The Effects of Implicit Theories of Intelligence on Flow and Job Satisfaction Mediated by Goal Orientation

by

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STATEMENT OF AUTHORSHIP

This thesis contains no material which has been accepted for any award or any other degree or diploma in any university or other institution. It is affirmed by the candidate that, to the best of her knowledge, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

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ABSTRACT

The effect of implicit theories of intelligence on goal orientation as well as the effect of goal orientation on flow and job satisfaction were investigated in this study. Participats were 130 theater actors and 117 teachers. In both samples individuals with an incremental theory of intelligence were found to adopt learning goals more than individuals with an entity theory of intelligence. Learning oriented individuals scored significantly higher on flow than performance oriented individuals in both samples. In actor sample learning oriented individuals also scored significantly higher on job satisfaction. Skill variety moderated the relationship between goal orientation and flow in actor sample, and goal orientation and job satisfaction in teacher sample. This study was the first one to separate flow scale items to construct two dimensions, and explore the relationships between these two dimensions and other study variables.

Keywords: Implicit intelligence theory, goal orientation, job satisfaction, flow

ÖZET

Örtülü zeka inanışlarının hedef oryantasyonu üzerindeki etkisi ve hedef oryantasyonunun da akış ve iş tatmini üzerlerindeki etkisi araştırılmıstır. İki ayrı örneklem grubu bulunan bu araştırmaya 130 adet tiyatro oyuncusu ve 117 adet ilköğretim okulu öğretmeni katılmıştır. Her iki örneklem grubunda da zekanın gelişebilirliğine inananların gelişemeyeceğine inananlara oranla daha fazla öğrenme hedefi seçtikleri görülmüştür. Öğrenme hedefi seçen katılımcıların da performans hedefi seçenlere oranla daha fazla akış duygusuna kapıldıkları her iki grupta saptanmıştır. Yalnızca tiyatro oyuncuları grubunda öğrenme hedefi seçenlerin performans hedefi seçenlere göre daha yüksek iş tatmini yaşadıkları sonucuna varılmıştır. Sahip olunan işin gerektirdiği becerilerin çokluğu hedef oryantasyonunun akış üzerindeki etkisinde rol oynamaktadır. Bu araştırma akış kavramını iki ayrı boyutta inceleyip bu boyutların farklı değişkenlerle ilişkilerini saptayan ilk araştırmadır.

Anahtar Kelimeler: Örtülü zeka inanışları, hedef oryantasyonu, iş tatmini, akış

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Chapter 1

INTRODUCTION

1.1 The Aim of the Present Study

In a world where a living is "earned," and TGIF[1] is a widely accepted feeling, how can one be happy by spending most of her life at work? This research aims to extend the literature that helps to answer this question with a dispositional point of view. Combined with an interest in the effects of implicit theories of intelligence, goal orientation is explored as a dispositional antecedent of flow and job satisfaction.

The present research is comprised of two parts. The first part aims to understand the relationship between implicit theories of intelligence and goal orientation. The second part investigates the effects of goal orientation on two different constructs, job satisfaction and flow, both of which have implications for

[1] TGIF is an abbreviation for "Thank God It's Friday" indicating the enthusiasm that the workweek will soon be finished and the weekend will start.

employees' welfare. The question of whether these effects are affected by skill variety is also explored. Then, a combination of all of these relationships is tested in a conceptual model.

Implicit theory of intelligence refers to beliefs about changeability of intelligence. Some people believe that intelligence is a fixed quality which is impossible to cultivate. Dweck and Leggett (1988) have called this belief an entity theory of intelligence. At the other end of the spectrum of implicit theories lies incremental theory of intelligence. Incremental theorists believe it is possible to improve intelligence, if one is willing to put enough effort into it.

There is a considerable amount of literature advocating the idea that implicit theory of intelligence affects goal orientation. Goal orientation is an individual disposition for goal preference in achievement situations (VandeWalle, Ganesan, Challagalla & Brown, 2000). Although different names have been used in the literature, there are two basic types of goal orientations, performance and learning. Those with a performance goal orientation seek to demonstrate and validate their ability or intelligence by seeking favorable judgments or avoiding unfavorable ones. In contrast learning oriented individuals seek to develop themselves by choosing challenging work that helps them master new situations.

Individuals with an entity theory have been found to prefer performance goals. Research suggests certain reasons for this relationship. Entity theorists evaluate their

own ability based on the end results of the activity they engage in. Instead of focusing on the process, they only consider the outcome. On top of that, they conclude that they lack global ability when they fail on a task rather than accepting a lack of success for that specific task at that specific time. Having a performance goal orientation, in turn, leads to a preference for tasks one is most likely to succeed.

Individuals with an incremental theory, on the other hand, have repeatedly been shown to prefer learning goals. The belief that intelligence can be improved by developing intellectual potential directs them to take on challenges and to persist in the case of obstacles. An important consequence of taking on challenges and persistence is learning, which is also an ingredient to improve intelligence. Therefore, they prefer learning goals, and care about improving themselves rather than proving their current abilities and intelligence.

While the relationship between implicit theories and goal orientation has been studied thoroughly in educational and developmental psychology, there are only a few studies with adults or in work settings (e.g., Vandewalle, 1997; Steele-Johnson, Beauregard, Hoover & Schmidt, 2000; Dupeyrat& Marine, 2001; Harris, Mowe & Brown, 2005). Due to the different environment in the work setting where performance is evaluated rather than learning, the results of the previous studies can not be easily generalized to industrial psychology. This study aims to contribute to the literature by examining this relationship in work settings.

Besides testing the relationship between implicit theories of intelligence and goal orientations in work settings, this study will examine job satisfaction and flow as consequences of these constructs. Csikszentmihalyi proposed the construct called flow, and defined it as an optimal state of experience, a total involvement in the task at hand that results in loss of self-consciousness and the sense of time (Csikszentmihalyi, 2002). He describes the experience as follows, "your concentration is very complete, your mind isn't wandering, you are not thinking of something else; you are totally involved in what you are doing" (Csikszentmihalyi, 1975, p. 39, cited in Mainemelis, 2001).

Studies consistently indicate that experiencing flow frequently and intensely in daily activities fosters overall subjective well-being and good performance in study and work contexts (Moneta, 2004a; p. 116). This makes flow experience an important variable in organizational behavior. A relationship between learning orientation and flow has been demonstrated in sports settings (Jackson & Roberts, 1992; Oh, 2001) and other situations (Novak, Hoffman & Duhachek, 2003), but not in work settings. The present study aims to contribute to industrial psychology literature by exploring the prediction of flow through goal orientation in work settings.

The relationship between goal orientation and job satisfaction is also addressed. With regard to the affective outcome of job satisfaction, research on achievement goal demonstrates that learning-oriented individuals derive more satisfaction and enjoyment from their efforts to reach their goals than performance-oriented individuals do (e.g., Barron & Harackiewicz, 2000; Elliot, 1999;

Harackiewicz, Barron, Carter, Lehto & Elliot, 1997; Pintrich, 2000a; Van Yperen & Janssen, 2002). Therefore, job satisfaction is expected to be influenced by goal orientation. Janssen and Van Yperen (2004) have found that learning orientation is positively related to job satisfaction. The same relationship will be investigated in this study.

Goal orientation's influence on flow and on job satisfaction is expected to be affected by skill variety. Skill variety refers to the need to use a number of different abilities and skills to accomplish a task, and is considered to be a job characteristic related to intrinsic motivation (Hackman & Oldham, 1975). Although there is no literature on this issue, the justification for the expectation comes from the definition of the two goal orientations. Learning oriented individuals prefer variable tasks so that they improve themselves as they face the challenges they choose. On the contrary, performance oriented individuals prefer tasks that they had accomplished before, so that they know they are less likely to fail than if they had chosen new tasks. Although skill variety is not the same with task variety, those more variable tasks would require more variable skills. As a result of the difference between the two goal orientations, skill variety is expected to have different effects for each goal orientation. In other words, an interaction effect of goal orientation and skill variety is expected on flow and job satisfaction.

1.2 The Research Questions

The present study addresses the following questions:

1. What is the relationship between an individual's implicit theory of intelligence (i.e. incremental versus entity) and goal orientation (i.e. learning versus performance)?
2. Does goal orientation have a relationship with flow experience?
3. Does goal orientation have a relationship with job satisfaction?
4. Does goal orientation mediate the relationship between implicit theory of intelligence and flow experience?
5. Does goal orientation mediate the relationship between implicit theory of intelligence and job satisfaction?
6. Does the required variety of skills for one's job have an effect on the way goal orientation predicts flow? In other words, if a goal orientation type is found to increase flow experience, is this relationship affected by skill variability?
7. Does the required variety of skills for one's job have an effect on the way goal orientation predicts job satisfaction? In other words, if a goal orientation type is found to increase job satisfaction, is this relationship affected by skill variability?

Chapter 2

LITERATURE REVIEW

2.1 Implicit Theories of Intelligence

Implicit theories are defined as personal constructions about a particular phenomenon that reside in the minds of individuals (Sternberg, Conway, Ketron, & Bernstein, 1981, cited in DeFrates-Densch, Smith, Schrader, & Ríque, 2004). These constructions, which are basically people's fundamental assumptions, are involved in constraining their attentional and encoding processes (Plaks, Stroessner, Dweck & Sherman, 2001). Therefore, it is important to understand a person's implicit theory about a phenomenon in order to comprehend certain behaviors that might be the result of that theory.

The two ends of the implicit theory continuum are entity theory and incremental theory. Entity theorists believe that a trait is an entity that is impossible to change,

whereas incremental theorists believe that improvement of that trait is possible. Dweck and Leggett (1988) indicate that the two theories about one's personal attributes may be seen as fundamentally different ways of conceptualizing the self, such that entity and incremental theories represent two different forms of self-concept. "Within a generalized entity theory, the self would be conceptualized as a collection of fixed traits that can be measured and evaluated. Within an incremental theory, the self would be seen as a system of malleable qualities that is evolving over time through the individual's efforts" (Dweck & Leggett, 1988, p. 266).

At first glance the differentiation between the two implicit theories may seem very similar to external and internal locus of control. However, locus of control deals with perceptions of control over events or outcomes, whereas implicit theories appear earlier in the psychological chain. Implicit theories may set up the locus of control beliefs because they deal with the perceptions of control over the basic attributes that influence the events and the outcomes (Dweck & Leggett, 1988).

Implicit theory of intelligence[1] is a view about the malleability of intelligence. Some people believe that intelligence is a fixed trait, with each person having a finite amount. According to this view certain individuals are lucky to be highly intelligent, and others are not. Furthermore, mobility between intelligence levels is not possible since it is attributed as a "given" that can not be improved. This view is called the entity theory of intelligence, which will be referred to as entity theory. Other people, in contrast, view

[1] Due to the controversial nature of 'intelligence,' it is perhaps necessary to state that the word 'intelligence' is used for general ability throughout this thesis.

intelligence as a potential that can be improved in time. Accordingly, everyone has a chance to get smarter by developing their intellectual potential. Therefore, the important thing is to grow intellectually by taking on challenges and working hard. This view has been called an incremental theory of intelligence (Dweck, 1999), and will be referred to as incremental theory. "[The conceptualization of implicit theories of intelligence was] independently proposed by Dweck (Dweck & Bempechat, 1983) and Nicholls (1978)" (Bempechat & London, 1991).

According to Dweck the implicit theory of one's own intelligence is not explicit knowledge (Ziegler, 2001). People usually do not rate human attributes as stable or modifiable entities consciously, but rather implicitly. Every individual has a belief that affects her actions or evaluations of herself and others, but the existence of that belief might not be recognized by that individual. The studies of Bempechat and London (1991) show the development of children's implicit theories. In the early grades, children tend to have a single theory for all attributes. By third grade, they begin to distinguish between attributes and apply different theories to different attributes. Then by fifth grade, the differentiation process apparently continues causing their theories to determine how they will judge the attributes of others. By this time, all children endorse one of the theories for each attribute, whether they are judging intelligence, prosocial behavior, physical skills, or physical appearance. Giota (2006) states that individuals' beliefs about the self are hierarchically organized, and they are about general or global competence as well as specific ability.

The external validity of Dweck's implicit theory differentiation does not appear to be limited to children or student samples. Implicit theories affect assessments of others, even when the assessments are made by managers performing the role-salient task of appraising observed job behaviors (Heslin, Latham & VandeWalle, 2005). This signifies the importance of understanding implicit theories and their consequences in the workplace.

Spinath, Spinath, Riemann and Angleitner (2003) have recently examined the extent to which implicit theories are related to actual intelligence. With a sample of 592 adults, they showed that implicit theories about the malleability of intelligence are unrelated to actual intelligence. Therefore, high discriminant validity of the implicit theory construct has been demonstrated. Although no intelligence effect was ever found for implicit theories, some studies have indicated that incremental theorists and entity theorists differ in the way that they evaluate their own intelligence, which will be discussed as an effect of implicit theories of intelligence.

Implicit theories also showed no significant correlations with gender, social political attitudes or self-presentational concerns such as self-confidence in personal capability, optimism and age (Spinath & Stiensmeier-Pelster, 2001). Cheng and Hau (2003) concluded that "from a developmental perspective, it seems the entity-incremental conception is formed at a relatively young age (at senior elementary education level) and

is relatively invariant over age" (p. 744) confirming the lack of correlation with age and implicit theories.

Implicit theories of intelligence have usually been considered as a continuum from an entity to an incremental theory such that a person who rejects an entity theory logically endorses an incremental theory. However, there are some studies where the two types of implicit theory were found to be independent (Faria & Fontaine, 1997; Stipek & Gralinski, 1996; Dupeyrat, 2005). In the present study, factor analysis as well as the correlation between the two implicit theories reveals their structure.

2.1.1 Effects of Implicit Theories of Intelligence

The model of implicit theories was first presented by Dweck (1986) as a result of an effort to understand why measures of children's actual competence do not strongly predict their confidence of future attainment (Bandura & Dweck, 1985; Stipek & Hoffman, 1980). Studies disclosed the factor influencing children to seek or to avoid challenges, to persist or to withdraw in the face of difficulty to be their implicit theory of intelligence. Numerous studies with children, adolescents and adults showed that implicit theories are related to self-evaluation, reactions to failure and helplessness.

Entity theorists prefer easy tasks to make themselves look smart. When in challenging situations, they are much more likely to give up and show helpless behavior than incremental theorists. They view effort as a sign of low ability because a person with

high ability would not need to exert effort according to their belief. They feel smartest when they perform a task easily, without errors and quicker than peers. Not only do they doubt their global intelligence when faced with failure, but also they are more likely to judge their entire intelligence on the basis of failure experience and be depressed.

On the contrary, incremental theorists show mastery-orientation instead of helplessness. They view failure as a sign of inadequate strategy or present skills, so they try harder or change their strategies to succeed rather than to quit. They want to meet challenges and persist in challenging situations since they think that even geniuses need effort for achievement. Incremental theorists feel smartest when they confront the challenge of difficulty and confusion, and when they can use their abilities to help their peers learn. When they are depressed, incremental theorists maintain active coping in their lives (Dweck, 1999). Specific studies exploring the effects of implicit theories of intelligence will be discussed separately based on their effects.

2.1.1.1 Self-evaluation

Incremental and entity theorists differ in the way that they evaluate their own intelligence (Leonardelli, Hermann, Lynch & Arkin, 2003). Especially after receiving negative feedback in a performance setting, entity theorists have lower self-rated intelligence than incremental theorists (Dweck, 1999). In a series of studies by Hong, Dweck, Chiu, Lin and Wan (1999), entity theorists – regardless of their level of self-confidence – were less likely both to make effort attributions and to take remedial actions

in the face of setbacks when compared to incremental theorists. In other words, they attributed the negative outcome to their intelligence denying the role of effort. Therefore, if someone was unable to succeed, they believed that it was because of his/her stable intelligence. Since they believe that achievement is not about effort, but a stable entity, putting out more effort is irrelevant. By reducing their effort they also protect their perceived ability, since they believe that effort implies low ability.

Another study demonstrated the same results by giving negative feedback to children when they presented their solutions to the instructed problems. Regardless of whether or not their solutions were correct, all children were told that their answers were wrong. After the feedback, they were presented with more problems, and it was observed that entity theorists took significantly longer than incremental theorists to complete them after the failure experience (Bempechat & London, 1991). Previous research suggests that this was because the entity theorists were doubtful about their competence to solve the problems after they received negative feedback.

2.1.1.2 Helplessness / Mastery Orientation

When an entity theorist is faced with negative feedback causing him to evaluate his own attribute to be low, he is likely to show helpless behavior. A failure of an entity theorist creates a concern with the adequacy of his uncontrollable, permanent intelligence because negative outcomes reflect negatively on the attribute. The result of negative self-evaluation inevitably causes helpless behavior when the same challenge is faced again.

