptions' effect is also indicated and related tables are shown below.

According to moderator analysis, it is understood that self-control has a moderator effect on the relationship between flight performance and theoretic exam performance of pilot candidates. But self-control has a negative effect on this relationship. In other words, the higher theoretic exam results, the higher flight performance of pilot candidates but these candidates with high level of self-control are less successful in flight trainings. This finding is also supported in the related literature.

As the results state that, self-consciousness has a moderator effect on the relationship between flight performance and theoretic exam performance of pilot candidates. In other words, the higher theoretic exam results, the higher flight performance of pilot candidates and these candidates with high level of self-consciousness are more successful in flight trainings

According to moderator analysis performed for self-efficacy, it is understood that self-efficacy has a moderator effect on the relationship between flight performance and theoretic exam performance of pilot candidates. But self-efficacy has a negative effect on this relationship. In other words, the higher theoretic exam results, the higher flight performance of pilot candidates but these candidates with high level of self-efficacy are less successful in flight trainings.

In terms of the findings, it is understood that self-regulation has a moderator effect on the relationship between flight performance and theoretic exam performance of pilot candidates. In other words, the higher theoretic exam results, the higher flight performance of pilot candidates and these candidates with high level of self-regulation are more successful in flight trainings.

In terms of Porter and Lawler model (1968), there is a positive relation between performance and effort. This effort is correlated with the relation of performance and the level of goals. (Robbins and Judge, 2001). Vandewalle et al. (1998)'s research indicated that there is a positive relation between job performance and goal orientation. In this relation, self-regulation is in the position of mediator role.

Self-determination theory clarifies the relation between personality and human motivation. This theory emphasizes importance of humans' internal resources for behavioral self-regulation and personality development (Ryan, Kuhl, & Deci, 1997). People have growth tendencies and some psychological needs. These factors are the basis for personality and self-motivation integration and self-determination theory researches this field. According to self-determination theory, internal motivators as relatedness, autonomy and competence are more important than external motivators on work motivation.

Kellar et al. (1993) pointed out the importance of physiological self-regulation for managing stress responses to emergency flying conditions. It was understood that the findings obtained in the study were in parallel with the results of the studies on self-regulation. However, the relevant hypothesis was confirmed.

Another important finding refers to moderator role of self-monitoring. In some studies in the related literature, as carried out by Thomas, Petrilli and Dawson (2004), self-monitoring is an important factor for aviation. Barrick et al. (2005) proposed that self-monitoring has moderator role in the relation between personality traits and academic performance. In terms of this study; emotional stability, openness to change and extraversion dimensions are strongly related to academic performance of executive mba students when self-monitoring is high.

Self-monitoring has a moderator effect on the relationship between flight performance and theoretic exam performance of pilot candidates. In other words, the higher theoretic exam results, the higher flight performance of pilot candidates and these candidates with high level of self-monitoring are more successful in flight trainings.

DISCUSSION AND RECOMMENDATIONS

As mentioned in the theoretical part and the results parts of the study, pilot candidates are the sample of the study. A large part of aircraft accidents in the field of aviation occurs because of human error. In this context, the competencies of the pilots are very vital. This is why the study specifically focused on pilot candidates currently being trained in flight schools.

As mentioned in the relevant literature, there are certain competencies required for pilot candidates. Crew Resource Management is at the heart of these capabilities. Communication skills, stress management, fatigue management, effective decision making, teamwork and fatigue management are these key components. There are important studies on these subjects in the literature of aviation psychology. This study was conducted from a different perspective. As a matter of fact, it is undeniable that the self-perceptions of the pilot candidates are significantly related to these competencies. However, there are few studies examining the relationship between self-perceptions and performances of pilots. Self-efficacy is the most studied variable in this context, but an important variable, such as self-control, has not been studied in the field of aviation before, and with this study, more attention should be paid to this issue and further research is needed.

The effect of over-confidence and high self-efficacy, as the great danger of aviation, has been demonstrated by many research findings. The results of this research made an important contribution to the subject. These candidates who have a very high level of self-efficacy and think that the institution they are trained to give less importance to safety, they have lower flight performance. This result is a valuable piece of information for professionals and trainers who choose the pilot candidates. It is very important to inform the candidates and pilots about the importance of safety in flight schools and the airline, and to have this perception more in order to tolerate the negative effects of high self-efficacy.

Another important result of the study is related to self-control. In this research, the self-control variable has two factors: self-discipline and impulsivity. Understanding that self-control is the most predictive variable of flight performance has been seen as an important contribution to the literature. In addition, self-discipline and impulsivity

significantly predict flight performance. It is recommended that professionals who will choose a pilot or pilot candidate prefer candidates who are self-disciplined and not impulsive, who can consider all alternatives and make timely decisions. Apart from these results, it was understood that excessive self-control may affect performance negatively. It is thought that over-controlling will adversely affect pilots when it comes to effective decision-making and implementation.

Another important result obtained in the study is that theoretical examination performance significantly predicts flight performance. Although it is sufficient for ATPL exams to be taken by the pilot candidates, it is understood that the high-performing candidates are more open to learning and have higher self-discipline levels and this has a significant effect on their flight performance. This is the main purpose of examining the self-regulation variable in the research specific. Individuals who apply the right learning strategies and seek continuous learning and new knowledge are good pilot candidates, and the research findings support this judgment.

In this study, the data obtained from 244 samples were analyzed. In fact, data were collected from more samples, but most of them were excluded due to lack of performance data. The sample represents the pilot candidates who are trained in flight schools and they are taken from the pilot candidates. Although the results are consistent with the literature, studies with first officers and captains who already have flight experience, rather than pilot candidates, will further contribute to the field.

The fact that the number of sample was not high enough, this situation negatively effected the adequately explaining the effect of some self-perceptions on performance. Although self-efficacy is the most studied self-perception in the field of aviation, it's effect has been very limited in this study. Using another scale to better predict the level of self-efficacy could help to see the effect of the variable more clearly.

The flight performances received from flight schools were in the form of a certain scale. Using a more detailed assessment tool based on Crew Resource Management components and measuring performance more often can make a significant contribution to what competencies or characteristics are affecting pilots'

performance. In this context, it is considered that it is very important for the future of the field to measure training performances more frequently and to use detailed performance measurement forms in order to conduct more detailed and beneficial research in the field of aviation.

REFERENCES

ABRAMSON, L. Y., SELIGMAN, M. E., TEASDALE, J. D.:1978	"Learned Helplessness in Humans: Critique and Reformulation". Journal of Abnormal psychology , 87(1), 49.
ADLER, A.:1963	Individual Psychology . Adams and Company.
AJZEN, I.:1991	"The Theory of Planned Behavior". Organizational Behavior and Human Decision Processes , 50(2), 179-211.
AJZEN, I., & FISHBEIN, M.:2005	"The Influence of Attitudes on Behavior". The Handbook of Attitudes , 173(221), 31.
AKIN, A., ABACI, R., & ÖVEÇ, Ü. :2007	"The Construct Validity and Reliability Of The Turkish Version of Self-Consciousness Scale". Ankara University, Journal of Faculty of Educational Sciences , 40(2), 257-276.
AKSELSSON, R., KOORNNEEF, F., STEWART, S., WARD, M.:2009	Resilience Safety Culture in Aviation Organisations. HILAS (Human Integration into the Lifecycle of Aviation Systems) 2009: Chapter 2; Draft Version.