Incremental theorists, in contrast, are not focused on linking the outcome to their attribute. Failure implies to them only the current inadequacy of intelligence and lack of sufficient effort for that specific task. They believe that future effort can be directed at further development, and end in success (Burhans & Dweck, 1995). Jagacinski and Nicholls (1990) point out that "there is evidence [(Frankel & Snyder, 1978; Miller, 1985; 1986; Snyder et al., 1981)] that, for adolescents and adults, performance is especially impaired when individuals expect to fail on tasks where failure indicates low ability." This is in compliance with implicit theory because failure indicates low ability for entity theorists.

2.1.1.3 Praise for Trait or Effort

Entity theorists evaluate their global ability based on performance. In six studies, Mueller & Dweck (1998) showed that, regardless of the implicit theory, praise for intelligence based on performance creates the same negative results as entity theory does. In their studies, later grade school students worked on a task, succeeded nicely on the first set of problems, and received praise. Randomly chosen, some students received praise for their intelligence, and others received praise for their effort. It was found that praising students' intelligence, even after truly admirable performance, made them feel good in the short run, but it had many negative effects in the long run. In contrast, praising students' effort had many positive effects such as encouraging them to put effort in whatever work they do. The results were confirmed by Kamins & Dweck (1999) that person (trait-related) feedback fosters helpless reactions, whereas process (examining

strategies or effort) related feedback fosters learning orientations. Therefore, praising trait instead of the effort creates reactions very similar to the entity theorists'.

2.2 Goal Orientation

In industrial and organizational psychology there is a whole body of research on goal-setting, but not much emphasis put on goal orientation. Most of the goal literature consists of investigating individuals' performance on a task (Farr, Hofmann & Ringenbach, 1993). It is found that performance tends to increase monotonically with goal difficulty (Bobko & Colella, 1994). However, individuals can approach the task with different goal orientations where the type of goal varies rather than the difficulty. In line with Locke and Latham's (1990) premise that personal goals are an immediate regulator of one's actions, goal orientation will be investigated in this research.

"A goal is the purpose for which an individual is pursuing a behavior" (Dweck, 1996, p. 350), and a "goal orientation" refers to goal preferences in achievement settings (Dweck, 1986). The construct of goal orientation was first defined by Eison (1979) in an attempt to apply McClelland's achievement motivation theory to the classroom. McClelland's theory of needs considers need for achievement as one of the three needs that help explain motivation.[2] It is defined as the drive to excel, to achieve in relation to a set of standards, and to strive to succeed (Robbins, 2003). Considering the study results

[2] According to McClelland's theory of needs, achievement, power and affiliation are three important needs that help to explain motivation.

of his attempt, Eison made a conceptual distinction between students having a learning orientation or a grade orientation:

> The term "learning orientation" was used to describe the predominant attitude held by those students who approach the college experience as an opportunity to acquire knowledge and to obtain personal and educational enlightenment. "Grade orientation" was used to describe an attitude held by other students that obtaining a course grade, in and of itself, is a reason for their being and doing in the classroom. (Eison, 1979, p. iv, cited in Beaubien & Payne, 1999)

Several years after Eison, the concept of learning and performance goals was introduced to the developmental literature by Dweck and Nicholls separately. Goal orientation gained the attention of industrial and organizational psychologists a decade after its use in developmental psychology, in the early 1990's (VandeWalle, Cron & Slocum, 2001).

Dweck (1986) and Nicholls, Patashnick and Nolen (1985) identified two major classes of goal orientations, learning and performance. Learning goals are those that increase one's competence while reflecting a desire to learn and understand new things, and master new tasks. Individuals with a learning goal orientation aim to develop themselves by improving their ability and acquiring new skills. In contrast, performance goals are about winning positive judgments of one's competence and avoiding negative ones. Individuals with a performance goal orientation prefer situations that demonstrate

and validate the adequacy of their ability as they seek to gain favorable judgments and to avoid negative judgments about their ability (Dweck, 1986).

Learning goals have also been called mastery goals, task goals and intrinsic orientation, and performance goals have also been called ego-involved goals, ability goals and extrinsic orientation by different researchers. Although the names differ, the definitions of the two orientations are so similar that the names have been used interchangeably, and meta-analyses of the studies were possible (Beaubien & Payne, 1999; Payne, Youngcourt & Beaubien, 2006).

Similar to implicit theories of intelligence, goal orientation is not related to cognitive abilities. A sample of 425 academically talented students, all of whom scored in the top three percent on a standardized achievement test varied widely in their goals for achievement (Ablard, 2002). The meta-analysis by Payne et al. (2006) also concluded that goal orientation has no relationship with intelligence.

The literature on goal orientation shows that it was sometimes captured as a trait measure and sometimes as a state measure. Most of the publications neglect the difference between the two, although it is crucial for addressing the construct. Some studies conclude that goal orientations change over time, but they do not discuss the trait/state issue, and most of them do not even mention the characteristics of the scale they used which incorrectly implies changes in trait goal orientation. A recent article (Gehlbach, 2006), for instance, concluded that substantial changes occurred in students'

goal orientations over the period of a year. This was because they employed a state measure (i.e. Patterns of Adaptive Learning Survey), which was not even mentioned in the article, but can be inferred because they manipulated goal orientation. A few studies were conducted for the purpose of distinguishing between trait and state goal orientations.

Button, Mathieu and Zajac (1996) measured both dispositional goal orientation and situational goal orientation to advance measurement clarification. The items of the dispositional goal orientation measure were about the orientation preference of the participant in general. The situational goal orientation measure asked participants to rate their likelihood of experiencing various achievement thoughts in relation to a computer simulation activity. Having obtained data from two measures of goal orientation, they tested two models using confirmatory factor analysis.

In the first model, a two-factor model, they placed both situational and dispositional learning orientation items into one factor and both situational and dispositional performance orientation items into the second factor. In the second model, a four-factor model, they placed each orientation into a separate factor (i.e. dispositional learning orientation, situational learning orientation, dispositional performance orientation, situational performance orientation). Their results showed that the four-factor model was significantly a better fit to the data, which supported their hypothesis that dispositional and situational goal orientations are distinguishable from one another.

Button et al. (1996) also demonstrated that learning and performance goal orientation could be assessed as both trait and state goal orientations.

Chen, Gully, Whiteman and Kilcullen (2000) attempted to clarify the constructs of state and trait goal orientation by separately measuring trait goal orientation and state goal orientation, and their effects on learning performance. They found that state goal orientation tended to mediate the relationship between trait goal orientation and learning performance. They concluded that their results provided support for the separation of state and trait goal orientation as two distinct constructs.

Jagacinski and Duda (2001) compared results obtained using three different goal orientation measures. Two were state measures, the Patterns of Adaptive Learning Survey (Midgley, Maehr, Hicks, Roeser, Urdan, Anderman, & Kaplan, 1996) and the Task and Ego Motivation Orientation Scales (Nicholls, 1989; Nicholls et al., 1985), and one was a trait measure, Button et al.'s (1996) General Learning and Performance Scale. They reported that individuals possess both general achievement goal orientation and situation-derived achievement goal orientation.

The final study regarding the trait/state distinction was conducted by Ward, Rogers, Byrne and Masterson (2004). They used Button et al.'s (1996) measure of dispositional goal orientation to assess trait goal orientation. Then, they presented the participants with tasks that emphasize high individual performance and competition with others. After the completion of the tasks, they distributed both the trait goal orientation

scale and a situational goal orientation scale. In order avoid confounding variables that might arise from the difference of the scales, situational goal orientation scale was developed by modifying the items from the Button et al. (1996) measure to reflect and measure learning and performance goals with respect to the task performed within the context of the study. The results exhibited that trait learning goal orientation remained stable across time and situation, whereas situational goal orientation results differed from the trait goal orientation. Therefore, existence of a distinction between trait and situational measures were supported "indicating that dispositional goals toward acquiring new skills are relatively unaffected by the introduction of a performance-oriented, competitive task" (p. 12).

The research of Button et al. (1996), Chen et al. (2000), Jagacinski and Duda (2001), and Ward et al. (2004) support the separation of state goal orientation and trait goal orientation as two distinct constructs. Trait goal orientation represents one's goal preferences in achievement situations, and state goal orientation is specific to the task and context at hand (Payne et al., 2006). The present study considers Button et al's (1996) definition of goal orientation "as a relatively stable individual difference variable," employing trait goal orientation. However, some studies employing state goal orientation will also be reviewed because most studies have used state goal orientation measures.

Though there is a lack of literature on the difference between state and trait goal orientations other than the four articles discussed above, it is possible to speculate that the effects of goal orientation might be similar for both trait and state goal orientations. In

other words, an individual with a trait learning orientation is less likely to be performance oriented for a specific task than a trait performance oriented individual. However, once they are both primed to be performance oriented, the effects of this orientation might be similar for both individuals for that specific task.

2.2.1 The Dimensionality of Goal Orientation

The dimensionality of goal orientation has created a debate in the literature for a long time. Researchers agree that goal orientation is a multi-dimensional construct; however, different numbers of dimensions have been employed by different researchers. The model of Dweck and Leggett (1988) had considered goal orientation as a single continuum from learning to performance. However, a short time after their proposal studies (e.g., Nicholls, Cobb, Wood, Yackel & Patashnick, 1990; Heyman, Dweck & Cain, 1992; Farr, Hofmann & Ringenbach, 1993; Roedel & Schraw, 1995; Button et al., 1996) displayed that the two goal orientations are separate and distinct from each other. According to this view, scoring high on one orientation does not mean scoring low on the other, since one could pursue both orientations. There was a common agreement among the researchers that learning orientation and performance orientation were the two and only goal types and they were distinct. This view was not challenged until Elliot and Harackiewicz (1996) revised the dichotomous framework to a trichotomous framework.

In his achievement motivation theory, McClelland (1951; cited in Elliot and Harackiewicz, 1996) had stated that one kind of achievement motivation is oriented

towards avoiding failure and the other kind is oriented towards a more positive goal of attaining success. Elliot and Harackiewicz (1996) proposed this dichotomy to be expanded to incorporate independent approach and avoidance components within performance goal orientation resulting in a trichotomous goal orientation framework. Vandewalle (1997) also proposed goal orientation to be a three-factor construct as he developed a work domain goal orientation scale. According to the trichotomous framework, performance-approach orientation is conceptualized as a desire to demonstrate competence, whereas performance-avoidance orientation reflects a desire to avoid negative evaluations of competence. Brett and Vandewalle (1999) emphasize that "separating the performance goal orientation into approach and avoidance dimensions captures the distinction between positive and negative self-evaluation … [and] it is likely that the two orientations have separate implications for the type of goals individuals set while viewing a task" (p. 864).

More recently Elliot and McGregor (2001) proposed the approach-avoidance dichotomy to be expanded to both performance and learning orientations. In addition to the two-factor performance goal orientation, they defined learning-approach and learning-avoidance goal orientations. Those with a learning-approach orientation focus on learning itself. The development of their skills and learning, understanding the material and completing a task are essential for them. Those with a learning-avoidance orientation, on the other hand, focus on not losing what they have learned. They aim to avoid losing their skills, forget what they have learned, misunderstand material, leave a task incomplete or do worse than they had done previously. Results of Fortunato and

Goldblatt (2006) study support the use of four orientations as they differ uniquely for their effects on many variables[3].

After the introduction of three and four goal orientation types to the literature, some researchers kept advocating, and thus used frameworks of two or three orientations. The most widely used instruments of goal orientation are Button, Mathieu and Zajac's (1996) two-factor scale (e.g., Phillips & Gully, 1997; Fisher & Ford, 1998; Colquitt & Simmering, 1998; Ford, Smith, Weissbein, Gully & Salas, 1998; Steele-Johnson, Beauregard, Hoover & Schmidt, 2000; Mangos & Steele-Johnson, 2001; Brown, 2001; Kozlowski, Gully, Brown, Salas, Smith, & Nason, 2001; Bell & Kozlowski, 2002; Ward et al, 2004) and Vandewalle's (1997) three-factor scale (e.g., VandeWalle & Cummings, 1997; Brett & VandeWalle, 1999; VandeWalle, Cron & Slocum, 2001). "From the review of [the studies that have employed different approaches], it is unclear whether goal orientation is best represented by two or three factors" (McKinney, 2003; p. 14). It is important to mention that both of these scales conceptualize the goal orientation construct as a dispositional characteristic.

2.2.2 Implicit Theory of Intelligence and Goal Orientation

Dweck (1986) proposed a relationship between implicit theory of intelligence and goal orientation which has been supported by many studies both before and after Dweck's model. Research has repeatedly indicated (e.g., Bandura & Dweck, 1985;

[3] Since the article has not been published yet, only the abstract is available which includes no information regarding the dependent variables. They will be added as soon as the article is available.

Leggett, 1985; Dweck, 1986) that children who believe intelligence is increasable pursue the learning goal of increasing their competence, whereas those who believe intelligence is a fixed entity are more likely to pursue the performance goal of securing positive judgments of that entity or preventing negative judgments of it. Children's implicit theory of intelligence has been a consistent predictor of their goal orientation. According to Dweck and Leggett (1988) each implicit theory could be seen as a different form of self-concept and "its allied goal could be seen as the way of generating and maintaining self-esteem within that self-concept" (p. 271).

The relationship between implicit theory and goal orientation implies that goal orientation mediates the effects of implicit theories on behavior. Dweck (1986) has called this chain of relationships "model of social motivation" (Figure 2.1) and suggested that, although this model was developed in the academic context, it was generalizable to other major life domains (Dweck & Leggett, 1988). The model shows how the particular goals children pursue on cognitive tasks shape their reactions to the outcome of the task.

An entity theorist attributes the results of behavior mostly to stable causes. Performance goal orientation is preferred because of the need to demonstrate and validate stable causes of performance such as intelligence. If there is failure, fixed intelligence is attributed as the cause of that failure. Since intelligence is believed to be fixed, showing greater effort is pointless. There does not seem to be a way to develop intelligence, which then leads to helpless behavior. "For the entity theorist, self-esteem will be fed by performance goals. Outcomes indicating the adequacy of one's attributes will raise and

maintain self-esteem. However, for the incremental theorist, self-esteem will be acquired and experienced via learning goals" (Dweck & Leggett, 1988, p. 266).

Figure 2.1

Model of Social Motivation

Theory	Goal orientation	Behavior Pattern
Entity (Social/personality attributes are fixed traits)	Performance (Goal is to gain positive judgments/avoid negative judgments of social attributes)	Helpless (Avoid risk; low persistence)
Incremental (Social/ personality attributes are malleable qualities)	Learning/ development (Goal is to increase social competence, develop relationships)	Mastery oriented (Seek challenge; high persistence)

An incremental theorist attributes outcomes to variable causes, in particular to effort and the characteristics of the learning process. Therefore, learning goal orientation is pursued as the individual seeks opportunities to increase her potential. Success as well as failure is then under the control of the actor (Ziegler, 2001). Failure just means that the effort or the present intelligence was not adequate, and that the person should put in more effort in order to ensure success in the future. High persistence and effort are shown because of the belief that ability is malleable, and can be continuously developed through effort and experience. Some of the studies showing relationships between implicit theory of intelligence and goal orientation will be discussed next.

Studies of Roedel, Schraw and Plake (1994), and Roedel and Schraw (1995) showed that beliefs about the controllability of intelligence were related to goal orientation, supporting all predictors of Dweck and Leggett model (1988). The series of studies by Erdley, Cain, Loomis, Dumas-Hines and Dweck (1997) indicate that "children's goals in social situations are associated with their responses to social failure, and are predicted by their implicit theories about their personality" (p. 263). It was demonstrated that children who were focused on a performance goal react with more helplessness, whereas children with a learning goal display a more mastery-oriented response. In response to hypothetical socially challenging situations, entity theorists were more likely to endorse performance goals than incremental theorists.

The results of Spinath & Stiensmeier-Pelster (2001) supported Dweck such that an entity theory compared to an incremental theory was more strongly associated with low learning goal orientation and high performance goal orientation (p. 54). As many studies exposed the relationship between performance goals and entity theory (e.g., Stipek and Gralinski, 1996), Dupeyrat and Marine (2005) found entity theory to negatively predict learning goals without predicting performance goals. Ablard's (2002) study showed that as learning goals become stronger, so do beliefs that intelligence can increase via effort. Kennett and Keefer (2006) found that entity theorists were more likely to blame their lack of ability to explain disappointing performance than incremental theorists. Students who preferred good grades at the expense of learning tended to dislike challenging tasks, and they attributed their poor performance to task difficulty.

A study employing manipulated state goal orientation describes how this manipulation can be useful. Thompson and Musket (2005) examined the effects of goal priming on performance for students with either an incremental or entity view of ability following either success or failure feedback. Performance of students with an entity view of ability improved when they were primed for learning relative to performance goals irrespective of whether they were initially exposed to success or failure.

Payne et al. (2006) recently repeated their previous meta-analysis about the effects of goal orientation (Beaubien & Payne, 1999) adding the relationship between implicit theory and goal orientation and including 157 studies conducted between 1979 and 2002. Results revealed that entity theory was positively correlated with performance orientation and negatively correlated with learning orientation as predicted, although the effects sizes were surprisingly small. The reason for the unexpected small effect is explained by the fact that the studies they included had considered implicit theories as a bipolar construct rather than a two-factor construct. This is also why there is no incremental score. "Separate scales for each theory might yield stronger correlations with goal orientations as such measures are more consistent with goal orientation measures" (p. 20).