AKTAŞ, E., ÇİÇEK, I., KIYAK, M.:2011	"The Effect Of Organizational Culture on Organizational Efficiency: The Moderating Role Of Organizational Environment and CEO Values". Procedia-Social and Behavioral Sciences , 24, 1560-1573.
AKTAŞ, H.:2011	Sivil Havacılık İşletmelerinde Beşerî Faktörler Perspektifinden Uçuş Ekibi Kaynak Yönetimi: Sivil Havacılık İşletmeleri Pilotlarının Kişilik Yapıları ile Uçuş Ekibi Kaynak Yönetimi Tutumları Arasındaki İlişki, Yayınlanmış Doktora Tezi. İstanbul: İstanbul Üniversitesi .
ALSHMEMRİ, M., SHAHWAN-AKL, L., MAUDE, P.: 2017	"Herzberg's Two-factor Theory". Life Science Journal , 14(5), 12-16.
AMERICAN PSYCHIATRIC ASSOCIATION:1987	Diagnostic and Statistical Manual of Mental Health Disorders (DSM-III-R) . American Psychiatric Association.
ANTAWATI, D. I.:2017	"Parent Role In Promoting Children's Entrepreneurship Intention". ADRI International Journal of Marketing and Entrepreneurship , 1(1).
ASLAN, YILMAZ, H.:2016	"Bir Derleme: Benlik Kavramına İlişkin Bazı Yaklaşımlar ve Tanımlamalar". Dumlupınar Üniversitesi Sosyal Bilimler Dergisi , (48)
AUTHORITY, C. A.:2002	Flight Crew Training: Cockpit Resource Management (CRM) and Line-Oriented Flight Training (LOFT) CAP 720.
AUTHORITY, C. A.:2003	CAP 716: Aviation Maintenance Human Factors (EASA/JAR145 Approved Organisations): Guidance Material on the UK CAA Interpretation of Part 145

	Human Factors and Error Management Requirements.
AUTHORITY, C. A.:2006	"Crew resource management (CRM) training: Guidance for flight crew, CRM instructors (CRMIS) and CRM instructor-examiners" (CRMIES)(CAP 737). London: Civil Aviation Authority.
BAKER, H. S.; BAKER, M. N.:1987	"Heinz Kohut's Self Psychology: An overview". American Journal of Psychiatry , 144(1), 1-9.
BANDURA,A.:1977	Self-Efficacy Toward a Unifying Theory of Behavioral Change." Psychological Review , 84, (2), 191-215.
BANDURA,A.:1989	"Human Agency in Social Cognitive Theory'. American Psychologist , 44(9), 1175.
BANDURA, A.:1991	"Social Cognitive Theory of Self-Regulation". Organizational Behavior and Human Decision Processes , 50(2), 248-287.
BANDURA, A.:1997	Self-Efficacy: The Exercise of Control. New York, NY, US: W H Freeman/Times Books/ Henry Holt & Co.

BANDURA, A.:1998	"Personal and Collective Efficacy in Human Adaptation and Change. Advances in Psychological Science , 1, 51-71.
BANDURA, A.:2004	"Cultivate Self-efficacy for Personal and Organizational Effectiveness". Handbook of Principles of Organization Behavior , 2, 0011-21.
BANDURA, A.:2010	"Self-Efficacy". The Corsini Encyclopedia of Psychology , 1-3.
BANDURA, A., CERVONE, D.:1983	"Self-Evaluative and Self-Efficacy Mechanisms Governing The Motivational Effects of Goal Systems". Journal of Personality and Social Psychology , 45(5), 1017.
BARRICK, M. R., PARKS, L.,; MOUNT, M. K.:2005	"Self-Monitoring as A Moderator of the Relationships Between Personality Traits and Performance". Personnel Psychology , 58(3), 745-767.
BARTRAM, D.:1995	'The Predictive Validity of the EPI and 16PF for Military Flying Training". Journal of Occupational and Organizational Psychology , 68(3), 219-236.
BAUMEISTER, R. F.: 1997	"Esteem Threat, Self-Regulatory Breakdown, and Emotional Distress as Factors in Self-Defeating behavior". Review of General Psychology , 1(2), 145-174.

BAUMEISTER, R. F., BRATSLAVSKY, E., MURAVEN, M.,; TICE, D. M. (1998)	"Ego Depletion: Is The Active Self A Limited Resource?." Journal of Personality and Social Psychology , 74(5), 1252.
BAUMEISTER, R. F., HEATHERTON, T. F.:1996	"Self-Regulation Failure: An Overview". Psychological Inquiry , 7(1), 1-15.
BAUMEISTER, R. F., & VOHS, K. D. :2007	Self-Regulation, Ego Depletion, and Motivation". Social and Personality Psychology Compass , 1(1), 115-128.
BAYSAL, A. C.,TEKARSLAN, E.:1996	İşletmeciler İçin Davranış Bilimleri. İstanbul Üniversitesi İşletme Fakültesi
BEM, D. J.:1972	'Self-Perception Theory". In Advances in Experimental Social Psychology (Vol. 6, pp. 1-62). Academic Press.
BERGENHENEGOUWEN, G. J.:1996	"Competence Development-A Challenge for HRM Professionals: Core Competences of Organizations as Guidelines for the Development of Employees". Journal of European Industrial Training , 20(9), 29-35.
BOCK, P. K.:1988	"Rethinking Psychological Anthropology: Continuity and Change in The Study of Human Action". WH Freeman/Times Books/Henry Holt & Co.
BRIGGS, S. R., CHEEK, J. M., ;BUSS, A. H.:1980	"An Analysis of The Self-Monitoring Scale". Journal of Personality and Social Psychology , 38(4), 679.

BRIGGS, S. R.,; CHEEK, J. M.:1986	"The Role of Factor Analysis in the Development and Evaluation of Personality Scales". Journal of Personality , 54(1), 106-148.
BROCKNER, J.:1979	"The Effects of Self-Esteem, Success–Failure, and Self-Consciousness On Task Performance". Journal of Personality and Social Psychology , 37(10), 1732.
BROWN, N. M., & MOREN, C. R.:2003	"Background Emotional Dynamics of Crew Resource Management: Shame Emotions and Coping Responses". The International Journal of Aviation Psychology , 13(3), 269-286.
BROWN, S. P., WESTBROOK, R. A., ; CHALLAGALLA, G. (2005).	"Good Cope, Bad Cope: Adaptive and Maladaptive Coping Strategies Following A Critical Negative Work Event". Journal of Applied Psychology , 90(4), 792.
BROWN, J. D., & DUTTON, K. A.:1995	'The Thrill of Victory, The Complexity of Defeat: Self-Esteem and People's Emotional Reactions to Success and Failure". Journal of Personality and Social Psychology , 68(4), 712.
BUCKNER, J., MEZZACAPPA, E., BEARDSLEE, W.:2009.	"Self-Regulation and Its Relations to Adaptive Functioning in Low-Income Youth". American Journal of Orthopsychiatry , 79(1): 19–30.
CALLISTER, J. D., KING, R. E., RETZLAFF, P. D., MARSH, R. W.:1999	Revised NEO Personality Inventory Profiles of Male and Female US Air Force pilots. Military Medicine , 164(12), 885-890.

CAMERON, K. S., QUINN, R. E.:1999	"Diagnosing and Changing Organizational Culture". Reading: Addison-Wesley.
CAMPBELL, J. S., CASTANEDA, M.,PULOS, S.:2010	"Meta-Analysis of Personality Assessments as Predictors of Military Aviation Training Success". International Journal of Aviation Psychology , 20, 92–109.
CARETTA, T. R.; REE, M. J.:2003	"Pilot-Candidate Selection Method: Sources of Validity". The International Journal of Aviation Psychology , 4(2), 103-117.
CARVER, C. S., & SCHEIER, M. F.:1982	"Control Theory: A Useful Conceptual Framework For Personality–Social, Clinical, And Health Psychology". Psychological Bulletin , 92(1), 111.
CARVER, C. S., SCHEIER, M. F., & WEINTRAUB, J. K.:1989	"Assessing Coping Strategies: A Theoretically Based Approach". Journal of Personality and Social Psychology , 56(2), 267.
CHEN, C. F.; CHEN, S. C.:2014	"Measuring The Effects of Safety Management System Practices, Morality Leadership and Self-Efficacy On Pilots' Safety Behaviors: Safety Motivation As A Mediator". Safety Science , 62, 376-385.
CHIDESTER, T. R., HELMREICH, R. L., GREGORICH, S. E., & GEIS, C. E.:1991	"Pilot Personality and Crew Coordination: Implications For Training and Selection". The International Journal of Aviation Psychology , 1(1), 25-44.

COHEN, S. G., LEDFORD, G. E., & SPREITZER, G. M.:1996	A Predictive Model of Self-Managing Work Team Effectiveness. Human Relations, 4
COMPEAU, D., & HIGGINS, C.A.:1991	"A Social Cognitive Theory Perspective On Individual Reactions To Computing Technology". ICIS .
COOLEY, C. H.:1902	"Looking-Glass Self". The Production of Reality: Essays and Readings On Social Interaction, 6.
COOLEY, C.:1968	The Social Self: On the Meanings Of "I." In C. Gordon & K. Gergen (Eds.), The Self in Social Interaction (pp. 87–92). New York: Wiley
COOPER, G. E., WHITE, M. D., LAUBER, J. K.:1980	Resource Management on The Flightdeck: Proceedings of A NASA/Industry Workshop. In NASA Conference Publication No. CP-2120. Moffett Field, CA: NASA-Ames Research Center.
COWINGS, P. S., NAIFEH, K. H., TOSCANO, W. B.:1990	"The Stability of Individual Patterns of Autonomic Responses to Motion Sickness Stimulation". Aviation, Space, And Environmental Medicine.
COWINGS, P. S., SUTER, S., TOSCANO, W. B., KAMIYA, J., NAIFEH, K.:1986	General Autonomic Components of Motion Sickness. <i>Psychophysiology</i> , 23(5), 542-551.
CUPACH, W. R., SPITZBERG, B. H. :1994	The Dark Side of Interpersonal Communication. Routledge.

DAMOS, D.:1996	'Pilot Selection Batteries: Shortcomings and Perspectives". The International Journal of Aviation Psychology , 6(2), 199-209.
DANIEL, K., HIRSHLEIFER, D., SUBRAHMANYAM, A.:1998	"Investor Psychology and Security Market Under-and Overreaction". The Journal of Finance , 53(6), 1839-1885.
DAY, D. V., KILDUFF, M.:2003	"Self-Monitoring Personality and Work Relationships: Individual Differences in Social Networks. Personality and Work": Reconsidering The Role Of Personality in Organizations , 205-228.
DAY, D. V., D. J. SCHLEICHER, A. L. UNCKLESS, T. PERRIN; N. J. HILLER.:2002	"Self-Monitoring Personality At Work: A Metaanalytic Investigation of Construct Validity", Journal of Applied Psychology , 87 (2), pp. 390–401.
DE RIDDER, D. T. D., LENSVELT-MULDERS, G., FINKENAUER, C., STOCK, F. M., BAUMEISTER, R.F.:2012	"Taking Stock of Self-Control: A Meta-Analysis of How Trait Self-Control Related to A Wide Range of Behaviors". Personality and Social Psychology Review , 16(1), 76–99
DECI, E.L.; RYAN, R.M.:1985	Intrinsic Motivation and Self-Determinism in Human Behavior . New York: Plenum Press
DESIVILYA, H. S., & EIZEN, D.:2005	"Conflict Management in Work Teams: The Role of Social Self-Efficacy and Group Identification". International Journal Of Conflict Management , 16(2).
DUNNING, D.:2011	"The Dunning–Kruger Effect: On Being Ignorant of One's Own Ignorance". In Advances in Experimental Social

	Psychology ,44,247-296. Academic Press.
DIEHL, A.:1991	"The Effectiveness of Training Programs for Preventing Aircrew "Error". In R. Jensen (Ed.) Proceedings of the Sixth International Symposium on Aviation Psychology (pp. 640-655). OH: Ohio State University.
DOMİNO, G., & AFFONSO, D. D. (1990)	"A Personality Measure of Erikson's Life Stages: The Inventory of Psychosocial Balance". Journal of Personality Assessment , 54(3-4), 576-588.
EL-HENAWY, W. M., DADOUR, E. S. M., SALEM, M. M., EL-BASSUONY, J. M.:2012	"The Effectiveness of Using Self-Regulation Strategies on Developing Argumentative Writing of EFL Prospective Teachers". Journal of the Egyptian Association for Reading and Knowledge , 27(1), 1-28
ELBAŞI, D.:2003	Ekip Kaynak Yönetimi: Uçuş Ekipleri Tarafından Kaynak Yönetimi Programlarının Uygulanma-sında Karşılaşılan Sorunların Tespit ve Çözümüne İlişkin Bir Araştırma. Çukurova Üniversitesi, Aralık, Yayınlanmamış Yüksek lisans Tezi.
EPSTEIN, E. J. (1973).	"News From Nowhere". Broadview Press .

ERIKSON, E. H.:1950	Childhood and Society. New York: Norton
ERKAN, G. K., ERDEM, H.; KAFALI, H.:2016.	"Pilotlarda Kişilerarası Yetkinlik Seviyesi İle İş Performansı İlişkisi". İnönü University International Journal of Social Sciences (INIJOSS) , 5(1), 215-224
FEDERAL AVIATION ADMINISTRATION.:1995	Crew Resource Management Training (Advisory Circular No. 120–51B). Washington, DC: Author.
FEIST, J.,FEIST, G. J.:2008	Theories of Personality. McGraw-Hill.
FENİGSTEİN, A., SCHİİER, M.F.; BUSS, A.H.:1975	"Public and Private Self-Consciousness: Assessment and Theory". Journal of Consulting and Clinical Psychology , 43,522-527.
FENIGSTEİN, A., & VANABLE, P. A.:1992	Paranoia and Self-Sonsciousness. Journal of Personality and Social Psychology , 62(1), 129.
FOGARTY, G. J., & SHAW, A.:2010	Safety Climate and The Theory of Planned Behavior: Towards The Prediction of Unsafe Behavior. Accident Analysis & Prevention , 42(5), 1455-1459.

FORD, J., HENDERSON, R., & O'HARE, D.:2014	"The Effects of Crew Resource Management (CRM) Training on Flight Attendants' Safety Attitudes". Journal of Safety Research , 48, 49-56.
FRIJDA, N. H.:1993	"Moods, Emotion Episodes and Emotions". In M. Lewis & J. M. Haviland (Eds.), Handbook of Emotions , 381– 403. New York: Guilford Press.
GECAS, V.:1982	"The Self-Concept". Annual Review of Sociology , 8(1), 1-33.
GERMER, C., SIEGEL, R., & FULTON, P. (EDS.):2005	Mindfulness And Psychotherapy . New York: Guilford Pres
GERRAS, S. J., WONG, L.; ALLEN, C. D.: 2008	"Organizational Culture: Applying a Hybrid Model to the US Army". Army War College Carlisle Barracks PA
GOFFMAN, E.:1959	The Presentation of Self in Everyday Life . New York: Doubleday.
GOLDBERG, A. E.:1978	The Psychology of the Self: A Casebook . International Universities Press.

GOLEMAN, D.:1998	Working with Emotional Intelligence. Bantam.
GOLEMAN, D.:2000	"Leadership that Gets Results". Harvard Business Review , 78(2), 4-17.
GOLEMAN, D., BOYATZIS, R. ;MCKEE, A.:2002	The New Leaders – Transforming the Art of Leadership into the Science of Results , Time-Warner, London
GOETERS, K.-M., TIMMERMANN, B., & MASCHKE, P.:1993	"The Construction of Personality Questionnaires for Selection of Aviation Personnel". International Journal of Aviation Psychology , 3, 123–141.
GRAHAM, S.; WEINER, B.:1996	"Theories and Principles of Motivation". In D. C. Berliner & R. C. Calfee (Eds.), Handbook of Educational Psychology . 63784). New York: Simon & Schuster Macmillan.
GRAZIANO, W. G., LEONE, C., MUSSE, L. M.; LAUTENSCHLAGER, G. J.:1987	"Self-Monitoring in Children: A Differential Approach to Social Development". Developmental Psychology , 23, 571-576
GREENWALD, A. G., BELLEZZA, F. S., BANAJI, M. R.:1988	'Is Self-Esteem a Central Ingredient of the Self-Concept?.' Personality and Social Psychology Bulletin , 14(1), 34-45.

GULDENMUND, F. W.:2000	"The Nature Of Safety Culture: A Review of Theory and Research". Safety Science , 34(1-3), 215-257.
GÜLER, N. K.:2014	Pilotlarda Psikososyal Risklerin Belirlenmesi, Çalışma ve Sosyal Güvenlik Bakanlığı İş Sağlığı ve Güvenliği Genel Müdürlüğü.
GÜRCAN, D.:2015	'Benlik Farklılıklarına Rogers' in Danışan Odaklı Terapisi ile Yaklaşım: Vaka Çalışması". AYNA Klinik Psikoloji Dergisi , 2(1), 13-26.
GÜVEN, R.:2007	"Güvenlik Kültürü", 4. IV. İş Sağlığı ve Güvenliği Kongresi Bildiri .
HAMPEL, P., PETERMANN, F.:2006	"Perceived Stress, Coping, and Adjustment in Adolescents". Journal of Adolescent Health , 38(4), 409-415.
HARDIN, C. D., CONLEY, T. D.:2013	A Relational Approach to Cognition: Shared Experience and Relationship Affirmation in Social Cognition . In Cognitive Social Psychology (Pp. 10-24). Psychology Press.
HARTER, S.:2006	'The Development of Self-Esteem. Self-Esteem Issues and Answers". A Sourcebook of Current Perspectives , 144-150.
HATZİGEORGİADİS, A.:2002	"Thoughts of Escape During Competition: Relationships with Goal Orientations and Self-Consciousness." Psychology of Sport and Exercise , 3(3), 195-207.