Based on the literature on the relationships between implicit theories of intelligence and goal orientation, the following hypotheses are proposed:

Hypothesis 1a: Individuals with an incremental theory of intelligence are more likely to adopt learning goals than are individuals with an entity theory of intelligence.

Hypothesis 1b: Individuals with an entity theory of intelligence are more likely to adopt performance goals than are individuals with an incremental theory of intelligence.

2.2.3 Effects of Goal Orientation

Sheldon, Elliot, Ryan, Chirkov, Kim, Wu, Demir and Sun (2004) state that owning one's actions; in other words, feeling that one's goals are consistent with the self, is important. Therefore recognizing the goal orientations of individuals is crucial to understand their actions. An extensive stream of research provides evidence that goal orientation influences the affective, behavioral, and cognitive reactions of individuals in achievement settings whether it is a laboratory or a real-world situation (Vandewalle, 1997). Although there are not many studies in the area of industrial and organizational psychology, there is a growing interest in the implications of goal orientation for adult populations. Before the literature review of flow and job satisfaction, other variables that goal orientation predicts will be discussed to present a wider view of goal orientation literature.

"Goal orientation can be an important factor in adaptive and maladaptive functioning, predicting depression, anxiety, self-esteem loss and coping in the face of setbacks" (Dweck, 1999, p. 49). Butler (1992) conducted an experiment to explore the

relationship between preferences of students and goal orientation. Sixth graders were asked to perform a task in either learning or performance goal condition. Once they finished the task, they were instructed to choose between two tables about which they were informed. One of the tables provided social information relevant to learning about the task. This table was called the normative ability assessment because it informed the participants about the results of others, and has instructions about how to calculate their score so that they could compare it with the norm derived from others' scores. The other table was designed to primarily serve a learning function, consisting of a pile of tasks of others. There was no tool for rating themselves, but examples of others' work so that one could identify her personal style and learn from the other examples.

More subjects in the performance than in the learning condition went first to the normative table, and more in the learning condition chose the task-information table. As this study suggests, performance orientation causes one to value her rating among others more than learning orientation does. Learning orientation, on the other hand, causes one to get detailed feedback about her achievement instead of her rating. By exploring the work of others, learning oriented individuals can understand the style of the content of their work relative to others, but not the rating.

As the previous study implies, goals affect feedback-seeking. Goal orientation predicts feedback seeking behavior as performance goal orientation leads individuals to focus more on the cost of feedback seeking, and learning goal orientation leads individuals to focus more on the value of it. The different attitudes toward feedback-

seeking are rooted in the interpretation of the purpose of feedback. A learning goal orientation leads to interpreting feedback as a useful tool to correct mistakes and to help to develop abilities that are required to master the task. A performance goal orientation, in contrast, leads to interpreting feedback as evaluative and judgmental information (VandeWalle, Cron & Slocum, 2001).

Kluger and DeNisi (1996) proposed that the reason for different reactions of individuals with the two goal orientations after they receive feedback is the result of allocation of their cognitive resources. In other words, when performance oriented individuals receive feedback, the allocation of their cognitive resources shift away from the task and toward self-attention. Learning oriented individuals are more likely to maintain cognitive resources at the task level when they receive feedback. Studies (Butler, 1992; VandeWalle & Cummings, 1997) show that learning orientation increases performance, if feedback-seeking is required for performance. “The irony of these pattern choices is that the desire of performance-goal oriented individuals to look competent leads them to often avoid seeking the very feedback that could help them develop their competencies” (VandeWalle, 2003, p. 600).

In a recent study (Kennett & Keefer, 2006), learning goals were found to predict increased input of effort, enhanced use of planning, positive reinterpretations, and higher grades on a challenging course. Performance goals, on the other hand, provoked loss of intrinsic motivation, attributions to lack of ability, withdrawal of time and effort, loss of self-worth, and poor grades after repeated failures. Smiley and Dweck (1994) showed

that within a learning goal, children display the mastery-oriented pattern regardless of confidence level, whereas within a performance goal, children with low confidence were most susceptible to helplessness.

Intrinsic motivation was repeatedly found to relate to goal orientation. Intrinsic motivation is "manifest in the enjoyment of and interest in an activity for its own sake" (Lepper, 1981; cited in Elliot & Harackiewicz, 1996). "[Learning orientation is] said to promote intrinsic motivation by fostering perceptions of challenge, encouraging task involvement, generating excitement, and supporting self-determination, whereas performance goals are portrayed as undermining intrinsic motivation by instilling perceptions of threat, disrupting task involvement, and eliciting anxiety and evaluative pressure" **(**Elliot & Harackiewicz, 1996, p. 463).

Harackiewicz, Barron, Carter, Lehto and Elliot (1997) found learning orientation to be a strong predictor of intrinsic motivation. Then, Barron and Harackiewicz (2001) explored the relationship between goal orientation and interest dimensions which could explain the relationship between goal orientation and intrinsic motivation. Learning orientation turned out to have significant correlations with all interest dimensions, whereas performance orientation was not related to any interest dimensions. Learning orientation had no effects on performance, and performance orientation had no effects on interest outcomes. Furthermore, the difficulty of the activity did not interact with goal orientations. Studies of Grant and Dweck (2003) revealed results consistent with the

findings of Harackiewicz and his colleagues that learning orientation positively predicts intrinsic motivation for which they found no other significant predictors.

The relationship between goal orientation and performance has particularly attracted the interest of industrial psychology; however, contradictory results have been reported. Performance goal orientation was shown to have negative (Ford, Smith, Weissbein, Gully & Salas, 1998), non-significant (VandeWalle, Brown, Cron & Slocum, 1999), and positive relationships (Hoover, Steele-Johnson, Beauregard & Schmidt, 1999) with task performance. Hoover et al. (1999) reported that a performance orientation increased motivation and task performance only for tasks that were simple, static and short-term. The goal orientation literature suggests that learning orientation enhances performance for longer and harder tasks because learning oriented individuals are more open to challenges and persist longer. When new skills must be learned or transfer of knowledge to a new task is required, learning orientation increases task performance (Brett & VandeWalle, 1999; Ford et al., 1998). Some studies (e.g., Gagne & Zuckerman, 1999) show that goal orientation seems to have affected performance only when evaluation potential was higher. Performance oriented individuals evaluate their performance even if someone else does not, which might be why more studies found a relationship between goal orientation and performance. “Performance and learning goals have also been shown to predict real-world performance … controlling for past performance” (Grant & Dweck, 2003, p. 542).

Weitz, Sujan and Sujan (1986) emphasize that learning oriented people have little trouble accepting failures because they view failures as natural occurrences on the way to solutions. Their failures provide them information which then enables them to approach the problem in a different way. Sujan, Weitz and Kumar (1994) investigated the role of goal orientation in a specific function of organizations, sales. They found significant relationships between a learning goal orientation and successful sales behavior.

In their meta-analysis where they considered performance orientation to be a three dimensional construct, Payne et al (2006) investigated the proximal and distant consequences of trait goal orientation separately. The proximal consequences of performance-approach goal orientation are learning strategies ($\rho = .16$) and state anxiety (i.e. an aversive emotional state of distress and uneasiness) ($\rho = .19$). The proximal consequences of performance-avoidance goal orientation are task-specific self-efficacy (i.e. an individual's belief in his or her capability to perform well on a task, given a specific set of situational demands) ($\rho = -.26$), self-set goal level (i.e. the difficulty of the performance standard) ($\rho = -.17$), feedback-seeking ($\rho = - .22$) and state anxiety ($\rho = .36$). Neither of the performance orientations was significantly correlated with distal variables. The proximal consequences of learning goal orientation are specific self-efficacy ($\rho = .37$), self-set goal level ($\rho = .19$), learning strategies (i.e. the strategies individuals use to enhance their own performance, such as rehearsal) ($\rho = .49$), feedback-seeking ($\rho = .20$) and state anxiety ($\rho = -.10$), and the distal consequences are learning and academic performance ($\rho = .16$), job performance ($\rho = .18$).

Alongside the obtained relationships discussed, exceptions are also present in the literature. Philips and Gully (1997) found very modest or non-significant relationships for both learning and performance orientations with self-efficacy, goal setting and exam performance.

2.3 Job Satisfaction

"When people speak of employee attitudes, more often than not they mean job satisfaction. In fact, the two are frequently used interchangeably" (Robbins, 2003, p. 72). Although not the only one, job satisfaction is one of the most-researched job attitudes. It is defined as an emotional reaction to the work situation. The most widely quoted definition of job satisfaction is "a pleasurable or positive emotional state resulting from an appraisal of one's job or job experiences" (Locke, 1976, p. 1300; cited in Ilies & Judge, 2004).

2.3.1 Antecedents of Job Satisfaction

At the end of the 1980's, the debate of person versus situation spilled over from psychology to organizational behavior (Staw & Charash, 2005). Some researchers argued that a person's disposition is a significant determinant of her job attitudes. Others denied the individual differences in job attitudes. Continuous research and discussion on whether the situation or the person is a better predictor of job satisfaction has not reached a conclusive agreement in the literature. Since the present study is only interested in

dispositional aspects of job satisfaction, literature of this view will be presented. However, the Davis-Blake and Pfeffer critique (1989), which strongly opposed the dispositional view and has an important place in job satisfaction literature, will also be discussed.

"There is a great deal of confusion around the use of terms such as personality, traits, states, dispositions, affective dispositions, needs, values, and attitudes" (House, Shane & Herold, 1996, p. 217). Although distinctions are sometimes made between the concepts of personal dispositions, traits, personality and individual characteristics, these terms are used almost interchangeably in the literature (Staw & Ross, 1985). House et al. (1996) divide dispositions into two categories, based on their origins. One of the origins is social learning process, which refers to socially learned personality characteristics. The other origin is genetically originated traits that have been shown to exist by research comparing identical twins who are reared apart. Whatever the origin of disposition, many studies have shown it to be more influential than external variables on job satisfaction.

Staw and Ross (1985) demonstrated that a person's job satisfaction scores have stability over time, even when the jobs or companies change. Using longitudinal data (i.e. Longitudinal Survey of Mature Men collected by the Center for Human Resource Research at Ohio State University) on job satisfaction, they analyzed a national random sample of over 5,000 men aged 45 to 59. Results showed significant stability ($p < .001$) of job satisfaction over a period of five years during which situational changes occurred. Although individuals changed employers and/or occupations, their job satisfaction was

not altered. It was concluded that "there are stable individual characteristics that predispose people to respond positively or negatively to job contexts. … the predisposition to like or dislike jobs can be as important a determinant of job attitudes as the content of the work itself" (p. 471).

Staw, Bell and Clausen (1986) exhibited that childhood temperament is statistically related to adult job satisfaction up to 40 years later. They took advantage of a very unusual data set that has been collected from a group of individuals, who had been tested at several points in time during most of their lifetimes. Coming from Intergenerational Studies conducted by the Institute of Human Development at the University of California, the data is an aggregation of three separate studies investigating the lives of individuals for over fifty years. Scores for affective disposition and job attitudes (i.e. career satisfaction, facet satisfaction[4], facet-free satisfaction[5], take job again, feelings about work) were measured at five different times (i.e. early adolescence, late adolescence, three different times in adulthood). Almost all of the cross-relationships (e.g., affective disposition at early adolescence and job attitude at time "adult 1") between the two variables measured at five different times were highly correlated (i.e. $p < .05$ to $p < .001$). The results confirmed that "dispositional properties of individuals, however

[4] Facet satisfaction score is the aggregation of job facets (i.e. working hours, amount of tension and stress, income, degree to which the work involves interests, general convenience for the family, amount of leisure time, opportunity for advancement, nature of supervision, meeting and being with people, use of skills and abilities, freedom to develop ideas and security of the job).

[5] Facet-free job satisfaction was measured by Michigan facet-free job satisfaction item, which is 'all in all, how satisfied would you say you are with your current job?'

constituted or developed over time, can be significant predictors of the satisfaction of individuals with their work" (p. 71).

The job satisfaction of identical twins was found to be statistically similar by Arvey, Bouchard, Segal and Abraham (1989) supporting a significant genetic component of job satisfaction. Arvey et al. studied thirty-four monozygotic twin pairs who had been reared apart from an early age. Data were collected as a part of a comprehensive work-history assessment, and three job satisfaction subscales were used showing extrinsic, intrinsic, and general satisfaction. "The intraclass correlations of .309 for general job satisfaction and .315 for intrinsic satisfaction can be interpreted as broad heritabilities or as the proportion of variance resulting from genetic factors. The correlation computed for extrinsic satisfaction was neither significantly different from zero nor significantly different from the value obtained for intrinsic satisfaction" (p. 190). This result suggests that the non-extrinsic dimensions of job satisfaction are partly predicted by gene factors.

The same year as the twin study, Davis-Blake and Pfeffer (1989) published the most memorable anti-dispositional article in the job satisfaction literature. They argued that the only important individual characteristics to affect job satisfaction are physical ones that are easily identified by other people. These include sex, race and physical attractiveness, and influence job satisfaction by creating a difference in the work situation such as a higher-level job, more social support, and greater pay. As Staw and Charash (2005) also noted, "Davis-Blake and Pfeffer have grossly underestimated the power of

people to discern less visible differences among people and for behavior to be influenced by such differences" (p. 63).

Davis-Blake and Pfeffer also argued that existence of stability of job satisfaction does not imply the source for this stability. Accordingly, even if job satisfaction is consistent, it might be due to reasons other than dispositional factors. Organizations are very strong situations, which – through social conformity – can shape individuals' beliefs as they strongly influence income, social status and social identification. Although Davis-Blake and Pfeffer's (1989) claims received a lot of attention, empirical studies continued to demonstrate the effects of dispositional factors.

Negative affectivity has been an important dispositional trait whose relationship with job satisfaction was found to be significant in many studies (e.g., Schlesinger & Zornitsky, 1991; Judge, 1993; Necowitz and Roznowski, 1994; Moyle, 1995). It is defined as "a potent individual difference variable that may influence self-reports of both occupational stressors and subsequent perceptions of strain and job satisfaction" (Decker & Borgen, 1993, p. 471). Unlike most of the studies where job characteristics are assumed to be random, Levin and Stokes (1989) controlled for seven job characteristics before calculating the relationship between negative affect and job satisfaction, which displayed a significant relationship.

> "Even with such controls, one can still argue that there are other variables that could account for people's stability in attitudes over time, creating a spurious

> relationship between individual characteristics and job attitudes. As Cook and Campbell (1979) pointed out long ago, it is theoretically impossible to control for all sources of exogenous variance in non-experimental research. Therefore, in the name of fairness, one should acknowledge the possibility of spurious relationships not only in dispositional research, but also in studies that examine situational influence" (Staw & Charash, 2005, p.61).

A meta-analysis of four traits (Judge & Bono, 2001) revealed correlations with job satisfaction to be .26 for self-esteem, .45 for generalized self-efficacy, .32 for internal locus of control, and .24 for emotional stability. Another meta-analysis (Judge, Heller & Mount, 2002) linking traits from the 5-factor model of personality to overall job satisfaction reports a multiple correlation of .41 with job satisfaction, "indicating support for the validity of the dispositional source of job satisfaction when traits are organized according to the 5-factor model" (p. 530).

Ilies and Judge (2003) showed that both affectivity and the five-factor model are mediators of genetic effects on job satisfaction. Affectivity mediates about 45% of the genetic influences on job satisfaction, whereas the five-factor model mediates approximately 24% of these genetic effects. Some other researchers (Judge & Bono, 2001; Judge, Locke, Durham & Kluger, 1998), on the other hand, suggested that disposition affects job satisfaction with the mediating effect of one's perception about the job. The most important situational effect on job satisfaction, the job itself, is not unrelated to disposition. Disposition may influence the experience of emotionally

significant events at work, which in turn influences job satisfaction (Weiss & Cropanzano, 1996). Dormann and Zapf's (2001) meta-analysis concluded that dispositions indirectly affect job satisfaction via selection and self-selection processes.

Many other studies (e.g., Kohn & Schooler, 1982; House, Howard & Walker 1991; House, Spangler & Woycke, 1991; Burkhardt, 1992) as well as some other meta-analyses (Barrick & Mount, 1991; Hough, Eaton, Dunnete, Kamp & McCloy, 1990; Tett, Jackson & Rothstein, 1991) have shown the stability of job attitudes and "provide consistent support for the predictive validity of traits regarding organizational behavior" (House et al., 1996, p. 213).