HELMREICH, R. L.,; FOUSHEE, H. C. :1993	Why Crew Resource Management? Empirical and Theoretical Bases of Human Factors Training in Aviation. Academic Press.
HELMREICH, R. L., & FOUSHEE, H. C.:2010	"Why CRM? Empirical and Theoretical Bases of Human Factors Training. In Crew Resource Management".3-57. Academic Press.
HELMREICH, R.L., MERRITT, A.C. :1998	"Culture at Work in Aviation and Medicine". National. Organizational and Professional Influences: Asgate.
HELMREISH, R. L., MERRITTt, A. C., & WILHELM, J. A.:1999	'The Evolution of Crew Resource Management Training in Commercial Aviation". The International Journal of Aviation Psychology , 9(1), 19-32.
HERZBERG, F. M., MAUSNER, B. (1959). B. & SNYDERMAN, B.: 1959	The Motivation to Work, 2, 49-58.
HIGGINS, E.T.:1987	'Self-Discrepancy: A Theory Relating Self and Affect". Psychological Review , 94(3), 319.
HILTON, T. F., & DOLGIN, D. L.:1991	"Pilot Selection in The Military of The Free World. John Wiley & Sons.
HOFSTEDE, G.:2001	Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations. Sage Publications.

HORMANN, H. J., & MASCHKE, P.:1996	'On the Relation Between Personality and Job Performance of Airline Pilots". The International Journal of Aviation Psychology , 6(2), 171-178.
HOROWITZ, M., COOPER, S., FRIDHANDLER, B., PERRY, J. C., BOND, M., & VAILLANT, G.:1992	'Control processes and defense mechanisms". The Journal of Psychotherapy Practice and Research , 1(4), 324.
HYSONG S. J.; QUINONES, M. A.:1997	"The Relationship between Self-Efficacy and Performance: A Meta-Analysis". In Twelfth Annual Conference of the Society for Industrial and Organizational Psychology , St. Louis, MO.
ICAO, A.:2009	Manual For the ATN using IPS Standards and Protocols (Doc 9896).
ICAO: 2015	Doc, I. C. A. O. 10019. 2015."Manual on Remotely Piloted Aircraft Systems (RPAS)". International Civil Aviation Organization, Montreal, Canada.
IRFAN, S., & MARZUKI, N. A.:2018	"The Moderating Effects of Organizational Culture on The Relationship Between Work Motivation and Work Commitment of University Academic Staff." International Journal Of Learning and Development , 8(1), 137-155.
TÜRETGEN, İ. Ö., CESUR, S.:2006	"Gözden Geçirilmiş Kendini Ayarlama Ölçeği'nin Güvenirlilik ve Geçerlik Çalışması". Türk Psikoloji Yazıları

JAKUBOWSKI, T. G.,DEMBO, M. H.:2004	"The Relationship of Self-Efficacy, Identity Style, and Stage of Change with Academic Self-Regulation". Journal of College Reading and Learning , 35(1), 7-24.
JAMES, W.:1950	Principles of Psychology Vol. I and II Complete . Dover Publications
JENSEN, R. S. (1997)	"The Boundaries of Aviation Psychology, Human Factors, Aeronautical Decision Making, Situation Awareness, and Crew Resource Management". The International Journal of Aviation Psychology , 7(4), 259-267.
JUDGE, T. A., EREZ, A., & BONO, J. E.:1998	The Power of Being Positive: The Relation Between Positive Self-Concept and Job Performance". Human Performance , 11(2-3), 167-187.
JUECHTER, W. M., FISHER, C., ALFORD, R. J.:1998	"Five Conditions for High-Performance Cultures". Training & Development , 52(5), 63-68.
JUSSIM, L.:1986	"Self-Fulfilling Prophecies: A Theoretical and Integrative Review". Psychological Review , 93(4), 429.

KAĞITÇIBAŞI, Ç.:2004	Yeni İnsan ve İnsanlar , Evrim Yayınevi, 10. Basım, İstanbul.
KANTOR, J.E., CARRETTA, T.R.:1988	"Aircrew Selection Systems", Aviation, Space, and Environmental Medicine , 59, A32-A38,
KELLAR, M. A., FOLEN, R. A., COWINGS, P. S., TOSCANO, W. B., HİSERT, G. L. :1993	Autogenicfeedback Training Improves Pilot Performance During Emergency Flying Conditions (NASA Tech.Mem. 104005). Moffett Field, CA: Ames Research Center
KELLEY, H. H., MICHELA, J. L.:1980	"Attribution Theory and Research". Annual Review of Psychology , 31(1), 457-501.
KHANTZIAN, E. J., & MACK, J. E.:1983	"Self-Preservation and The Care of The Self: Ego Instincts Reconsidered". The Psychoanalytic Study of The Child, 38(1), 209-232.
KING, R. E., MCGLOHN, S. E., RETZLQFF, P. D.:1997	"Female United States Air Force Pilot Personality: The New Right Stuff". Military Medicine , 162(10), 695-697.
KLEİN, O., SNYDER, M., LIVINGSTON, R. W.:2004	"Prejudice on The Stage: Self-Monitoring and The Public Expression of Group Attitudes". British Journal of Social Psychology , 43(2), 299-314

KOÇEL, T.:2005	İşletme Yöneticiliği , İstanbul: Arıkan Basım Yayım Dağıtım.
KOHUT, H.:1984	How Does Analysis Cure? New York: International Universities Press
KONTOGIANNIS, T.; MALAKIS, S.:2009	"A Proactive Approach Tto Human Error Detection and Identification in Aviation and Air Traffic Control". Safety Science , 47(5), 693-706.
KORMAN, A. K.:1970	"Toward an Hypothesis of Work Behavior". Journal of Applied Psychology , 54(1p1), 31.
KOTTER, J.P.; HESKETT, J.L.:1992	Corporate Culture and Performance , Macmillan, New York, NY.
KROEBER, A.,KLUCKHOHN, C.: 1952	Culture: A critical Review of Concepts and Definitions , Peabody Museum of American Archaeology and Ethnology, Harvard University, Cambridge, MA
LAUBER, J. K.:1984	"Resource Management in the Cockpit". Air Line Pilot , 53, 20-23.
LECKY, P.:1961	Self-Consistency: A Theory of Personality . New York: Shoe String Press.

LENNOX, R. D., & WOLFE, R. N. (1984).	"Revision of the Self-Monitoring Scale." Journal of Personality and Social Psychology , 46(6), 1349-1364.
LEVINE, J. B., LEE, J. O., RYMAN, D. H., RAHE, R. H.:1976	Attitudes and Accidents Aboard an Aircraft Carrier." Aviation, Space, and Environmental Medicine , 47, 82-85
LEWIS, M. :1979	"The Self as a Developmental Concept". Human Development , 22(6), 416-419.
LOK, P.; CRAWFORD, J.:2001	"Antecedents of Organizational Commitment and The Mediating Role of Job Satisfaction". Journal Of Managerial Psychology , 16(8), 594-613.
LUBATKIN, M. H., LING, Y., SCHULZE, W. S.:2007	"An Organizational Justice-Based View of Self-Control and Agency Costs in Family Firms". Journal of Management Studies , 44(6), 955-971.
MALLE, B.F.; ICKES, W.: 2000	"Fritz Heider: Philosopher and Social Psychologist". Portraits of Pioneers in Psychology , 4, 203-221
MARKUS, M.:1977	"Self-Schemata and Processing Information About the Self". Journal of Personality and Social Psychology , 49, 1494-1512
MASLOW, A. H.:1943	A Theory of Human Motivation. Psychological Review , 50(4), 370.

MASLOW, A.:1954.	Motivation and Personality. Harper and Row, New York
MASLOW, A. H.:1968	Toward a Psychology of Being. New York: Van Nostrand
MCGREEVY, J. M., OTTEN, T. D.:2007	"Briefing and Debriefing in the Operating Room Using FighterPilot Crew Resource Management". Journal of the American College of Surgeons , 205(1), 169-176.
MCLEOD, S.:2007	Maslow's Hierarchy of Needs. Simply psychology, 1.
MCLEOD, S.:2013	Erik Erikson. Retrieved August, 9, 2013
MCLEOD: 2014	"Chronic Unease for Safety in Managers: A Conceptualisation." Journal of Risk Research .17: 969–979
MEAD, G. H.:1934	Mind, Self and Society. University of Chicago Press.: Chicago.

MEHRA, A., KILDUFF, M.,; BRASS, D. J.:2001	"The Social Networks of High and Low Self-Monitors: Implications for Workplace." Performance. Administrative Science Quarterly , 46(1), 121-146.
MELE, A.1992	"Intentions, Reasons, and Beliefs: Morals of the Toxin Puzzle", Philosophical Studies 68, pp. 171-194.
MILL, J. (1984).	"High and Low Self-Monitoring Individuals: Their Decoding Skills and Empathic Expression". Journal of Personality , 52(4), 372-388.
MITTAL, B., & BALASUBRAMANIAN, S. K. :1987	"Testing the Dimensionality of the Self-Consciousness Scales". Journal of Personality Assessment , 51(1), 53-68.
MUSSON, D. M.;HELMREICH, R. L.:2004	"Team Training and Resource Management in Health Care: Current Issues and Future Directions". Harvard Health Policy Review , 5(1), 25-35.
NEAL, A., GRIFFIN, M.A., 2002	"Safety Climate and Safety Behaviour:". Australian Journal of Management 27, 67–77.
NEAL, A., & GIFFIN, M. A.:2006	A Study Of The Lagged Relationships Among Safety Climate, Safety Motivation, Safety Behavior, and Accidents at The Individual And Group Levels. Journal of Applied Psychology , 91(4), 946.

NEBİOĞLU, M., KONUK, N., AKBABA, S., EROĞLU, Y.:2012	"The Investigation of Validity and Reliability of The Turkish Version of The Brief Self-Control Scale". Klinik Psikofarmakoloji Bülteni-Bulletin of Clinical Psychopharmacology , 22(4), 340-351.
ODEAN, T.:1998	"Are Investors Reluctant to Realize Their Losses?". The Journal of Finance , 53(5), 1775-1798.
OSTROFF, C., SCHMITT, N.:1993	"Configurations of Organizational Effectiveness and Efficiency". Academy of Management Journal , 36(6), 1345-1361.
PANAGIOTIS, M. ;ALEXANDROS, S.;GEORGE, P.:2014	"Organizational Culture and Motivation in the Public Sector. The Case of the City of Zografou". Procedia Economics and Finance , 14, 415-424.
PARASURAMAN, R.; MOLLOY, R., SINGH, I. L.:1993	"Performance Consequences of Automation-Induced Complacency". The International Journal of Aviation Psychology , 3(1), 1-23.
PAVEL, S. R., ROBERTSON, M. F.; HARRISON, B. T.:2012	"The Dunning-Kruger Effect and SIUC University's Aviation Students". Journal of Aviation Technology and Engineering , 2(1), 6.
PINTRICH, P. R.:1990	Implications of psychological Research on Student Learning and College Teaching for Teacher Education. Handbook of Research on Teacher Education, 826-857.

PINTRICH, P. R., WOLTERS, C., & BAXTER, G.:1999	"Assessing Metacognition and Self-Regulated Learning." In G. Schraw, Issues In The Measurement of Metacognition: Proceedings From The Tenth Buros-Nebraska Symposium On Measurement and Testing. Lincoln, NE: The University Of Nebraska Press.
PORTER, L.W., LAWLER, E.E.,:1968	Managerial Attitudes and Performance. Irwin, Homewood, IL
'POWELL, S. M.; HILL, R. K.:2006	'My Copilot is a Nurse—Using Crew Resource" Management in the OR. AORN Journal , 83(1), 178-202.
PRINZEL, L. J.:2002	"The Relationship of Self-Efficacy and Complacency in Pilot-Automation Interaction (Technical Memorandum No. TM-2002-211925)". NASA Langley Research Center, Hampton, VA.
PRINZEL, L. J., POPE, A. T., & FREEMAN, F.G.:2002	"Physiological Self-regulation and Adaptive Automation". International Journal of Aviation Psychology , 12(2), 179-196.
RAHIM, M. A.:1983	"A Measure of Styles of Handling Interpersonal Conflict". Academy of Management journal , 26(2), 368-376

REASON, J. (2000).	"Safety Paradoxes and Safety Culture". Injury Control and Safety Promotion , 7(1), 3-14.
REASON, J.:2016	Managing the Risks of Organizational Accidents . Routledge.
ROBBINS, S. P., JUDGE, T. A.:2001	Organizational Behavior, 14/E. E: Pearson Education India.
ROGERS, C. R.:1951	Client-Centered Therapy . Boston: Houghton Mifflin Compan
ROGERS, C. R.:1959	A Theory of Therapy, Personality, and Interpersonal Relationships: As Developed in the Client-Centered Framework . New York: McGraw-Hill.
ROSENBAUM, M.:1980	"Individual Differences in Self-Control Behaviors and Tolerance of Painful Stimulation". Journal of Abnormal Psychology , 89(4), 581.

ROSENBAUM, M. (1990).	The Role of Learned Resourcefulness in the Self-Control of Health Behavior. Springer Publishing Co.
ROSENBERG, M.:1979	Conceiving the Self. New York: Basic Books
ROUSSEAU, D. M.:1990	"Normative Beliefs in Fund-Raising Organizations: Linking Culture to Organizational Performance and Individual Responses". Group and Organization Studies , 15(4), 448-460.
RYAN, R. M., KUHL, J., DECI, E. L. :1997	"Nature and Autonomy: An Organizational View of Social and Neurobiological Aspects of Self-Regulation in Behavior and Development". Development and Psychopathology , 9(4), 701-728
SALAS, E., WILSON, K. A., BURKE, C. S., WIGHTMAN, D. C., HOWSE, W. R.:2006	"A Checklist for Crew Resource Management Training". Ergonomics in Design , 14(2), 6-15
SANNA, L. J.:1992	"Self-Efficacy Theory: Implications for Social Facilitation and Social Loafing". Journal of Personality and Social Psychology , 62(5), 774.
SCHEIER, M. F., & CARVER, C. S.:1985	"The Self-Consciousness Scale: A Revised Version for Use with General Populations 1". Journal of Applied Social Psychology , 15(8), 687-699.

SCHEIN, E. H. 1990	"Organizational Culture," American Psychologist , 45, 2, 109-119.
SCHEIN EH. 1997	Organizational Culture and Leadership (2nd edn) . Jossey Bass: San Francisco
SCHULTZ, D. P., SCHULTZ, S. E. (Çeviren YASEMİN ATALAY): (2001)	Modern Psikoloji Tarihi (çev. Yasemin Aslay) . İstanbul: Kaknüs Yayınları
SCHUNK, D. H.; USHER, E. L.:2011	"Assessing Self-Efficacy for Self-Regulated Learning". Handbook of Self-Regulation of Learning and Performance , 282-297.
SCHWARZER, R., JERUSALEM, M.:1995	'Generalized Self-Efficacy Scale". Measures in Health Psychology: A User's Portfolio. Causal and Control Beliefs , 1(1), 35-37.
SEÇER, B. :2012	"İş Sağlığı ve Güvenliğinde Psikolojik Bir Yaklaşım: Atıf Kuramı". ISGUC The Journal of Industrial Relations and Human Resources , 14(4), 29-46.
SHERER, M., MADDUX, J. E., MERCANDANTE, B., PRENTICE-DUNN, S., JACOBS, B., ROGERS, R. W.:1982	"The Self-efficacy Scale: Construction and Validation". Psychological Reports , 51(2), 663-671.