2.3.2 Goal Orientation and Job Satisfaction

There are very few studies in the literature that have explored the relationship between trait goal orientation and job satisfaction. Learning oriented individuals derive satisfaction and enjoyment from the effort they exert as they complete tasks. They believe they are in control of the consequences, so the more they work, the better the results will be. Performance oriented individuals, in contrast, are focused on the results, so getting satisfaction from the process is less relevant for them. They are more likely to attribute the outcomes mostly to be outside of their control. Literature shows that lack of control is accompanied by negative affective outcomes. Therefore, they are less likely to be satisfied with their jobs. The other reasoning behind the relationship between goal orientation and job satisfaction is that learning oriented individuals view exerting effort

as a desirable attribute of the self which causes them to perceive it to be indicative of success. Whether they are satisfied with the external factors of their job or not, they are more likely to see working as an end in itself.

Janssen and Van Yperen (2004) investigated this relationship with 170 employees. Employing a dichotomous framework of goal orientation, they hypothesized that learning orientation is positively related to job satisfaction, whereas performance orientation is negatively related. Results of hierarchical regression analyses confirmed both hypotheses although the learning orientation had a stronger ($p < .01$) relationship with job satisfaction than did performance orientation ($p < .05$).

Van Yperen and Janssen (2002) obtained a significant relationship of job satisfaction with learning orientation ($p < .01$), but not with performance orientation. Their results showed a significant interaction of goal orientation and job demands as well. "Only when a performance orientation was stronger and a learning orientation was weaker were job demands negatively related to job satisfaction" (p. 1165). This is explained by the fact that learning oriented individuals perceive job demands as challenging tasks, and they persist in the face of obstacles. Performance oriented individuals view challenges as threatening competitive demands on the way to obtaining the end results.

There is one more study examining the relationship between goal orientation and job satisfaction, and it has found opposing results. Harris, Mowe and Brown (2005)

reported that performance orientation positively influences work satisfaction for sales employees from real-estate industry. As they discuss, although research in educational psychology indicates that a negative relationship is expected between performance orientation and satisfaction, a sales setting is very different. In a sales setting, compensation and awards are dependent on short-term outcomes, such as immediate sales results. "A performance orientation motivates one to focus energies on extrinsic rewards associated with performing better than others" (Harris et al, 2005, p. 25). Performance oriented individuals are likely to base feelings of satisfaction on the extent to which they can demonstrate ability relative to others (Steele-Johnson, Beauregard, Hoover & Schmidt, 2000). Therefore, the effect of goal orientation is reversed in a selling setting.

Harris et al's (2005) study is crucial for emphasizing the importance of context in organizational behavior research. Occupations or jobs can cause major differences in relationships of variables in field research. For the present study, the expected relationship is the same as the literature because the occupations that are employed are not exceptionally dependent on short-term outcomes like a selling setting. The following hypothesis is presented:

Hypothesis 2: Individuals who prefer learning goals are likely to show higher levels of job satisfaction than those who prefer performance goals.

2.4 Flow

In the early seventies, after performing thousands of interviews about experiences of pleasure, interest and enjoyment for a decade, Csikszentmihalyi proposed a construct. He called it "flow" and defined it as an optimal state of experience, a total involvement in the task at hand that results in loss of self-consciousness and the sense of time (Csikszentmihalyi, 1996). Csikszentmihalyi describes flow experience as follows:

> "In the flow state action follows upon action according to an internal logic that seems to need no conscious intervention by the actor. He experiences it as a unified flowing from one moment to the next, in which he is in control of his actions, and in which there is little distinction between self and environment, between stimulus and response, or between past, present, and future" (Csikszentmihalyi, 2000a, p. 36).

Privette (1983) contrasted peak experience, peak performance and flow constructs and concluded that, although they share some qualities, they are separate constructs implying different phenomena. Key variations among them include intensity level, active versus passive modes, relational modes, sense of self, and motivation. Vittersø (2003) reported that life satisfaction and flow are different constructs. "Flow" is very different than the expression "going with the flow" which means abandoning oneself to a situation that feels good, natural and spontaneous, though both are related to positive experiences. Flow requires skills, concentration and perseverance as it leads to subjective well-being

(Csikszentmihalyi, 1999). Studies have consistently reported that flow is a valid construct.

The studies revealed nine distinguishing elements that were continuously stated by the subjects as they experienced flow. First of all, a challenging activity that requires skills is present. Flow is experienced in activities that involve total attention, and that could not be done without the appropriate skills. Merging of action and awareness occurs as one acts with a deep but effortless involvement. Clear goals are set either in advance or they are developed out of involvement in the activity so that the person has a strong personal sense of what is intended to do. There are no contradictory demands perceived. Immediate and clear feedback is provided during the involvement, so that the individual knows how well she is doing. Concentration on the task at hand is intense, and there is a feeling of control regarding the task. Self-consciousness is lost leading to the transformation of time.

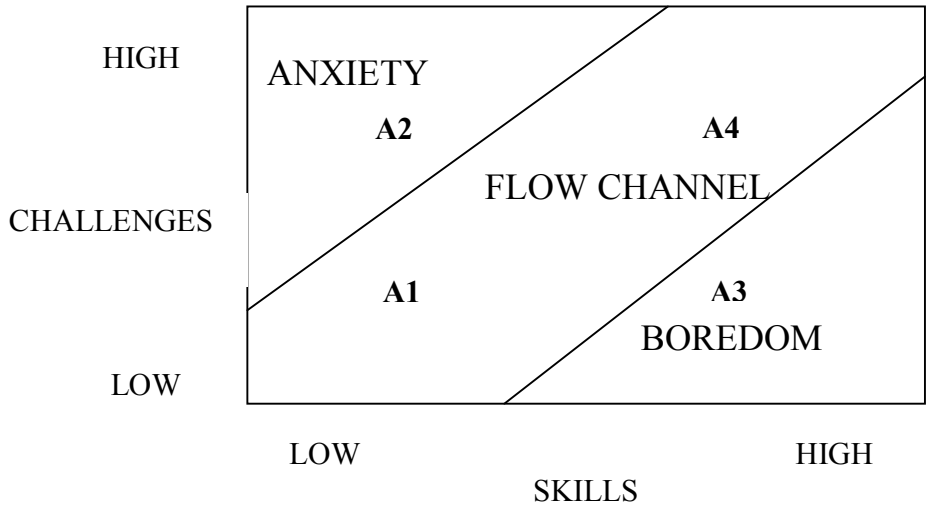
The last characteristic of flow, which is the key element, refers to self-motivation. It is called autotelic experience. "Autotelic" is Greek for something that is an end in itself (Csikszentmihalyi, 1996) as *auto* means *self*, and *telos* means *goal*. A task is done not only to achieve the end result, but also for the enjoyment it provides during the process. The activity is self-contained, it is not done with the expectation of some future benefit, but because doing it is rewarding. "When experience is intrinsically rewarding, life is justified in the present instead of being held hostage to a hypothetical future gain" (Csikszentmihalyi, 2002, p. 69).

The anatomy of flow reveals the concept of psychic energy (Csikszentmihalyi, 2003), which is the name Csikszentmihalyi uses for attention. It is psychic energy that determines what happens in consciousness such as remembering, thinking, feeling or making decisions. Individuals create themselves by how they invest this energy. When an individual is faced with a challenging situation, all psychic energy goes into overcoming that challenge. In this case, there is no psychic energy left to process any other information than the challenge at hand because all of it is concentrated on the relevant stimuli. This situation prevents the individual from being aware of herself separate from the action of working on the challenge. This optimal experience is called flow.

The studies revealed a commonality between individuals' experiences of flow. The challenges and skills are in balance when individuals report experiencing the characteristics of flow. When the level of perceived challenge and skills are comparable, the individual feels stimulated, involved and less conscious of outside environments and time (Klein, 2001). When the challenges are higher than skills, anxiety is experienced. In contrast, when the skills exceed the challenges, boredom occurs. In 1975, Csikszentmihalyi proposed that flow experience is possible anywhere in the flow channel where challenges and skills are balanced (Haworth & Clarke, 1994). Figure 2.2 shows the flow channel and four possible situations one might relate to.

Figure 2.2

The Flow Channel



An individual at point A1 is faced with little challenge, but it is in line with her skills. Therefore this point is in the flow channel. Practicing the job will cause the skills to exceed the challenges, thus moving the individual to A2 where the skills are greater than challenge. Due to the boredom A2 condition creates, the individual might choose more challenging goals that are in balance with her skills which had improved through practice during A1. Movement from A2 to A4 occurs if challenge is increased. Alternatively a movement to A3 from A1 is possible, if hard (i.e. more challenging than in balance with the present skills) work is assigned. Similarly to boredom, anxiety is also a negative experience. The way back to flow requires an increase in the skills or a reduction in challenge. “In practice it is difficult to ignore challenges once one is aware they exist” (p. 75), so it is more likely that skills are increased.

Although both A1 and A4 represent situations of flow, they are different because A4 is more complex than A1 due to the higher level of skills and challenges it requires. Through this dynamism, flow activities lead to growth and discovery (Csikszentmihalyi, 2002). The explained movements might be different for performance oriented individuals as they prefer tasks that they know they can do well. Due to the characteristics of these individuals, it is expected that they will avoid more challenges and prefer to stay at A1.

In 1990, the fit between perceived skills and perceived challenge was identified as one of the critical antecedents of flow (Klein, 2001). All research in the United States since 1965 confirmed that individuals needed a balance of skills and challenges to experience flow. However, Moneta (2004a) states that "little is known about the features, occurrence rates, situational/personal determinants, and behavioral implications of flow in other cultures" (p.117). For Chinese, the optimal challenge/skill ratio is biased toward skills, and the bias is stronger for those who have a more collectivistic model of the self. They experience the highest level of flow in low challenge/high skill conditions rather than high challenge/high skill (Moneta, 2004b). On the other hand, Asakawa's (2004) research has shown that the Japanese college students' behavior fit the flow theory as high challenge/high skill situations created an optimal state of mind for them. "The findings call for a multi-cultural development of flow theory" (Moneta, 2004b, p. 181).

Csikszentmihalyi and LeFevre (1989) found that the great majority of flow experiences were reported at work rather than during leisure time. Results by Haworth and Hill (1992) supported this finding since reports of flow experiences came primarily

from work in their study. Csikszentmihalyi (1996) discovered that flow while working is ubiquitous in the life of creative achievers in the arts, sciences, and business. "When [the conditions for flow] are present, we have a chance to experience work as "good" – that is, something that allows the full expression of what is best in us, something we experience as rewarding and enjoyable" (Gardner, Csikszentmihalyi & Damon, 2001, p. 5).

2.4.1 Measuring Flow

Due to the "holistic" nature of flow, it is very hard to measure it, if not impossible. Therefore, a discussion regarding its measures is necessary to further explain the construct. Jackson and Marsh (1996) state that "the difficulties of applying empirical methods to phenomenological experiences caused the research of flow to be lagged" (p. 17).

Jackson and Marsh (1996) constructed a flow state scale which included items for each of the nine dimensions. A coefficient alpha of .83 was found with a sample from 38 different nations. Participants were asked to recall an optimal experience defined as "one where you were totally absorbed in what you were doing, and which was enjoyable" (p. 22) and respond to the flow items using a 5-point Likert-type response format (1 = strongly disagree to 5 = strongly agree). The same scale was repeatedly used (e.g., Jackson et al., 2001) mostly after an experience rather than retrospectively asking the participants to remember a past experience.

Two years later, flow state scale was converted into a trait scale (Jackson, Kimiecik, Ford & Marsh, 1998), where the same items were asked in "how frequently do you experience …" format instead of "did you experience …" format. Although both of these scales have been frequently used in the literature to calculate one global flow score, Jackson and Marsh (1996) mention that the flow scales are similar to intelligence scales in terms of the sub-dimensions they have. "Although a single measure of intelligence may suffice in some situations, there are other situations in which the more detailed information about specific abilities are required. More than 100 years of research into this debate in intelligence testing has not resolved the issue. Similarly, there may be instances where a single global flow will suffice, but other situations where the more detailed information from specific components of flow are more useful. Hence, there is no absolute answer to the question about whether it is appropriate to limit consideration to a single global flow score" (Jackson & Marsh, 1996, p. 31).

Operationalizing the challenge/skill balance requirement, Csikszentmihalyi, Prescott and Larson (1977) developed the experience sampling method to measure flow (Prescott, Csikszentmihalyi & Ron, 1981), which is still being used (e.g., Shin, 2006). They gave the subjects programmable watches or beepers to alert them as many as ten times a day at random times for a week. At each alarm, the subjects wrote down information about their situation at that instant. This information included where they were, what they were doing, what they were thinking about, and numerical scales of their mood, concentration, self-esteem, challenges they were facing and skills they have applicable for those challenges. When data from various studies (e.g., Csikszentmihalyi

& LeFevre, 1989; Csikszentmihalyi & Schneider, 2001; Csikszentmihalyi & Hunter, 2003) were analyzed, "the map of everyday experiences" was constructed (Csikszentmihalyi, 2004a) which shows the flow channel. The notion that flow occurs anywhere in the flow channel was modified to state that flow occurs in the flow channel as long as the required skills are above the average level of skills one has. In other words, even if the skills are in balance with challenges, flow is less likely to be experienced doing simple tasks.

There are also flow studies employing self-reports of experiential outcomes (i.e. affect, enjoyment, self-affirmation) (e.g., Voekl & Ellis, 1998; Bakker & Geurts, 2004) or in-depth interviews (e.g., Sato, 2000; Allison & Duncan, 2000; Han, 2000) rather than dimensions of flow or the experience sampling method. However, "flow cannot be fully captured by a score on a questionnaire, experience sampling methods, or in-depth interviews" (Jackson & Marsh, 1996, p. 32). Csikszentmihalyi discusses the definition and measurement of flow:

> I guess I have always worried about 'breaking the spirit' of flow by defining it too soon or too precisely… The important thing, in my opinion, is not to reify flow. The moment we say that 'flow is the balance of challenges and skills' or that 'flow is a score of 'x' on the Flow Questionnaire,' we have lost it. We have mistaken the reflection for the reality. The concept of flow describes a complex psychological state that has important consequences for human life. Any

> measure of flow we create will only be a partial reflection of this reality. (Csikszentmihalyi, 1992, p. 183).

In spite of the measurement problems, many study results confirming the hypothesized relationships between flow and theoretically related phenomenon demonstrate the existence of reliable and valid measures of flow.

2.4.2 Antecedents and Consequences of Flow

Studies consistently indicate that experiencing flow frequently and intensely in daily activities fosters overall subjective well-being and performance in study and work contexts (Moneta, 2004a). This makes the frequency of flow experiences an important variable in organizational behavior. "[Flow] provides a model for understanding intrinsic motivation and reward" (Privette, 1983, p. 1363). "Deci and Ryan (1985) describe flow as a purer instance of intrinsic motivation" (Jackson, Kimiecik, Ford & Marsh, 1998, p. 360). Mainemelis (2001) states that being intrinsically motivated increases the likelihood that one's attention will become and remain invested in the immediate experience, and will be fully engrossed in the task at hand, which creates flow.

Kowal and Fortier (1999) demonstrated that individuals who were motivated in a self-determined manner reported high instances of flow. They suggested that self-determined forms of motivation might facilitate flow, whereas non-self-determined forms of motivation might have detrimental influences on flow states. Situational self-

determined forms of motivation (i.e., intrinsic motivation and self-determined extrinsic motivation) and perceptions of autonomy, competence, and relatedness were positively, and amotivation (the lack of motivation) was negatively related to flow. Deci, Connel and Ryan (1989) indicate that teachers who were oriented toward supporting students' self-determination had a positive effect on the intrinsic motivation of their students. Somuncuoglu and Yildirim (1999) also suggested that students who were motivated in a self-determined manner were likely to consequently experience the flow state as they engage deeply in their learning process.

Waterman, Schwartz, Goldbacher, Green, Miller and Philip (2003) used flow experiences as one of the three outcome variables of intrinsic motivation, and found that self-determination was found to be strongly associated with it. Mainemelis (2001) states that being intrinsically motivated increases the likelihood that one's attention will become and remain invested in the immediate experience, and will be fully engrossed in the task at hand.

Although the universality of challenge/skill operationalization is questionable, it is still being confirmed by some studies. Haworth and Hill (1992) showed that situations are perceived as enjoyable and interesting where high skills and high challenges are perceived as equal**.** Moneta and Csikszentmihalyi (1999) showed that balance of skills and challenges is related to concentration. Shernoff, Csikszentmihalyi, Schneider and Shernoff (2003) investigated how adolescents spend their time in high school and the conditions under which they report being engaged. Using a longitudinal sample of 526

high school students, they found that the participants experienced increased engagement when the perceived challenge of the task and their own skills were high and in balance.

Flow's relationship with job resources has caught the attention of organization behavior researchers. Job resources are defined as physical, psychological, social, or organizational aspects of the job that are functional in achieving work goals, or reducing job demands and the associated physiological and psychological costs, or stimulating personal growth and development (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). Some job resources are autonomy, possibilities of development, performance feedback, social support from colleagues, skill variety, job control and supervisory coaching. Bakker and Geurts (2004) found a high correlation between job resources and work-related flow among 1,090 employees. Another study (Bakker, 2005) examined flow with 178 music teachers and 605 students. Not only were job resources related to flow experiences, but also this study became the first one to demonstrate that flow is contagious as teacher's flow experiences affect those of students'.