SHERIF, M.:1956	Experiments in Group Conflict. Readings About the Social Animal, 344-353.
SICARD, B., TAILLEMITE, J. P., JOUVE, E., & BLIN, O.:2003	"Risk Propensity in Commercial and Military Pilots. " Aviation, Space, And Environmental Medicine , 74(8), 879-881.
SIEHL, C.; MARTÍN, J.:1990	"Organizational Culture: A Key To Financial Performance?" İçinde B. Schneider (Der.) Organizational climate and culture: 241-81.
SIRGY, M. J., JOHAR, J. S., CLAIBORNE, C. B.:2015	"Self-Concept Motivation As Mediator Between Self-Image Congruence and Attitude/Intention. In Proceedings of The 1992 Academy of Marketing Science (AMS) Annual Conference (Pp. 402-406). Springer, Cham
SKINNER, B. F. :1971	Beyond Freedom and Dignity. New York, NY, US.
SNYDER, M.:1974	"The Self-Monitoring of Expressive Behavior". Journal of Personality and Social Psychology , 30, 526-537
SNYDER, M., BERSCHEID, E., ; MATWYCHUCK, A.:1988	"Orientations toward Personnel Selection: Differential Reliance on Appearance and Personality". Journal of Personality and Social Psychology , 54, 962-979.

SNYDER, M.,;GANGESTAD, S.:1985	"On The Nature of Self-Monitoring: An Examination of Latent Causal Structure". Review of Personality and Social Psychology , 6, 65-86.
STAJKOVIC, A. D., LUTHANS, F.:1998	'Self-Efficacy and Work-Related Performance: A Meta-analysis". Psychological Bulletin , 124(2), 240.
STANTON, N. A., CHAMBERS, P. R., PIGGOTT, J.:2001	"Situational Awareness and Safety". Safety Science , 39(3), 189-204.
STEVENS, M. J.:1992	Prescott Lecky: Pioneer in Consistency Theory and Cognitive Therapy.
STRICKOFF, R. S.:2000	"Safety Performance Measurement: Identifying Prospective Indicators with High Validity". Professional Safety , 45
STROTHER, J. B.:1999	"Communication Failures Lead to Airline Disasters". In IPCC 99. Communication Jazz: Improvising the New International Communication Culture. Proceedings 1999 IEEE International Professional Communication Conference (pp. 29-34). IEEE.
SWANN, W. B., STEIN-SEROUSSÍ, A., GIESLER, R. B.:1992	"Why People Self-Verify". Journal of Personality and Social Psychology , 62(3), 392.

ŞERİFOĞLU, U. K., SUNGUR, E.:2007	İşletmelerde Sağlık Ve Güvenlik Kültürünün Oluşturulması; Tepe Yönetimin Rolü Ve Kurum İçi İletişim Olanaklarının Kullanımı. Yönetim , 58, 1-17.
TANGNEY, J. P., BAUMEISTER, R. F., ;BOONE, A. L.:2004	"High Self-Control Predicts Good Adjustment, Less Pathology, Better Grades, and Interpersonal Success". Journal Of Personality , 72(2), 271-324.
TAJFEL, H., TURNER, J. C., AUSTIN, W. G., WORCHEL, S.:1979	"An Integrative Theory of Intergroup Conflict". Organizational identity: A reader , 56-65.
TAYEB, M.:1988.	Organizations and National Culture . London, England: Sage.
TERZİOĞLU, M.:2007	"Uçak Kazalarının Nedeni Olarak İnsan Hatalarını Azaltmada Ekip Kaynak Yönetimi" (Doctoral dissertation, DEÜ Sosyal Bilimleri Enstitüsü).
THOMAS, M. J., PETRILLI, R. M., ;DAWSON, D.:2004	An Exploratory Study of Error Detection Processes During Normal Line Operations (Doctoral Dissertation, European Association For Aviation Psychology).
THOMSON, M. E., ÖNKAL, D., AVCIOĞLU, A., & GOODWIN, P. :2004	"Aviation Risk Perception: A Comparison Between Experts and Novices. Risk Analysis": An International Journal , 24(6), 1585-1595.

THORNE, B.:2003	Carl Rogers , London:Sage
TICE, D. M.,; BRATSLAVSKY, E.:2000	"Giving in to Feel Good: The Place of Emotion Regulation In The Context of General Self-Control". Psychological Inquiry , 11(3), 149-159.
TİTREK, O.:2007	IQ' dan EQ' ya Duyguları Zekice Yönetme. Ankara: Pegem Yayıncılık
TOMAS, J.M.; MELÍA, J.L. and OLÍVER, A. (1999).	"A Cross-Validation of A Structural Equation Model of Accidents: Organizational And Psychological Variables As Predictors of Work Safety", Work & Stress , 13(1), 49-5
TOWERS, D.:2006	"An Investigation into whether Organisational Culture is Directly Linked To Motivation and Performance Through Looking at Google Inc". British Journal of Social of Psychology , 42, 87-106.
TURNER, R. H.:1976	'The Real Self: From Institution to Impulse". American Journal of Sociology , 81(5), 989-1016.
TYLOR, E. B.:1871	Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Art, And Custom (Vol. 2). J. Murray.
U.S. FEDERAL AVIATION ADMINISTRATION (FAA): 1995	Advisory Circular 120-51B, Crew Resource Management Training.

VAILLANT, G. E.:1994	Ego Mechanisms of Defense and Personality Psychopathology. Journal of Abnormal Psychology , 103(1), 44.
VANDEWALLE, D., CRON, W. L., SLOCUM JR, J. W.:2001	"The Role of Goal Orientation Following Performance Feedback". Journal of Applied Psychology , 86(4), 629.
VEENHOVEN, R. :2003	"Hedonism and Happiness". Journal of Happiness Studies, 4(4), 437-457.
VENKATAPATHY, R:2006	"A Study on Self-Monitoring among Service and Technical Entrepreneurs." Prasanna Jackson Karunya Institute of Technology , India. Book Review, 1(2).
VOHS, K. D., & BAUMEISTER, R. F. (EDS.). :2016	Handbook of Self-Regulation: Research, Theory, And Applications. Guilford Publications.
WEINER, B.:1972	Theories of Motivation: From Mechanism to Cognition. Chicago: Rand McNally.
WEINER, B.:1980	'A Cognitive (Attribution)-Emotion-Action Model of Motivated Behavior: An Analysis of Judgments of Help-Giving". Journal of Personality and Social psychology , 39(2), 186.

WEINSTEIN, C. E., & MAYER, R. E.:1986	"The Teaching of Learning Strategies". In M. Wittrock, Handbook of Research on Teaching . 315-327. New York: Macmillan.
WEINSTEIN, N., BROWN, K. W., & RYAN, R. M.:2009	A Multi-Method Examination of The Effects of Mindfulness on Stress Attribution, Coping, And Emotional Well-Being. Journal of Research in Personality , 43(3), 374-385.
WEISS, H., SHERMAN, J.:1973	"Internal-External Control as A Predictor of Task Effort and Satisfaction Subsequent to Failure. Journal of Applied Psychology , 57(2), 132.
WICKLUND, R. A.:1975	"Objective Self-Awareness". In Advances in Experimental Social Psychology (Vol. 8, pp. 233-275). Academic Press.
WIENER, E. L.:1988	"Cockpit Automation. In Human Factors in Aviation" 433-46. Academic Press .
WIEGMANN, D. A., ZHANG, H., VON THADEN, T., SHARMA, G.; MITCHELL, A. :2002	A Synthesis of Safety Culture and Safety Climate Research. Urbana-Champaign (Ill): Aviation Research Lab Institute of Aviation .
WILMOT, M. P., DEYOUNG, C. G., SIILLWELL, D., & KOSINSKI, M.:2016	"Self-Monitoring and the Metatraits". Journal of Personality , 84(3), 335-347.

YILDIRIM, F.,; ILHAN, I. Ö.:2010	"The Validity And Reliability of The General Self-Efficacy Scale-Turkish Form". Turk Psikiyatri Dergisi , 21(4), 301.
YILMAZ, U.:2005	Havacılıkta Risk Yönetimi ve Sivil Hava Taşımacılığında Risk Sahalarının İncelenmesi. Gazi Üniversitesi Fen Bilimleri Enstitüsü, Kazaların Çevresel ve Teknik Araştırması Anabilim Dalı , Yayınlanmamış Yüksek Lisans Tezi.
YOUYOU, W., KOSINSKI, M., STILLWELL, D.:2015	Computer-based personality judgments are more accurate than those made by humans. <i>Proceedings of the National Academy of Sciences</i> , 112(4), 1036-1040.
ZELTSER, M. V., NASH, D. B. (2010)	'Approaching the Evidence Basis for Aviation-Derived Teamwork Training in Medicine". American Journal of Medical Quality , 25(1), 13-23.
ZEMAN, A.:2005	"What in the World is Consciousness?". Progress in Brain Research , 150, 1-10.
ZIMMERMAN, B. J.:2000	"Attaining Self-Regulation: A Social Cognitive Perspective". In Handbook of Self-Regulation (pp. 13-39). Academic Press.

ZIMMERMAN, B. J.:2002	"Becoming A Self-Regulated Learner: An Overview". Theory into Practice , 41(2), 64.
ZIMMERMAN, B.J., BANDURA, A.,; MARTÍNEZ-PONS, M.:1992	"Self-Motivation For Academic Attainment: The Role of Self-Efficacy Beliefs and Personal Goal Setting". American Educational Research Journal , 29, 663-676.

APPENDICES

APPENDIX 1

QUESTIONNAIRE OF THE STUDY

Değerli katılımcı,

İlgili soru formu, İstanbul Üniversitesi İşletme Fakültesi Örgütsel Davranış Anabilim Dalı Öğretim Üyesi Doç. Dr. Güven ORDUN ve Araştırma Görevlisi Cem Güney Özveren tarafından yürütülen bilimsel araştırmada kullanılmak amacıyla hazırlanmıştır.

Çalışmadan elde edilecek bilgiler yalnızca bilimsel araştırma amacıyla kullanılacak, hiçbir şahsa, makama bildirilmeyecek, çalışılan kurumdaki yöneticilerle paylaşılmayacaktır. Lütfen anket formunda isim, bölüm gibi kimliğinizi belirtecek herhangi bir ifade kullanmayınız. Anket sorularında özellikle katılımcının kimliğini ortaya çıkarabilecek sorulara yer verilmemiştir.

Verilerin doğru toplanması ve yapılacak istatistiksel analizlerin anlamlı bulunması açısından ankette hiçbir sorunun boş bırakılmaması ve sorulara içtenlikle cevap verilmesi büyük önem taşımaktadır.

Çalışmamıza zaman ayırdığınız ve çalışmamıza katkıda bulunduğunuz için teşekkür ederiz.

APPENDIX 1.1. SELF-CONTROL SCALE

	İFADELER	Kesinlikle Katılmıyorum	Katılmıyorum	Pek fazla Katılmıyorum	Biraz Katılıyorum	Katılıyorum	Tamamen Katılıyorum
1	İnsanların beni kötülüğe yönlendirmesine karşı koymada başarılıyım.						
2	Kötü alışkanlıklarımı terk etmekte zorlanırım.						
3	Tembel biriyim.						
4	Uygun olmayan şeyler söylerim.						
5	Eğlenceli olmaları durumunda benim için kötü olan bazı şeyleri yaparım.						
6	Benim için kötü olan şeyleri redderim.						
7	Daha fazla öz-disipline sahip olmayı isterdim.						
8	İnsanlar güçlü bir öz-disipline sahip olduğumu ifade ederler.						
9	Zevkli ve eğlenceli şeyler yapacağım işten beni alıkoyar.						
10	Konsantrasyon sorunun var.						
11	Uzun vadeli amaçlarıma ulaşmak için verimli biçimde çalışabilirim.						
12	Bazen yanlış olduğunu bilsem de bazı şeyleri yapmaktan kendimi alamam.						
13	Sıklıkla bütün seçenekler üzerinde düşünmeden hareket ederim.						

APPENDIX 1.2. SELF-EFFICACY SCALE

	İFADELER	Kesinlikle Katılmıyorum	Katılmıyorum	Pek fazla Katılmıyorum	Biraz Katılıyorum	Katılıyorum	Tamamen Katılıyorum
14	Eğer bir iş çok karmaşık görünüyorsa onu denemeye bile girişmem.						
15	Zorluklarla yüz yüze gelmekten kaçınırım.						
16	Hayatta karşıma çıkacak sorunların çoğuyla baş edebileceğimi sanmıyorum						
17	Bana zor görünen yeni şeyleri öğrenmeye çalışmaktan kaçınırım.						
18	Belirlediğim önemli hedeflere ulaşmada pek başarılı olamam						
19	Yeni bir şey denerken başlangıçta başarılı olamazsam çabucak vazgeçerim.						
20	Beklenmedik sorunlarla karşılaştığımda kolayca onların üstesinden gelemem.						
21	Her şeyi yarım bırakırım.						
22	Sorunlarımdan biri bir işe zamanında başlayamamamdır						
23	Kendine güvenen biriyim.						
24	Başarısızlık benim azmimi artırır.						
25	Kolayca pes ederim.						
26	Eğer bir işi ilk denemede yapamazsam başarana kadar uğraşırım.						
27	Yeteneklerime her zaman çok güvenmem.						
28	Hoşuma gitmeyen bir şey yapmak zorunda kaldığımda onu bitirinceye kadar kendimi zorlarım.						
29	Bir şey yapmaya karar verdiğimde hemen işe girişirim.						
30	Planlar yaparken, onları hayata geçirebileceğimden eminimdir.						

APPENDIX 1.3. SELF-CONSCIOUSNESS SCALE

	İFADELER	Kesinlikle Katılmıyorum	Katılmıyorum	Pek fazla Katılmıyorum	Biraz Katılıyorum	Katılıyorum	Tamamen Katılıyorum
31	Her zaman kendimi anlamaya çalışırım.						
32	Genellikle kendimin farkındayım						
33	Yapacağım işleri ne tarzda yapacağıma ilişkin kaygı yaşarım.						
34	İnsanlara nasıl görüldüğümün bilincinde olurum						
35	Yeni ortamlara katıldığımda utangaçlığımı yenmem zaman alır.”.						
36	Kendi hakkımda çok düşünürüm.						
37	Genellikle içsel duygularıma karşı özenliyimdir						
38	Kendimi diğer insanlara nasıl sunacağıma ilişkin kaygı yaşarım.						
39	Evden ayrılmadan önce yaptığım en son şeylerden birisi aynaya bakmaktır.						
40	Birisi beni izlerken çalışmakta zorlanırım.						
41	Sürekli beni motive eden şeyleri incelerim.						
42	Duygularımdaki değişikliklere karşı dikkatliyimdir.						
43	Genellikle diğer insanlarda iyi bir izlenim bırakmak için endişelenirim.						
44	Genellikle dış görünüşümün farkındayım.						
45	Çok kolay utangaçlığa kapılırım.						
46	Bazı zamanlar dışarlarda bir yerlerden, kendimi izliyormuşum hissine kapılırım.						
47	Bir problemi çözerken zihnimin nasıl çalıştığının farkında olurum.						
48	Diğer insanların hakkımda ne düşündükleri beni endişelendirir.						
49	Bir grup önünde konuşurken kendimi gergin hissederim.						

APPENDIX 1.4. SELF-REGULATION SCALE

	İFADELER	Kesinlikle Katılmıyorum	Katılmıyorum	Pek fazla Katılmıyorum	Biraz Katılıyorum	Katılıyorum	Tamamen Katılıyorum
50	Eğer istersem en zor konuları bile rahatlıkla öğrenebilirim						
51	Belirlediğim hedefler doğrultusunda çalışmalarımı yapabilirim						
52	Yeni bir şeyi rahatlıkla öğrenebilirim						
53	Bir şeyi anlamadığım zaman arkadaşlarımdan yardım isterim						
54	Bir konuyu öğrenirken yenilikleri kolaylıkla fark edebilirim						
55	Bir şeyler istemediğim şekilde giderse bu durum beni rahatsız eder						
56	Hatalarımdan öğrenebilirim						
57	Bir konuyu öğrenirken o dersteki notlarıma bakarak başarımlı sorgularım						
58	Bir konuyu öğrenirken farklı yollar bulmaya çalışırım						
59	Başarısız olduğumda çalışma yöntemimi değiştiririm						
60	Hedeflerime doğru ilerleme sürecimi takip edebilirim						
61	Bir konuyu öğrenirken karşılaştığım problemlerin çözümü için farklı yollar geliştiririm						
62	Bir konuyu öğrenirken yapmış olduğum plana uyarım						
63	Çoğu zaman bir konuyu öğrenirken neler yaptığıma dikkat ederim						
64	Yanlış öğrendiğimi fark ettiğim bir şeyi değiştirmek için birçok farklı yolu deneyebilirim						