Recently Salanova, Bakker and Llorens (2006) showed that, among Spanish secondary school teachers, the relationship between resources and flow is two-way. Personal resources (i.e. self-efficacy beliefs) and organizational resources (i.e. social support climate and clear goals) facilitate work-related flow, and work-related flow has a positive influence on personal and organizational resources.

Trevino and Webster (1992) investigated flow in an environment where computer mediated technology was frequently used. They demonstrated that individuals with higher levels of flow engage in the activity for its own sake. In another study, performance strategy dimensions of activation, relaxation, imagery, goal setting, self-talk and emotional control related positively with flow, whereas negative thinking related negatively (Jackson, Thomas, Marsh & Smethurst, 2001). Lee (2005) showed that procrastination and flow were negatively correlated.

Nieh and Lu (2001) conducted the only study where dimensions of flow were calculated and reported separately. Among the nine dimensions of flow, only four (i.e. concentration/feedback, autotelic experience, loss of self-consciousness and transformation of time) were significantly related to coping with adversity, peaking under pressure and confidence. This result implies the necessity to calculate separate scores for each dimension of flow. However, this is not possible when flow is measured with the experimental sampling method, asking about the balance of skills and challenges only, or with scales that have one item for each dimension. It could be speculated that categorizing flow dimensions into groups could lead to more informed results in terms of their relationships with other variables.

A significant correlation was found between flow levels of students and the quality of their group compositions as measured by creativity ratings (Byrne, MacDonald & Carlton, 2003). Pre-performance psychological state (Catley & Duda, 1997), dimensions of the self-concept and psychological skills (Jackson, Thomas, Marsh &

Smethurst, 2001) have been demonstrated to relate to flow among adults. Perceived ability was also positively correlated with flow, whereas anxiety (somatic, concentration disruption, and worry) was negatively correlated (Jackson, Kimiecik, Ford & Marsh, 1998).

2.4.3 Flow and Goal Orientation

Research by Elliot and Church (1997), Elliot and McGregor (1998), Harackiewicz and Elliot (1998) and Grant and Dweck (2003) all found that learning goals positively predict intrinsic motivation. Intrinsic motivation was shown to relate to flow, and some researchers even consider flow to be a type of intrinsic motivation, although it is more like a consequence of it. A learning goal orientation stems from an intrinsic interest in one's work – a preference for challenging work, a view of oneself as being curious, and a search for opportunities that permit independent attempts to master material (Judith, Blumenfeld & Hoyle, 1988). This creates the necessary conditions of flow experience as one focuses on the task at hand; therefore, flow experiences increase the likelihood of learning new skills (Csikszentmihalyi & LeFevre, 1989).

In a recent study by Grant and Dweck (2003) learning goals predicted intrinsic motivation both at the beginning of a highly difficult course and at the end of it, and "there were no other significant predictors of intrinsic motivation" (p. 557). Earlier studies by Elliot, Harackiewicz, and their colleagues (Barron & Harackiewicz, 2001; Elliot & Church, 1997; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997;

Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000, Rawsthorne & Elliot, 1999) had also found that learning goals positively predict intrinsic motivation.

Csikszentmihalyi (1999) emphasizes that to lead a happy life, it is necessary to find flow in activities that are complex, activities that provide a potential for growth over an entire lifespan, that allow for the emergence of new opportunities for action, and that stimulate the development of new skills (p. 826). These activities fit the definition of learning goals. A learning oriented individual, focusing on the task and the process, is expected to experience more flow than a performance-oriented individual, who is more interested in the outcomes. "… if one gets to be too complacent, [she feels] that psychic energy invested in new directions is wasted unless there is a good chance of reaping external rewards for it" (Csikszentmihalyi, 2002, p. 47).

Relationships were recognized between frequency of flow experiences and endorsement of learning involvement (Jackson & Roberts, 1992). Using multiple regression analysis to determine which goal orientation was a better predictor of flow, Oh (2001) found learning orientation to be significantly related to it. When learning orientation increases, the level of flow also increases. Novak, Hoffman and Duhachek (2003) found further "evidence of flow for task-oriented [i.e. learning oriented] rather than experiential activities, although there is evidence flow occurs under both scenarios" (p. 3).

Given the discussed findings, the following is hypothesized:

Hypothesis 3: Individuals who prefer learning goals are likely to score higher on flow than those who prefer performance goals.

2.5 Skill Variety

The expected consequences of goal orientation on flow and job satisfaction have been discussed. However, the proposed relationships might be affected by another variable, perceived skill variety, which will be referred to as "skill variety". It is not the skills we actually have that determine how we feel, but the ones we think we have (Csikszentmihalyi, 2002). Similarly it is the "perceived" skill variety that is proposed to influence other relationships.

Skill variety is defined as the degree to which a job requires a variety of different activities in carrying out the work, and it indicates the use of a number of different skills and talents of the person. The construct of skill variety has emerged together with the other five job characteristics dimensions (i.e. task identity, task significance, autonomy and feedback) in the development of Job Diagnostic Survey (JDS; Hackman & Oldham, 1975). JDS was revised about a decade later by Idaszak and Drasgow (1987). Each version of JDS has its advantages and disadvantages (Kulik, Oldham & Langner, 1988), and both are used. "The Hackman and Oldham (1975) Job Characteristics Model examines the responses of individuals to their jobs as a function of job characteristics and

individual characteristics. It seems that the employees' personal characteristics may be as, if not more, important than the job characteristics" (Thomas, Buboltz & Winkelspecht, 2004).

Learning oriented individuals prefer challenging tasks; they choose variable work to increase their knowledge rather than working repetitiously. Therefore, the more the variability in their job, the more they may be satisfied and experience flow. Performance oriented individuals, on the other hand, perceive challenge as a threat as they prefer tasks that they know they can do well. According to the literature on goal orientation, skill variety is expected to moderate the proposed relationships. Moderation implies that the causal relation between two variables (i.e. goal orientation and job satisfaction, goal orientation and flow) changes as a function of the moderator variable (Baron & Kenny, 1986).

In the current study, the effect of an individual characteristic (i.e. trait goal orientation) on an individual response (i.e. job satisfaction) and the moderation of a job characteristic (i.e. skill variety) will be explored. According to the definition of moderation, the interaction of predictor and the moderator should have a significant effect on the outcome variable. The predictor and/or the moderator can affect the outcome variable as well (Baron & Kenny, 1986). Some studies have demonstrated that skill variability has an influence on job satisfaction and on flow.

Hackman and Oldham (1975) reported the correlation between skill variety and general satisfaction to be .32 ($p < .01$). The same relationship was found .37 ($p < .01$) by Glick, Jenkins and Gupta (1986), and .20 ($p < .05$) by Singh (1998). Although most of the researchers attributed these results to the influence of job characteristics on satisfaction, James and his colleagues (James & Jones, 1980; James & Tetrick, 1986) took a different approach. They proposed that job satisfaction influences perceived job characteristics, not the other way around. Accordingly, how much satisfaction one gets from her job identifies her perception of job characteristics.

A meta-analysis suggested that skill variety, among the five job dimensions, has one of the two second greatest effects on job satisfaction (Loher, Noe, Moeller & Fitzgerald, 1985). Job dimensions have shown interactions as they affect job satisfaction. Dodd and Ganster (1996) displayed an interaction of autonomy and variety as predictors of job satisfaction. Subjects doing a simple, repetitive task showed only a modest increase in satisfaction with an increase in control over how they did the work, whereas those performing a more complex task showed a greater increase in satisfaction with increased control and independence.

Skill variability was also found to relate to dispositions and to interact with them. Negative affect was demonstrated to relate to skill variety (Saavedra & Kwun, 2000). Necowitz and Roznowski (1994) found task conditions to moderate the relationship between negative affectivity and satisfaction. Task consistency moderated the relationship between goal orientation and intrinsic motivation when it was manipulated

by changing the rules of the task (Steele Johnson et al, 2000). Job characteristics and job complexity mediated the relationship between core self-evaluations and job satisfaction (Judge, Bono & Locke, 2000).

According to Hackman and Oldham's (1976) Job Characteristics Model, experienced meaningfulness, experienced responsibility and knowledge of results mediate the relationship between the job characteristics and the outcome variables including job satisfaction. Skill variety affects experienced meaningfulness, which then affects satisfaction. Behson, Eddy and Lorenzet (2000) emphasize the importance of realizing that skill variety does not directly influence job satisfaction, but it shows interactions with other variables. "The fact that skill variety has been found to be positively correlated with job satisfaction could lead practicing managers to believe that satisfaction can be improved simply by increasing [skill variety]. However, according to the JCM, skill variety should only lead to positive outcomes to the extent that this increase results in a corresponding increase in experienced meaningfulness of the work. If an increase in variety does not result in increased feelings of meaningfulness, it is reasonable to hypothesize that this would result in a negative or non-significant change in satisfaction" (p. 173).

Recently, Staw and Charash (2005) reported a significant interaction of disposition and job characteristics on job satisfaction. For their longitudinal study, they collected data from MBA students regarding the ideal jobs they would like to have following graduation. They collected a second set of data several years later. The results show that for those individuals who were low in positive affect, the nature of the job

(how close it was to one's ideal) was strongly related to satisfaction. The individuals whose work was different from their ideal were relatively dissatisfied. On the other hand, the nature of the job was less influential for those who were high in positive affect. Decrease in the congruence between their ideal job and their present job could not decrease job satisfaction for these individuals as it did for the others even if they their job was very different than their ideal job. "A positive disposition seemed to insulate the individual from having to endure a job that would generally be undesirable from the person's own point of view" (p. 69), whereas a negative disposition increased the effect of incongruence of the job from the ideal on job dissatisfaction.

Another recent research (Demetrouti, 2006), with a sample of 113 employees from several occupations, reported that job characteristics are strongly related to work-related flow. Furthermore, the interaction of flow and conscientiousness was a predictor of performance. It was concluded that this study is one of the first to show that flow "can be beneficial for both the individual and the organization in terms of job performance" (p. 275).

The present research will investigate whether the hypothesized relationships between goal orientation and job satisfaction as well as flow (Hypothesis 2 and Hypothesis 3) are moderated by the skill variety the job requires. Since there is no literature on this relationship, post-hoc analysis will be conducted as the exploratory part of this research.

Chapter 3

METHOD

3.1 Participants

Two specific professions were chosen for this study, theater actors and elementary school teachers. This is similar to the sample choice of Csikszentmihalyi when he first defined and explored the construct of flow. He used participants from specific occupations for research instead of recruiting large samples with fewer restrictions such as choosing all white-collar employees.

There are two reasons for choosing theater actors and elementary school teachers. First, most of the studies about goal orientations were carried out in academic setting which is different than work setting due to the learning environment. However, for some jobs, such as sales, performance is evaluated based on some concrete outcome, and learning might not contribute to performance in the short term. In a sample of salespeople, Harris et al. (2005) found that learning orientation positively influences customer orientation; however, it is performance orientation

which positively influences selling orientation, thus selling performance. On the contrary, theatre actors and teachers are expected to have learning goals due to the nature of their jobs. Their job is based on continuous learning of lines and other material suggesting that their job performance is expected to benefit from learning in the short term.

Second, these two occupations are considered to be more likely to create flow experiences than many other occupations. There are many different kinds of work in the job description of these occupations; however, there is a specific time when they present their work to the audience or to the students. This is a period of time when the work itself (i.e. acting and teaching) in a play or a class without interruptions which sets the perfect situation for experiencing, thus measuring flow.

Different channels were used to contact the participants of the two occupations which will be explained separately. With the collaboration of Hekimler Birliği Yayınevi[1], all of the contact persons who found participants were given a book called "Akış" (Flow) written by Csikszenmihalyi to show appreciation for their help in finding participants. The total sample included 247 participants.

[1] The publisher of the book "Akış."

3.1.1 Theater Actors Sample

The actors sample consisted of 130 participants who were recruited in various ways. The first group of participants came from Municipal Theaters (Belediye Tiyatroları). Permission was authorized by İstanbul Metropolitan Municipality Management of Theaters (İstanbul Büyükşehir Belediyesi Tiyatroları Müdürlüğü) to enter the backstage of all the requested plays with the condition of using the exact questionnaire that was presented to them while applying for this permission.

Through the researcher"s acquaintance network, some actors of both İstanbul and Ankara State Theaters (Devlet Tiyatroları) and some members of Bakırköy Artists Association (Bakırköy Sanatçılar Derneği) who were having performances during the time of data collection also participated in the study. The final source of participants was a private theater called Kent Oyuncuları that consists of eight actors.

Among the 130 actors, 67 were males and 63 were females. There was a wide range of age between 19 and 78 with a mean of 37.71 and an SD of 12.47. The number of years participants had been acting in theaters varied from 1 year to 62 years (mean experience in the occupation = 16.12, *SD* = 12.33). Table 3.1 displays the demographic characteristics of each sample.

On the questionnaire there were two consecutive questions regarding the residence. The first one was "where are you living now?" and the second one was

"how long have you been living in this city?" Among 130 actors only 14 were living out of İstanbul. That is because those 14 participants work for Ankara State Theater, and data were collected as they were visiting İstanbul for a play during their tour. Table 3.2 shows the frequencies and percentages of the participants coming from different regions.

3.1.2 Teacher Sample

About forty schools' principals were contacted for a permission to enter the school to give the teachers questionnaires. More than ten private schools accepted to participate provided that their names would not appear on any publication, whereas no public shools showed any interest. The second source of participants were two teachers in İzmir who distributed the questionnaires to their colleagues in the schools they work for. Both of these schools are public schools.

Among the 117 teacher participants, 33 were males and 84 were females at ages between 22 and 61 (mean age = 38.59, *SD* = 9.81). The most experienced participant was a teacher for 44 years while the least experienced had only one year of experience. 34 of the teachers participated in İzmir (public schools) in addition to 83 teachers in İstanbul (private schools). When the residence city is taken as a variable for the teachers, it shows significant correlations with some study variables. Unfortunately it is not possible to know whether these effects are a result of the city or the school being public or private. This issue will be discussed later.

Table 3.1

Descriptive Statistics for Demographic Data for Actor and Teacher Samples

	Teacher Sample (N=117)				Actor Sample (N=130)			
Variable	Mean	SD	Min	Max	Mean	SD	Min	Max
Age	38.60	9.81	22	61	37.71	17.47	19	78
Tenure	15.96	11.19	1	44	16.12	12.33	1	62
Years of living in this city	20.39	12.33	1	50	76.93	14.68	1	73
Where most of life was spent[2]	1.54	0.73	1	4	1.09	0.32	1	3
Number of children	1.58	0.63	1	4	1.55	0.80	1	5
Education of mother[3](1 = low, 11 = high)	4.36	2.45	1	10	5.79	2.31	1	11
Education of father[2] (1 = low, 11 = high)	5.62	2.59	1	10	6.95	2.14	1	10
Education of oneself[2] (1 = low, 11 = high)	8.95	0.87	1	10	8.69	0.97	6	11
Perceived household income as a child	5.56	1.31	2	9	5.54	1.04	3	9
Perceived household income now	5.73	1.22	1	9	5.64	1.16	2	9

[2] Coded as 1=metropolis (Ankara, İstanbul or İzmir), 2=city, 3=town, 4=village.
[3] Details of rating scales are presented in the Measures Section

Table 3.2

The frequencies and percentages of the participants' regions

Actor Sample			Teacher Sample		
	Frequency	Percent		Frequency	Percent
İstanbul	116	89.2	İstanbul	83	70.9
Ankara	14	10.8	İzmir	34	29.1
Total	130	100		117	100

3.2 Procedure

The questionnaire consisted of scales for implicit theory of intelligence, goal orientations, skill variety, job satisfaction and flow, and it was administered in Turkish. There was a cover page which informed the participants that their names were not required, all the data would be kept confidential, and this study was only for academic purposes. It was also stated that one does not have to fill all of the questionnaire right after the performance (i.e. acting or teaching), but that only the last page(s) (last page for the actors and last two pages for the teachers: i.e. flow scale) was/were supposed to be filled in no more than 20 minutes after the performance.

All of the participants were also informed that they could decline to participate, but if they do not, they would still be able to quit the study if they did not

want to continue for any reason. In addition, the participants were asked to provide their contact information if they request the overall results of the study. Participants completed the questionnaires in approximately 15 minutes.

Only one person chose to quit the study, although he had accepted to participate. He refused to fill the flow scale because he said that he had been thinking about nothing other than the soccer game that was going to be played at the night of the study, and that he was concentrated on the game even when he was acting. About forty individuals asked for the results as well as the school and theater administrations.