APPENDIX 1.5. SELF-MONITORING SCALE

	İFADELER	Kesinlikle Katılmıyorum	Katılmıyorum	Pek fazla Katılmıyorum	Biraz Katılıyorum	Katılıyorum	Tamamen Katılıyorum
65	Sosyal durumlarda başka bir şeyin istendiğini hissettiğimde, davranışımı değiştirme yeteneğim vardır.						
66	İnsanların gerçek duygularını gözlerinden doğru olarak okuyabilirim.						
67	Vermek istediğim izlenime bağlı olarak insanların karşısına çıkma biçimlerimi kontrol etme yeteneğim vardır.						
68	Biriyle konuşurken, karşımdakinin yüz ifadesindeki en ufak bir değişikliğe bile duyarlıyım.						
69	Diğer insanların duygu ve isteklerini anlama konusunda sezgisel güçlerim vardır.						
70	İnsanlar inandırıcı bir şekilde gülseler bile, bir şakayı kötü bulduklarını anlayabilirim.						
71	Sergilediğim imajın işe yaramadığını hissettiğimde, bunu kolaylıkla işe yarar başka bir imajla değiştiririm.						
72	Söylediğim bir şeyin uygunsuz olduğunu, dinleyenin gözlerinden anlayabilirim.						
73	Davranışlarımı farklı insanlara ve farklı ortamlara uyacak şekilde değiştirme konusunda sorun yaşıyorum.						
74	Davranışımı, içinde bulunduğum herhangi bir ortamın gereklerini karşılayacak şekilde ayarlayabildiğimi fark ediyorum.						
75	Eğer birisi bana yalan söylüyorsa, bunu o kişinin davranışlarından hemen anlarım.						
76	Ortamın gerektirdiklerini bildikten sonra davranışlarımı buna göre düzenlemek benim için kolaydır.						

APPENDIX 1.6. SAFETY CULTURE SCALE

	İFADELER	Kesinlikle Katılmıyorum	Katılmıyorum	Pek fazla Katılmıyorum	Biraz Katılmıyorum	Katılıyorum	Tamamen Katılıyorum
77	İş arkadaşlarım, iş yerinde emniyet politikalarının farkındadır.						
78	İş arkadaşlarım, iş yerimizin emniyet hedeflerinden haberdardır.						
79	İş arkadaşlarım, iş yerimizde emniyetli çalışma için gerekli olan prosedürlerden haberdardır.						
80	İş yerimizin emniyet politikası ile çalışma usulleri, emniyet konusundaki sözlerini doğru bir şekilde yansımasıdır						
81	Emniyet gereklerine uyma, emniyet kültürünün sürdürülmesinde esas teşkil etmektedir.						
82	İyi bir emniyet kültürünün geliştirilmesi ve artırılması için üst yönetimin açık bir desteği vardır.						
83	İş yerimde olumlu bir emniyet kültürünün uygulanması ve sürdürülmesi için yeterli kurumsal destek bulunmaktadır.						
84	Emniyetten sorumlu yönetici, emniyetin uygulanması ve geliştirilmesi için gerekli olan kaynakların tam kontrolüne sahiptir.						
85	Sağlıklı ve iyi iletişim ve bilgi paylaşımı, emniyet kültürünün geliştirilmesinde anahtar olarak görülmektedir.						
86	İş arkadaşlarım, iş yerimde emniyet raporlama sisteminden haberdardır.						
87	İş arkadaşlarıma olaylar ve kazalar sonucu hazırlanan "öğrenilen dersler" hakkında düzenli olarak bilgi verilir.						
88	Diğer kurumların deneyimlerinden öğrenme isteği vardır.						
89	Emniyet konusundaki herhangi bir endişe, cezalandırıcı olmayan bir atmosferde etkili bir şekilde bir üst kademeye iletebilir.						
90	Emniyet endişeleri ortaya çıktığında; zamanında ve kapsamlı bir şekilde ele alınmaktadır.						
91	İş yerimde emniyet eğitimi, daha iyi bir emniyet kültürü oluşturma'nın ayrılmaz bir parçası olarak görülüyor.						
92	Kuruluşun emniyet politikası, yönetmelikleri ve çalışma usulleri, tüm çalışanlar arasında periyodik olarak eğitim veya toplantı yapılarak dağıtılır ve personel bilgilendirilir.						
93	Emniyet eğitimi, pratik çalışma koşullarımıza çok yardımcı olur.						
94	Emniyet eğitiminin sıklığı, içeriği ve yöntemi kuruluşumda uygundur.						
95	Herkes, örgütsel emniyetin artırılması için kendi bilgi ve becerilerini geliştirmeye ve uygulamaya teşvik edilir.						
96	İş arkadaşlarım emniyet tehditlerini tanımlamak ve aşmak için sürekli çalışıyorlar.						
97	İş arkadaşlarım kendi çalışmalarının tehlikelerini ve risklerini tam olarak anlamışlardır.						
98	İş arkadaşlarım her zaman emniyetli çalışma yöntemlerini takip ederler.						
99	Yönetim, gerçek insan hatası ile kasıtlı ihlaller arasında ayrım yapmaktadır.						

100	Kabul edilebilir ve kabul edilemez davranışlar açıkça tanımlanmış ve anlaşılmıştır.						
101	Rapor edilen emniyet kaygıları analiz edilir ve uygun bir müteakip işlem uygulanır.						
102	Emniyet raporları, herkesin ders çıkarması için hat personeline düzenli olarak tebliğ edilir.						
103	İş yerimde emniyet olayları ve kazalar meydana geldiğinde uygulanacak acil eylem planları vardır.						
104	İşyerindeki emniyet tesisleri iyi kurulmuş ve muhafaza edilmiştir						
105	Emniyet için görevlendirilmiş yeterli insan gücü ve kaynak var.						
106	İş yerimde emniyet kültürü mükemmel ve örnek niteliğindedir.						

APPENDIX 2: REGRESSION RESULTS OF SELF CONCEPT AND SAFETY CULTURE AND THEORIC EXAM PERFORMANCE

APPENDIX 2.1. Regression Results of Self-Concept and Theoric Exam Performances of Pilot Candidates

**Table 2.1.1. Model Summary of Self-Control and Theoric Exam Performance
Performance**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,339 ^a	,115	,112	,85707

a. Predictors: (Constant), Self-Control

**Table 2.1.2. Coefficient Table of Self-Control and Theoric Exam Performance
Performance**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-,620	,569		-1,089	,277
Self-Control	,747	,132	,339	5,658	,000

a. Dependent Variable: Theoric Exam Performance

Table 2.1.3. Model Summary of Self-Consciousness and Theoric Exam Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,172 ^a	,030	,026	,90041

a. Predictors: (Constant), Self-Consciousness

Table 2.1.4. Coefficient Table of Self-Consciousness and Theoric Exam Performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1,152	,526		2,190	,029
Self_Consciousness	,363	,133	,172	2,733	,007

a. Dependent Variable: Theoric Exam Results

Table 2.1.5. Model Summary of Self-Regulation and Theoric Exam Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,191 ^a	,036	,032	,89071

a. Predictors: (Constant), Self_Regulation

Table 2.1.6. Coefficient Table of Self-Regulation and Theoric Exam Performance

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
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		B	Std. Error	Beta		
1	(Constant)	1,152	,526		2,190	,029
	Self Consc	,363	,133	,172	2,733	,007

a. Dependent Variable: Theoric Exam Performance

Table 2.1.7. Model Summary of Self-Monitoring and Theoric Exam Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,150 ^a	,022	,018	,89712

a. Predictors: (Constant), Self-Monitoring

Table 2.1.8. Coefficient Table of Self-Monitoring and Theoric Exam Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,217	,583		2,090	,038
	Self Mon	,336	,142	,150	2,369	,019

a. Dependent Variable: Theoric Exam Performance

Table 2.1.9. Model Summary of Self-Efficacy and Theoric Exam Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,211 ^a	,044	,040	,89176

a. Predictors: (Constant), Self-Efficacy

Table 2.1.10. Coefficient Table of Self-Efficacy and Theoric Exam Performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-,126	,806		-,157	,876
Self_Effic	,615	,182	,211	3,373	,001

a. Dependent Variable: Theoric Exam Performance

APPENDIX 2.2. Regression Results of Safety Climate and Theoric Exam Performances of Pilot Candidates

Table 2.2.1. Model Summary of Safety Climate and Theoric Exam Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,257 ^a	,066	,062	,87320

a. Predictors: (Constant), Safety Climate

Table 2.2.2. Coefficient Table of Safety Climate and Theoric Exam Performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	,928	,403		2,301	,022
Safety_Climate	,399	,097	,257	4,129	,000

a. Dependent Variable: Theoric Exam Performance