3.2.1 Data Collection in Actor Sample

In both Municipal Theaters and State Theaters, the researcher conducted the study by staying at the backstage from two hours prior to each play until whenever the questionaires were completed after the play. Substitute directors[4] of all the plays of Municipal Theaters, whose phone numbers were provided by İstanbul Metropolitan Municipality Management of Theaters, were contacted before each play to discuss the data collection procedure. Since the flow questionnaire was supposed to be filled out after the performance, those actors who had to rush somewhere after the play completed the questionnaire during the play when they were

[4] A "substitute director" is an actor in the play who also works as a director during the play because the directors do not regularly attend the performances. A director usually starts directing a new play once the rehearsals for the previous one are over.

not on stage, but after they had performed for at least one act. Only about ten actors declined to participate, and very few could not participate due to excuses like not having their glasses with them that day.

The questionnaires were given in advance to those participants who are members of Bakırköy Artists Association (N = 19) and Kent Oyunculari (N = 8), and the participants returned the questionnaires after completing them following a performance.

Some theater actors have a second acting job. They work for a television show as well as acting in the theater. It was made clear to all of the actors that in case one was engaged in any acting job other than acting at the theater, she should only consider acting in the theater when answering the questions.

3.2.2 Data Collection in Teacher Sample

All of the teachers of those schools which agreed to participate in the study were sent individual e-mails regarding the research. They were informed about the time the researcher would make the questionnaires available, and kindly asked to participate. Since the teachers were asked to fill two copies of the flow scale after two different classes, it was not possible for the questionnaires to be completed at once.

The questionnaires were taken to the schools by the researcher. In some schools the questionnaires could be given to the teachers directly, and collected from them a few days later. Some schools did not allow the researcher to wait in the teachers room to give the questionnaires, so they were placed in the teachers room for the teachers to come and take at any time. If a teacher was not given the questionnaire individually, than she was sent a second e-mail regarding the availability of the questionnaire and the importance of her participation. All of the e-mails (i.e. the first and the second) were written specifically to the receivers, having their names in the text section. Some of the participants showed great interest in the research, and they were sent a copy of "Akış."

3.3 Measurement

Teacher and actor participants completed almost the same questionnaires. Except for some words ("acting" was replaced with "teaching", and "stage" was replaced with "class") the only difference was that the teachers were given two copies of the flow scale to be completed after two different lessons. This provided information regarding the reliability of the scale. On the other hand, due to the actors' mobility, it was not convenient to give them two copies.

Before the actual study, a pilot study was conducted. Sixty academicians at Koç University were sent e-mails briefly informing them about the pilot study and asking them to participate. Thirty-four academicians agreed to participate. The

researcher took a questionnaire to each academician right at the end of a class they taught, and collected it some time during the same day. They were asked both to participate and to make comments if anything seemed ambiguous or hard to understand. Considering the comments and the reliabilities, only the flow scale was modified after the pilot study which will be discussed in detail later.

The scales in the questionnaires that were completed by teacher and actor participants are described in the following sections according to the order of their existence on the questionnaires. A copy of each questionnaire is given in the Appendices as well as the original versions of the scales.

3.3.1 Implicit theories of intelligence

The first part of the questionnaire consists of eight items to measure the implicit theory of intelligence. Previously most research used the three-item scale that was developed by Dweck and Henderson (1988). The three items were all supportive of the entity theory to avoid the social desirability of incremental items. Since Dweck had considered entity theory and incremental theory as a continuum, items of either theory seemed to be sufficient.

However, Levy and Dweck (1997) expanded the implicit theory of intelligence measure by including four entity theory items as well as four incremental theory items. Incremental theory items were strengthened to avoid social desirability

(e.g., “You can substantially change how intelligent you are”, “No matter who you are, you can significantly change your intelligence level”). Recent research (Dupeyrat, 2005) shows that the assumption that a person holds the opposite theory of the theory she rejects may not always be true. This necessitates items for both theories. In the present study all eight items were used with a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree).

Levy and Dweck’s 8-item implicit theory of intelligence scale was translated into Turkish by Özkan, Altınsoy, and Bayazıt (2004). The internal consistency of the 8-item scale was found $\alpha = .90$ by Özkan et al (2004), and $\alpha = .95$ in the pilot study of this research.

Among the implicit theory scales Dweck and her colleagues have developed (Dweck, 1999), implicit theories of intelligence is the only one that did not use the “people” format. In the present study, instead of framing the questions in “you” format, “people” format was used as done in another study in a work setting (Rodoplu, 2006). This helps not only to avoid social desirability, but also helps to ensure that participants’ beliefs about the malleability of intelligence is obtained rather than their beliefs about the malleability of their own intelligence, which might be vulnerable to bias. The reliabilities of the implicit theories of intelligence scale for teacher sample and the actors sample are $\alpha = .90$ and .87, respectively.

When factor analysis was conducted on the separate samples' data, only one component was extracted for the teachers. In order to calculate one implicit theory of intelligence score, the entity items were reverse coded. Therefore, higher scores indicate less belief that intelligence is fixed. On the other hand, two components were extracted for the actors sample, suggesting that incremental score and entity score should be calculated separately. Scores for each sample were calculated according to the factor analysis results.

3.3.2 Job Satisfaction

Job satisfaction was measured by a five-item scale developed by Bacharach, Bamberger, and Conley (1991). This scale "emphasizes the match between expectations and perceived reality for broad aspects of the job taken as a whole" (Bacharach, et al., p. 45). The participants evaluated how satisfied they were with five aspects of their jobs on a 5-point Likert scale ranging from 1 (very dissatisfied) to 5 (very satisfied).

The reliabilities of the job satisfaction scale for the pilot study sample, teacher sample and the actors sample are α = .86, .91, .79 respectively. Factor analysis with varimax rotation revealed one component in both samples as expected.

3.3.3 Skill variety

Although many measures of job characteristics have been developed in the last decades, the "Job Diagnostic Survey (JDS) continues to be the most widely used measure of the nature of jobs" (Fields, 2002). JDS, developed by Hackman and Oldham (1975; cited in Fields, 2002), includes five subscales. Among these five subscales, skill variety was used. JDS originally had two items for skill variety until it was revised and reduced to one item (Idaszak & Drasgow, 1987).

In the present study both the two items from the longer version of the JDS and the single item from the shorter version of it were used constituting a three-item scale. The correlation between the mean of the two items and the single item is .466 (N = 247, p = .01). Factor analysis for the three items with varimax rotation revealed a single component in both samples as expected. Therefore skill variety score was calculated using three items.

The single item was measured on a 5-point Likert scale where 1 and 5 had explanations (i.e. 1= Çok düşük seviyede çeşitlilik; İşim, rutin olarak hep aynı şeyleri yapmamı gerektiriyor.; 5= Çok yüksek seviyede çeşitlilik; İşim bir çok farklı şeyi içeriyor; bunları gerçekleştirmek için sürekli farklı beceri ve yeteneklerimi kullanmam gerekiyor.). The two items were measured on a 6-point scale ranging from 1 (tamamen yanlis) to 6 (tamamen dogru). The reliabilities of the job satisfaction

scale for the pilot study sample, teacher sample and the actors sample are α = .86, .91, .79 respectively.

3.3.4 Goal orientation

Goal orientation was measured by Button et al.'s (1996) goal orientation scale which they developed for a research that aimed to explore dispositional aspects of goal orientation. Button et al. (1996) wrote performance goal items "to reflect a preference for nonchallenging activities, a desire to avoid mistakes and a tendency to evaluate performance by [the performance of others]." They wrote the learning goal items "to reflect a desire to engage in challenging activities, an eagerness to improve oneself and a tendency to use one's past performance as a standard to evaluate current performance." The internal consistency of the goal orientation scale was .78. In the present study, the reliabilities of the goal orientation scale for the pilot study sample, teacher sample and the actors sample are α = .84, .75, .79 respectively.

The factor analysis with varimax rotation revealed three factors with eigenvalues over 1 for actor sample and four factors for teacher sample. One of the factors of teacher sample consisted of only one item (i.e. item 6), and it was treated similar to the actor sample for the reasons that will be discussed later. All of the learning orientation items loaded on one factor as expected. However the performance orientation items loaded on two different factors. When the items were

examined, it was seen that they actually divide into “performance-approach orientation” and “performance-avoidance orientation” items.

Elliot and Harackiewicz (1996) proposed that the conventional achievement goal dichotomy should be expanded to incorporate approach and avoidance as independent motivational tendencies within the performance goal orientation because they actually exert differential effects on achievement behavior by activating divergent sets of motivational processes (p. 462). Performance-approach goals can have a different role in achievement dynamics than performance-avoidance goals (Elliot, 1999). Although the present research had chosen to use a dichotomous framework, the factor analysis results necessitated making a distinction between the performance-approach goals and performance-avoidance goals.

Performance-approach goals focus on attaining success, whereas performance-avoidance goals focus on avoiding incompetence and failure (Elliot & Harackiewicz, 1996; Elliot & Church, 1997). Although both of these goals give high importance to others’ judgments, one is focused on the attainment of favorable judgments of normative competence, and the other one is focused on avoiding unfavorable judgments of normative competence (Rawsthorne & Elliot, 1999). In the actor sample items 8, 5, 7 and 4 loaded on one factor, and items 1, 2, 3 and 6 loaded on the second factor. When the loadings as well as the items were examined, it was clear that items 4, 5 and 8 (“Başkalarının belli şeyleri ne kadar iyi yapabildiğimle ilgili düşünceleri benim için önemlidir.” “Bir şeyi diğer insanların çoğundan daha iyi

yapabildiğim zaman kendimi akıllı hissederim." "Bir şeyi hatasız yaptığım zaman kendimi akıllı hissederim.") constitute performance-approach orientation. On the other hand, items 2, 3 and 6 ("İşte en mutlu olduğum zamanlar, hata yapmayacağımı bildiğim işleri yaptığım zamanlardır". "En çok zevk aldığım şeyler en iyi yaptıklarımdır." "Bir işe girişmeden önce o işi başarabileceğimi az çok bilmek isterim.") constitute performance-avoidance orientation. Items 1 and 7 were excluded from the analysis since they did not clearly and meaningfully load on either factor.

The teachers sample showed a slight difference in the way the items separated into two factors. To find the most meaningful factor structure, the analyses were repeated with three different approaches. First, item 7 was eliminated, as was done for the actors data. Then, item 6, which was the only item loaded on one of the factors, was eliminated instead of item 7. Lastly, both item 6 and item 7 were eliminated. Neither correlations nor multiple regression analyses revealed any differences between these three approaches. There was no relationship whose significance differed according to the approach considered. Therefore, the results for the approach where item 7 was eliminated will be reported. This way the meaning of the construct is the same for the two samples which allows comparison between teachers and actors.

Once the factor analyses of goal orientation for both samples were conducted as explained, the functionality of the trichotomous framework was tested by further analysis. Although it is important to avoid a proliferation of constructs, it is also

important to maintain distinctions between constructs when they reflect important and functional differences (Pintrich, 2000a). Since Button et al. (1996) developed this scale to include one factor for performance-orientation, it was appropriate further to show the necessity of two factors of performance-orientation empirically.

For both sets of data, three scores were calculated: performance-orientation (all of the items), performance-approach orientation (items 4, 5, 8) and performance-avoidance orientation (items 2, 3, 6). All of the analyses were carried out twice for each sample, once using two separate scores of performance-orientations, and once more using one total score for the performance orientation construct. The two-performance scores approach gave more meaningful results, suggesting that it is not only conceptually but also empirically more reasonable to calculate two performance scores instead of one. An example of such a meaningful result is that all of the effect of performance orientation on job satisfaction comes from performance-approach orientation with no contribution from performance-avoidance orientation. Due to this empirical support for the distinction of performance orientation into two, the results of the two performance orientation approach will be reported for this study. The three factors (i.e. learning orientation and two performance orientations) explained 56% of the variance in the whole data.

3.3.5 Individual Demographics

Since some participants (especially teachers) could fill out the first pages of the questionnaire separately from the flow scale(s), the individual demographics part was placed right before the flow scale(s) instead of at the end. Demographics were questioned in order to assess and control the effects of some background variables such as age, gender, education, and income.

Participants were asked about their age, sex, years of experience in this occupation, the city they are currently living in, the number of siblings, marital status, number of children, income of the family they grew up in, income of own/family now, their own education, and their parents' education. Education question was prepared as a table where there are 11 options for each of three people (mother, father, own) including both graduation and dropping out alternatives for each degree (0=no education, 1=dropped out of primary school, 2= graduated from primary school, 3= dropped out of middle school, 4= graduated from middle school, 4= dropped out of high school, etc.)

3.3.6 Flow

Flow was measured by a Turkish translation of a flow scale which includes eleven items that are derived from descriptions of flow characteristics in the literature. There is one item for each characteristic (i.e. clear focus of attention, clear

knowledge of goals, mind and body unison, effortless concentration on the task, a sense of control, enjoyment, deep but effortless involvement, direct feedback on performance level, lack of self-consciousness, distortion of time, and a sense of balance between challenges and skills). Employing the same eleven characteristics of flow, Jackson (1992) found the reliability to be .75, and Catley and Duda (1997) found it to be .86.

The scale that was used in this study was used by Oh (2001) where it was given to the participants after more than one performance and the mean of scores were taken. For this study it was filled out by the teacher sample twice. The correlation of the two flow scores is .66, and the reliability of 22 items together (i.e. taking two flow scales as one scale) is .95. When each item of the two scales were correlated with each other, all of them were significant at the 0.01 level. The similarity of both flow scores for each teacher suggest that it is not problematic to take the mean of the two flow scores to calculate one flow score.

The flow scale was the only scale for which the participants of the pilot study offered modifications. There were three items that received reactions from the participants. When answers of these items were included, the internal consistency was $\alpha = .65$. Since the satisfactory level of reliability is .70 (Nunally, 1994) these items were excluded. By excluding these items the internal consistency was raised to $\alpha = .81$. However this scale has one item for each dimension of flow, so it was not appropriate to exclude any items for the study. As a result of the reactions, the

wordings of these three items were changed. Alternatives for these three items were developed and asked to a number of people for their understandability and accuracy. One item for each characteristic of flow that received positive reactions was chosen to replace the first translations (e.g., “Zaman değişmiş gibiydi (yavaşlamış ya da hızlanmış).” was changed to “Zamanın nasıl geçtiğini anlamadım.”). The reliabilities of the flow scale for the teacher sample and the actors sample are α=.82 and .93 respectively.

Similar to the implicit theory of intelligence scale, the factor analysis with varimax rotation revealed different results for each sample. One of the flow scales of the teachers revealed a single factor. The other flow scale of the teachers revealed two factors with varimax rotation; however, the items loading on the second factor were double-loading on the first factor as well. Therefore, one flow score was calculated for the teacher sample.

In actors data; on the other hand, three factors were extracted with eigenvalues over 1 with varimax rotation. An exploration of the items showed that four items are about having control over the work one is doing (i.e. “Ne yapmam gerektiğini net olarak biliyordum.” “Aklım ve bedenimin mükemmel bir birliktelik içinde çalıştığını hissettim.” “Herşey kontrolüm altındaydı.” “İşi yaparken nasıl (ne kadar iyi) yaptığımı anlayabiliyordum.”), whereas three items (“Kendimi yaptığım işe tamamen ama zahmetsizce kaptırdığımı hissettim.” “Yaptığım işe dalmıştım.” “Zamanın nasıl geçtiğini anlamadım.”) are about being involved in the work. The remaining four

items; on the other hand, do not share a common meaning. Therefore, the construct was meaningfully divided into two dimensions.

Since the flow construct had never been divided into sub-dimensions like this before, two approaches were taken. All of the analyses were carried out using a single flow score. Then, they were repeated using the distinction that the factor analysis suggested. As expected, the two scores approach provided improvements in the results. In some cases different variables predicted the two different flow scores, although all of those variables also predicted the "flow score" (i.e. one factor flow score) before it was divided. In other words, the two-factor approach was empirically supported since the two factors resulted in different significant relationships. Since using the two-factor flow approach provides more information, analyses with two-factor approach are reported for the actors sample. Derived from the meanings of the items, the two flow scores are called "flow control" and "flow involvement".

Mediation refers to the covariance relationships among three variables: an independent variable (IV), a potential mediating variable, and a dependent variable (DV). If the mediating variable (i.e. goal orientation) accounts for a significant amount of the shared variance between the other two variables, mediation exists (Baron & Kenny, 1986). This is tested by first regressing the IV on the DV and on the mediator, which should yield significant results. Then the mediator is added to the regression equation. If

the effect of the IV on the DV is reduced or becomes non-significant when the mediator variable is added, mediation is confirmed.

A moderator; on the other hand, is defined as a qualitative or quantitative variable which influences the direction and/or strength of the relationship between an independent (or predictor) variable and a dependent (or criterion) variable (Baron & Kenny, 1986). If adding the cross-product of the predictor (i.e. goal orientation) and moderator variable (i.e. skill variety) to the regression equation causes a significant ΔR^2, than moderation effect is defined to exist.

Chapter 4

RESULTS

The purpose of this study was to explore the relationships between implicit theory of intelligence and goal orientation, goal orientation and flow and goal orientation and job satisfaction. In order to test these relationships, multiple regression analyses were conducted. Then moderated and mediated multiple regression analyses were executed to test all of the relationships in one model. The analyses will be reported separately for teachers and actors starting with the descriptive findings and the correlations.

4.1 Actor Sample

4.1.1 Descriptive Findings

Table 4.1 displays descriptive findings for all of the study variables of the actor sample. The mean of the flow scores and skill variety scores were found to be quite high (M = 7.06 over 9 for flow, and M = 4.75 over 5.67 for skill variety). This was not

unexpected because the occupations were specifically chosen to create high flow, and acting is especially known for that. Furthermore, only 8 out of 130 participants are working in a private theater. The rest earn very little from their jobs at the public theater suggesting that they choose to have this job not to earn money, but for the non-monetary values it provides, one of which might be flow.

Table 4.1

Descriptive Statistics for all of the study variables for actor sample

Variable	Mean	SD	Min	Max
Incremental score	3.92	1.09	1	6
Entity score	3.29	1.26	1	6
Learning goal score	4.23	0.70	2.13	5
Performance-approach goal score	3.61	0.79	1.67	5
Performance-avoidance goal score	3.74	0.78	1.67	5
Job satisfaction score	3.37	0.73	1.40	5
Flow control score	7.50	1.14	4.75	9
Flow involvement score	6.61	1.74	1	9
Skill variety	4.75	0.88	1.50	5.67

4.1.2 Correlations

Bivariate correlations were calculated among all study variables and demographic variables. Demographic variables were included so that those which are related to the dependent variables could be identified and controlled for during the further analyses to prevent bias. If control variables were highly ($p < .01$) correlated among themselves, the one(s) with the highest correlation with the dependent variable was controlled for. The significant and non-significant bivariate correlations for the actor sample are presented in Table 4.2.

4.1.3 Hypothesis Testing

Multiple regression analyses were used to test the hypothesized relationships. In all of the regression analyses that were conducted to test the hypotheses and the models for both samples, raw data were centered using mean subtraction to reduce the potential problem of multicollinearity. In other words, the mean of the sample's score was subtracted from the participants' score before the analysis.

Table 4.2

Correlations of all of the variables for actor sample

	1	2	3	4	5	6	7	8	9	10
1. Sex[1]										
2. Age	-0.23**									
3. Education	0.05	-0.28**								
4. Mother's education	0.37**	-0.10	0.19*							
5. Father's education	-0.20*	-0.05	0.19*	0.62**						
6. Tenure	-0.16	0.90**	-0.33**	-0.01	-0.02					
7. Where most of life was spent	-0.14	-0.09	0.09	-0.20*	-0.12	-0.09				
8. Years of immobility	-0.11	0.57**	-0.23*	0.08	-0.03	0.55**	-0.23*			
9. Number of children	-0.17	0.55**	-0.34*	-0.18	-0.15	0.49**	-0.12	0.38*		
10. Family income	0.04	0.02	0.12	0.30**	0.26**	0.03	-0.12	0.19*	-0.02	
11. Income now	-0.08	0.26	0.02	0.10	-0.01	0.26**	-0.07	0.23**	0.01	0.50**
12. Incremental score	-0.04	-0.15	0.10	0.09	-0.09	-0.18*	0.20*	-0.24**	-0.28	0.11
13. Entity score	0.10	-0.04	-0.06	0.01	-0.01	-0.06	-0.19	-0.06	-0.22	-0.08
14. Learning goal score	0.04	-0.14	0.05	-0.07	-0.03	-0.12	0.03	-0.13	0.03	0.02
15. Performance-approach goal score	-0.04	-0.07	0.05	-0.09	-0.03	-0.08	-0.01	-0.02	-0.05	-0.12
16. Performance-avoidance goal score	-0.10	0.21*	-0.10	-0.08	0.00	0.16	-0.01	0.10	0.04	0.00
17. Job satisfaction score	-0.14	0.14	-0.24**	0.02	-0.08	0.16	0.11	0.21*	0.27	0.18*
18. Flow control score	0.17	0.07	-0.12	-0.13	-0.08	0.14	-0.18*	0.08	-0.10	-0.06
19. Flow involvement score	0.17	0.03	-0.24**	-0.13	-0.14	0.03	-0.03	0.01	0.00	-0.05
20. Skill variability score	0.02	0.04	0.03	0.22	0.23**	0.12	-0.01	0.02	-0.17	0.11

Note: N= 130 * p< .05, ** p< .01.

[1] Sex was coded as 0=male, 1=female.

Table 4.2 (cont.)

Correlations of all of the variables for actor sample

	11	12	13	14	15	16	17	18	19
1. Sex[2]									
2. Age									
3. Education									
4. Mother's education									
5. Father's education									
6. Tenure									
7. Where most of life was spent									
8. Years of immobility									
9. Number of children									
10. Family income									
11. Income now									
12. Incremental score	0.02								
13. Entity score	-0.05	-0.56**							
14. Learning goal score	-0.14	0.33**	-0.23**						
15. Performance-approach goal score	-0.02	-0.22*	0.32**	-0.08					
16. Performance-avoidance goal score	0.01	-0.13	0.17	-0.14	0.32**				
17. Job satisfaction score	0.36**	0.07	-0.13	0.20*	0.20*	0.02			
18. Flow control score	-0.06	0.05	0.04	0.27**	-0.01	0.01	0.07		
19. Flow involvement score	0.00	0.14	0.04	0.29**	0.13	0.16	0.24**	0.46**	
20. Skill variability score	0.10	0.01	-0.09	0.28**	0.01	-0.02	0.30**	0.25**	0.10

Note: N= 130, * p< .05, ** p< .01.

[2] Sex was coded as 0=male, 1=female.

4.1.3.1 Implicit Theories of Intelligence and Achievement Goal Orientation

Hypothesis 1a predicted that individuals with an incremental theory of intelligence are more likely to adopt learning goals than are individuals with an entity theory of intelligence. The only significant correlation between incremental score and three goal orientations occurs for learning goal orientation *(r*(130) = .33, $p < .01$) which shows a relationship between incremental theory and learning orientation. Entity score, on the other hand, is negatively correlated with learning goal score *(r*(130) = -.23, $p <$ .01), indicating a reverse relationship.

The effect of incremental score can be explored further by regressing implicit theory of intelligence on goal orientations. Table 4.3 shows the regression results for two implicit theories of intelligence and three different goal orientations treated as the dependent variables. There are no control variables for learning orientation and performance-approach orientation since none of the demographic variables were significantly correlated them. Since the correlation between incremental score and entity score is negative, *r*(130) = -.56, $p < .01$, these scores are added to the regression equation at different steps to show the improvement the second model (i.e. addition of incremental score) provides. Once the incremental score was added, there was a significant R^2 change ($p < .01$) resulting in a good fit of the data (F (2,127) = 7.77, $p = .001$). In other words, holding an incremental theory of intelligence is positively related to preference for learning goals (t(127) = 2.87, $p = .005$), whereas holding an entity theory does not have

such a relationship ($t(127) = -0.62$, $p > .50$). Therefore Hypothesis 1a is supported by the data.

Table 4.3
Multiple regression analyses testing the effect of implicit intelligence theory on achievement goal orientations for the actor sample

	St. β	R^2	R^2 change	F	F change
Criterion: Learning Goal Orientation					
Step 1. Entity Score (IV)	-0.226**	0.051		6.917**	
Step 2. Incremental Score (IV)	0.291**	0.109	0.058	7.767***	8.227**
Criterion: Performance-avoidance Goal Orientation					
Step 1. Control Variable		0.044		5.842*	
Age	0.209*				
Step 2. Incremental Score (IV)	-0.101	0.054	0.01	3.595*	1.333
Step 3. Entity Score (IV)	0.173	0.074	0.02	3.338*	2.726
Criterion: Performance-approach Goal Orientation					
Step 1. Incremental Score (IV)	-0.097	0.009		1.213	
Step 2. Entity Score (IV)	0.273**	0.060	0.051	4.064*	6.860**

Note: $^{*}p < .05$; $^{**}p \leq .01$; $^{***}p = .001$

Hypothesis 1b suggested that individuals with an entity theory of intelligence are more likely to adopt performance goals than are individuals with an incremental theory of intelligence. Since two separate performance goal orientation scores were calculated (i.e. performance avoidance and performance approach) as a result of the factor analysis, this hypothesis will be assessed for each. Although the directions of the relationships are as expected, the correlation is not significant either between entity theory and performance avoidance goal orientation ($r(130) = .17$, $p > .05$), or between incremental theory and performance avoidance goal orientation ($r(130) = -.13$, $p > .05$).

When the implicit theory of intelligence was regressed on performance-avoidance score, age was controlled as it is significantly correlated with performance-avoidance score. The nonsignificant R^2's imply that adding neither of the implicit theories improves the model's fit to the data. Therefore hypothesis 1b is not supported for performance-avoidance orientation.

Performance approach goal orientation, on the other hand, correlates with entity theory significantly ($r(130) = .24$, $p < .01$). Similarly, regression analysis shows that entity theory predicts performance approach goal orientation, but incremental theory does not ($F(1,128) = 1.21$). When entity score is added to the model, the significant R^2 shows the added value of this variable as the model becomes a good fit ($F(2,127) = 4.06$). These results show that Hypothesis 1b is supported for performance-approach orientation.

4.1.3.2 Achievement Goal Orientation and Flow

Hypothesis 2 stated that individuals who prefer learning goals are likely to score higher on flow than those who prefer performance goals. Since factor analysis implied two sub-dimensions of the flow construct, this hypothesis will be assessed for flow control score and flow involvement score separately.

Learning orientation is significantly correlated to both flow control ($r(128) = .27$, $p < .01$) and flow involvement ($r(127) = .29$, $p < .01$) variables. On the other hand, neither of the performance orientations is significantly correlated to either of the flow scores.

Table 4.4 shows the regression analysis results for achievement goal orientation and both flow scores. Different control variables are considered because different variables correlated with the two flow scores.

As predictors of flow control or flow involvement, performance orientations did not explain a significant amount of variance. When they were added to the regression, their coefficients were not significant. ΔF also showed that performance orientation scores do not improve the model ($\Delta F = .039$, $p = .962$ for flow control, and $\Delta F = 1.930$, $p = .150$ for flow involvement). However, learning orientation is significantly related to flow control ($t(122) = 3.359$, $p = .001$) and to flow involvement ($t(122) = 3.453$, $p = .001$). The model has a good fit ($F(4,117) = 6.03$, $p = .00$) due to the increase in F ($\Delta F =$

11.924, p = .001). Therefore Hypothesis 2 is supported. One unit of increase in learning orientation score increases flow control score by .476 units, and flow involvement score by .727 units.

Table 4.4
Multiple regression analyses testing the effects of achievement goal orientation on flow for actor sample

	St. β	R^2	R^2 change	F	F change
Criterion: Flow Control					
Step 1. Control Variable		0.032		4.140*	
Where most of life was Spent	-0.179*				
Step 2. Performance orientation (IV)		0.033	0.001	1.385	0.039
Performance-avoidance	0.019				
Performance-approach	-0.023				
Step 2. Learning orientation (IV)	0.293**	0.115	0.082	3.946**	11.281**
Criterion: Flow Involvement					
Step 1. Control Variable		0.057		7.188**	
Own education	-0.235**				
Step 2. Performance orientation (IV)		0.086	0.030	3.720*	1.930
Performance-avoidance	0.144				
Performance-approach	0.059				
Step 3. Learning orientation (IV)	0.298**	0.171	0.084**	6.029***	11.924**

Note: * $p < .05$, ** $p < .01$; *** $p = .000$

4.1.3.3 Achievement Goal Orientation and Job Satisfaction

Hypothesis 3 stated that individuals who prefer learning goals are likely to show higher levels of job satisfaction than those who prefer performance goals. The correlation between learning orientation and job satisfaction is significant ($r(130) = .20$, $p < .05$). The correlation between performance avoidance orientation and job satisfaction is not significant, as expected. By contrast the correlation between performance approach orientation and job satisfaction is significant ($r(130) = .20$, $p < .05$). Table 4.5 shows the regression analysis results for three goal orientations controlling for education and income of the participant which are highly correlated with job satisfaction.

ΔR^2 is not significant when performance-avoidance orientation is added, but it is significant when performance-approach ($\Delta R^2 = .051$, $p = .006$) and learning ($\Delta R^2 = .054$, $p = .003$) orientations are included. These results indicate that learning orientation is related to job satisfaction as hypothesized, but individuals who prefer learning goals are more likely to show higher levels of job satisfaction than those who prefer performance avoidance goals only. Performance approach orientation, similar to learning orientation, is significantly related to job satisfaction ($F(5,115)=9.931$, $p = .00$). Hypothesis 3 is supported. One unit of increase in learning orientation score increases job satisfaction score by .248 units. Moreover one unit of increase in performance approach orientation score increases job satisfaction score by .180 units.

Table 4.5
Multiple regression analyses testing the effects of implicit goal orientation on job satisfaction for actor sample

	St. β	R^2	R^2 change	F	F change
Criterion: Job Satisfaction					
Step 1. Control Variable		0.196		14.342***	
Own education	-0.236**				
Own income	0.378***				
Step 2. Performance-avoidance (IV)	-0.026	0.196	0.001	9.520***	.097
Step 3. Performance-approach (IV)	0.239**	0.247	0.051	9.516***	7.835**
Step 4. Learning orientation (IV)	0.241**	0.302	0.054	9.931***	8.973**

Note: * $p < .05$; ** $p < .01$; *** $p = .000$

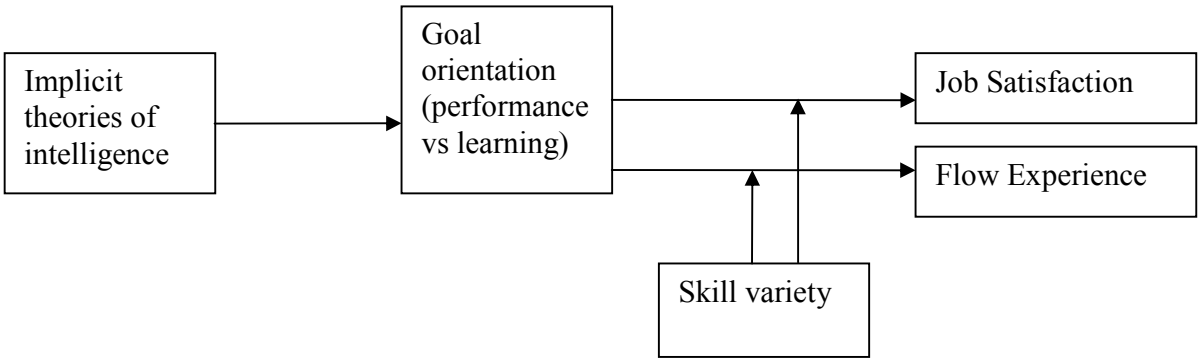
4.1.4 Model Testing

The present research aimed to be as parsimonious as possible because some of the relationships that are tested lack literature support especially in work settings. All of the hypotheses addressed relationships between two variables (implicit theories of intelligence and goal orientations, goal orientations and flow, goal orientations and job satisfaction). However, since goal orientation is a criterion for implicit theories of intelligence and a predictor for job satisfaction and for flow, the model of all of these relationships is also tested. This model includes goal orientation as a mediator between implicit theories of intelligence and job satisfaction as well as flow.

Although there were no hypotheses regarding the relationship of skill variety and the dependent variables, it was mentioned after the presentation of the hypotheses that post-hoc analyses would be carried out. Since the two types of goal orientations imply different preferences about employing a variety of skills, moderating effect of skill variety on the relationships between goal orientation and the dependent variables was expected. Therefore, the existence of such a moderation was explored by moderated multiple regression analysis. As the exploratory part of the present research, both mediation of goal orientation and moderation of skill variety have been tested. A model of all of these relationships is presented in Figure 4.1. The moderated multiple regression analysis revealed one significant interaction effect for each sample; and they were graphed to illustrate the effects. Calculations for the graphs in Figure 4.2 and 4.3 are presented in Appendix G.

Figure 4.1

The model of all of the hypotheses combined



4.1.4.1 Predictors of Flow Control

In the present research learning oriented individuals are expected to experience more job satisfaction and flow, if their job requires high skill variety. Performance oriented individuals, on the other hand, are expected to experience less job satisfaction and flow, if their job requires high skill variety.

B, the standard error, Beta, and the significance level of mediational and moderational multiple regression analyses testing the predictors of flow control variable are presented in Table 4.6. Implicit theories of intelligence is added on Model 2, performance orientation on Model 3, learning orientation on Model 4, and skill variety as well as the interactions on Model 5. Since neither entity theory nor the incremental theory is directly related to flow control (Model 1, $F(3,123) = 1.829$, $p > .1$), the first condition of mediation is not met.

As for moderation, none of the three cross-products (i.e. learning orientation x skill variety, performance avoidance orientation x skill variety and performance approach orientation x skill variety) are significant. The only significant ΔR^2 after the inclusion of the control variable occurs when learning orientation is added to the model which was discussed in the hypothesis testing section.

Table 4.6

Mediational and moderational multiple regression analyses testing the predictors of flow control in actor sample

Variable	Model 1				Model 2				Model 3			
	B	*SE B*	*β*	*Sig.*	*B*	*SE B*	*β*	*Sig.*	*B*	*SE B*	*β*	*Sig.*
Life city	-0.665	0.327	-.179	.044	-0.703	0.338	-.189	.040	-0.707	0.342	-.190	.041
Entity Sc					0.061	0.098	.067	.534	0.065	0.102	.072	.524
Increm Sc					0.132	0.113	.126	.244	0.135	0.114	.129	.238
P_Avoid									0.037	0.140	.025	.791
P_App									-0.045	0.139	-.031	.746
Learning												
Skill												
I_app												
I_avoi												
I_lear												

Variable	Model 4				Model 5			
	B	*SE B*	*β*	*Sig*	*B*	*SE B*	*β*	*Sig*
Life city	-0.649	0.330	-.175	.051	-0.693	0.329	-.187	.037
Entity Sc	0.096	0.099	.106	.334	0.100	0.098	.110	.310
Incr Sc	0.044	0.113	.042	.698	0.057	0.113	.054	.616
P_Avoi	0.104	0.136	.070	.447	0.096	0.135	.065	.480
P_App	-0.139	0.137	-.096	.310	-0.117	0.136	-.081	.393
Learning	0.495	0.152	.305	.001	0.534	0.171	.329	.002
Skill					0.206	0.117	.159	.082
I_app					-0.001	0.159	-.001	.996
I_avoi					-0.187	0.152	-.112	.222
I_lear					0.259	0.192	.134	.179

4.1.4.2 Predictors of Flow Involvement

The five models of multiple regression analysis are presented on Table 4.7. When the performance orientations are added to the regression equation (Model 3), the ΔR^2 is non-significant ($\Delta R^2 = .027$, $p = .173$). Previous analysis had already shown that performance orientations do not have an effect on flow involvement which contradicts the first condition of mediation.

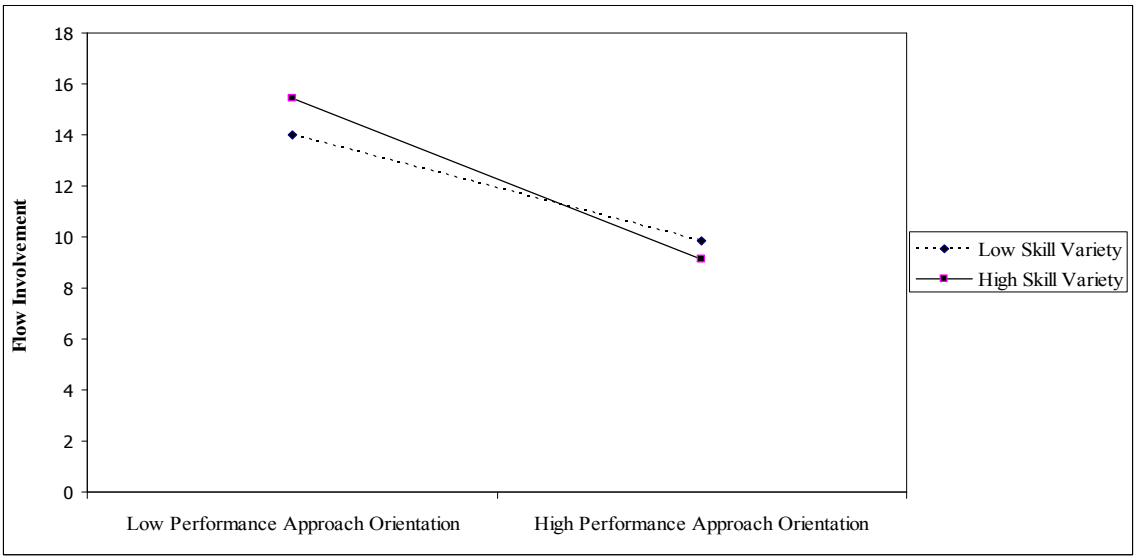
In contrast to the nonexistence of mediation for entity theory and performance orientation, incremental theory and learning orientation imply a significant mediation. Incremental score has a significant effect on flow involvement (t (120)= 2.619, $p = .01$; model F (3,118) = 5.811, $p = .00$). When learning orientation is added to the regression equation, learning orientation shows a significant relationship with flow involvement ($t(127) = 2.997$, $p > .00$), and the effect of incremental score becomes non-significant ($t(127) = 1.833$, $p > .07$) as the model is a significant fit to the data (F (6,115) = 4.735, $p = .00$). Therefore, learning orientation is a mediator between incremental theory of intelligence and flow involvement. In other words, incremental theory affects learning orientation preference which, in turn, has an effect on flow involvement.

Furthermore, the interaction between skill variety and performance approach orientation is negative and highly significant ($t(127) = -3.252$, $p = .00$; model F (10,111) = 4.132, $p = .00$; see Figure 4.2). Therefore, skill variety moderates the relationship between performance-approach orientation and flow involvement. As skill variety

increases, the effect of performance approach orientation on flow involvement decreases. This complies with the expectation that performance-oriented individuals, because they focus on success at the end rather than the process of the work, will experience less positive emotions when the task/job requires high skill variety as they are anxious about whether they will succeed or not. On the other hand, although not significant (p = .123), the interaction between learning orientation and flow involvement is positive, as expected.

Figure 4.2[3].

The interaction effect of performance approach orientation and skill variety on flow involvement for the actor sample



[3] The graphs presented in Figure 2 and Figure 3 are drawn in an Excel worksheet by the procedure suggested by Aiken and West (1991) and West, Aiken and Krull (1996) to plot the two-way interaction effects. Independent variables are centered on the sample mean with x-values (horizontal line) of the graph showing ± 1 standard deviation from the mean of the independent variable.

Table 4.7

Mediational and moderational multiple regression analyses testing the predictors of flow involvement in actor sample

Variable	Model 1				Model 2				Model 3			
	B	*SE B*	*β*	*Sig.*	*B*	*SE B*	*β*	*Sig.*	*B*	*SE B*	*β*	*Sig.*
Education	-.432	.161	-.238	.008	-.470	.159	-.259	.004	-.465	.159	-.256	.004
Entity Sc					.257	.147	.187	.082	.187	.151	.136	.218
Increm Sc					.439	.168	.280	.010	.428	.167	.273	.012
P_Avoid									.171	.209	.076	.414
P_App									.277	.205	.128	.180
Learning												
Skill												
I_app												
I_avoi												
I_lear												

Variable	Model 4				Model 5			
	B	*SE B*	*β*	*Sig*	*B*	*SE B*	*β*	*Sig*
Education	-.453	.154	-.249	.004	-.454	.152	-.250	.003
Entity Sc	.233	.147	.169	.115	.249	.144	.181	.086
Incr Sc	.306	.167	.195	.069	.357	.165	.228	.033
P_Avoi	.271	.204	.121	.187	.224	.202	.100	.270
P_App	.137	.204	.063	.504	.252	.201	.116	.213
Learning	.672	.224	.276	.003	.682	.251	.280	.008
Skill					.128	.175	.064	.468
I_app					-.749	.230	-.294	.002
I_avoi					.260	.231	.103	.264
I_lear					.426	.274	.148	.123

4.1.4.3 Predictors of Job Satisfaction

Models of mediational and moderational multiple regression analyses testing the predictors of job satisfaction variable are presented in Table 4.8. Since neither of the implicit theories are significantly related to job satisfaction, first condition for mediation is not satisfied. Moderation is also absent because all of the cross products of goal orientations and skill variety are non-significant. Although interactions do not exist, it should be noted that skill variety is a strong positive predictor of job satisfaction ($t(109) = 2.425$, $p < .02$).

4.2 Teacher Sample

4.2.1 Descriptive Findings

Table 4.9 displays descriptive findings for all of the study variables of the teacher sample. Similar to the actor sample, flow score and skill variety are high due to the occupational characteristics.

4.2.2 Correlations

All bivariate correlations between the study variables and demographic variables are presented in Table 4.10.

Table 4.8

Mediational and moderational multiple regression analyses testing the predictors of job satisfaction in actor sample

Variable	Model 1				Model 2				Model 3			
	B	*SE B*	*β*	*Sig.*	*B*	*SE B*	*β*	*Sig.*	*B*	*SE B*	*β*	*Sig.*
Education.	-.182	.064	-.236	.005	-.189	.064	-.245	.004	-.201	.062	-.261	.001
F Inc.	.248	.054	.378	.000	.244	.054	.372	.000	.248	.052	.378	.000
Entity Sc					-.089	.057	-.154	.123	-.131	.057	-.227	023
Increm Sc					.010	.066	.015	.877	-.002	.064	-.004	.969
P_Avoid									-.023	.079	-.024	.777
P_App									.259	.078	.283	.001
Learning												
Skill												
I_app												
I_avoi												
I_lear												

Variable	Model 4				Model 5			
	B	*SE B*	*β*	*Sig*	*B*	*SE B*	*β*	*Sig*
Education	-.199	.060	-.257	.001	-.186	.060	-.241	.002
F. Inc.	.263	.051	.402	.000	.242	.050	.369	.000
Entity Sc	-.118	.055	-.204	.037	-.104	.055	-.180	.060
Incr Sc	-.042	.064	-.064	.512	-.028	.064	-.042	.661
P_Avoi	.004	.079	.004	.958	.011	.077	.011	.889
P_App	.218	.078	.239	.006	.238	.077	.260	.003
Learning	.215	.088	.208	.016	.160	.100	.155	.112
Skill					.174	.072	.204	.017
I_app					-.025	.092	-.023	.783
I_avoi					-.133	.089	-.124	.137
I_lear					.011	.111	.009	.923

Table 4.9

Descriptive Statistics for all of the study variables for teacher sample

Variable	**Mean**	**SD**	**Min**	**Max**
Implicit theory of intelligence score	3.80	1.01	1	5.75
Learning goal score	4.25	.50	2.75	5
Performance-approach goal score	3.66	0.84	1.33	5
Performance-avoidance goal score	3.93	0.70	2	5
Job Satisfaction score	3.26	.98	1	5
Flow Score	7.42	1.05	4.73	9
Skill variety	4.23	.99	1.33	5.67

4.2.3 Hypothesis Testing

4.2.3.1 Implicit Theories of Intelligence and Achievement Goal Orientation

Hypothesis 1a suggested that individuals with an incremental theory of intelligence are more likely to adopt learning goals than are individuals with an entity theory of intelligence. Since implicit theories of intelligence have one factor for this sample, the entity theory items were reversed. This hypothesis can be rephrased as "individuals with a higher incremental theory of intelligence score (ITIS) are more likely to adopt learning goals than are individuals with a lower ITIS."

Table 4.10

Correlations of all of the variables for teacher sample

	1	2	3	4	5	6	7	8	9
1. Sex[1]									
2. Age	-0.10								
3. Education	-0.08	0.70							
4. Mother's education	0.19*	-0.43**	0.10						
5. Father's education	0.24**	-0.36*	0.04	0.69**					
6. Tenure	-0.03	0.96**	0.06	-0.39	-0.04				
7. Where most of life was spent	-0.16	0.21*	-0.08	-0.24*	-0.21*	0.21*			
8. Years of immobility	0.17	0.28**	0.15	0.07	-0.04	0.28**	- 0.47**		
9. Number of children	-0.10	0.38**	0.00	-0.28**	-0.28**	0.33**	0.08	-0.02	
10. Family income	0.24**	-0.11	-0.03	0.42**	0.34**	-0.06	-0.14	0.11	-0.09
11. Income now	0.09	0.15	0.02	0.07	0.07	0.17	-0.07	0.29**	-0.04
12. Implicit theory score	0.19*	0.07	-0.03	-0.10	-0.01	0.09	0.14	-0.08	-0.23*
13. Learning goal score	0.23*	-0.02	0.04	0.02	0.00	0.02	-0.04	-0.04	-0.05
14. Performance-approach goal score	0.03	-0.113	0.08	0.03	-0.03	- 0.13	0.01	0.00	0.00
15. Performance-avoidance goal score	0.02	0.09	0.10	-0.09	-0.14	0.06	0.07	0.04	-0.08
16. Job satisfaction score	-0.04	0.14	0.05	0.06	0.05	-0.06	0.05	0.17	-0.08
17. Flow score	0.25**	0.20*	-0.03	0.14	0.13	0.26**	-0.16	0.24**	-0.14
18. Skill variability score	0.03	0.11	-0.01	0.45	0.13	0.12	0.08	0.09	-0.12

Note: N= 117; * p< .05, ** p< .01.

[1] Sex was coded as 0=male, 1=female.

Table 4.10 (cont.)

Correlations of all of the variables for teacher sample

	10	11	12	13	14	15	16	17
1. Sex[1]								
2. Age								
3. Education								
4. Mother's education								
5. Father's education								
6. Tenure								
7. Where most of life was spent								
8. Years of immobility								
9. Number of children								
10. Family income								
11. Income now	0.49**							
12. Implicit theory score	0.09	0.03						
13. Learning goal score	0.01	-0.07	0.34**					
14. Performance-approach goal score	-0.16	-0.28**	-0.15	0.16				
15. Performance-avoidance goal score	-0.06	-0.11	-0.11	0.05	0.43**			
16. Job satisfaction score	0.21*	0.19*	0.25**	0.08	-0.08	.05		
17. Flow score	0.34**	0.26**	0.29**	0.38**	-0.07	.09	.43**	
18. Skill variability score	0.15	0.00	0.16	0.05	-0.06	.10	.31**	.28**

Note: N= 117; * p< .05, ** p< .01.

[1] Sex was coded as 0=male, 1=female.

The correlation between ITIS and learning orientation is significant ($r(116) = .34$, $p < .01$). When ITIS is regressed on learning orientation, a significant model is created ($F(2,113) = 9.344$, $p = .00$; Table 4.11). In other words, high ITIS indicating an incremental theorist, is predictive of higher scores in learning orientation. Hypothesis 1a is supported by these results. One unit of increase in ITIS predicts .151 units of increase in learning goal score.

Table 4.11
Multiple regression analyses testing the effect of implicit intelligence theory on achievement goal orientations for the teacher sample

		St. β	R^2	R^2 change	F	F change
Criterion: Learning Goal Orientation						
Step 1.	Control Variable		0.051		6.173*	
	Sex	0.227*				
Step 2.	Implicit theory of intelligence (IV)	0.307***	0.142	0.091***	9.344***	11.923***
Criterion: Performance-avoidance Goal Orientation						
Step 1.	Implicit theory of intelligence (IV)	-0.114	0.013		1.489	
Criterion: Performance-approach Goal Orientation						
Step 1.	Control Variable		0.162		10.259***	
	Income	-0.315***				
	Present residence city	-0.293***				
Step 2.	Implicit theory of intelligence (IV)	-0.105	0.173	0.011	7.320***	1.370

Note: * $p < .05$; ** $p < .01$; *** $p \leq .001$.

Hypothesis 1b stated that individuals with an entity theory of intelligence are more likely to adopt performance goals than are individuals with an incremental theory of intelligence. The correlations between ITIS and both of the performance orientations are negative as expected, yet not significant. Complying with the correlations, regression analysis indicated no support for this hypothesis as the R^2's are not significant for either of the performance orientations. Therefore Hypothesis 1b is not supported.

4.2.3.2 Achievement Goal Orientation and Dependent Variables (i.e. Flow and Job Satisfaction)

Hypothesis 2 stated that individuals who prefer learning goals are likely to score higher on flow than those who prefer performance goals. The correlation between learning goal orientation and flow score is significant ($r(116) = .38$, $p < .01$). Further analysis (see Table 4.12) also supports this hypothesis. Adding performance orientations to the regression equation makes no significant contribution to the fit of the model ($\Delta R^2 = .016$, $p = .358$); whereas, adding learning orientation results in a significant R^2 change ($\Delta R^2 = .147$, $p = .000$) making the model fit the data $F(4,111) = 11.189$). Hypothesis 2 is supported. One unit of increase in learning orientation score increases flow score by .821 units.

Hypothesis 3 stated that individuals who prefer learning goals are more likely to show higher levels of job satisfaction than those who prefer performance goals. None of the correlations between goal orientation types and job satisfaction are significant.

Multiple regression analysis also shows that none of the goal orientations are related to job satisfaction. A marginally significant model is achieved ($F(3,112) = 2.621$, $p < .06$) when performance goal orientations are added to the regression equation. However, the coefficients of the performance goal orientations are nonsignificant as well as the ΔR^2. It can be concluded that this model as a whole is marginally significant only because of the very large effect of the control variable (income) on the criterion (job satisfaction).

Table 4.12
Multiple regression analyses testing the effects of implicit goal orientation on flow and job satisfaction for teacher sample

	St. β	R^2	R^2 change	F	F change
Criterion: Flow					
Step 1. Control Variable		0.125		16.233***	
Family income[1]	0.353***				
Step 2. Performance orientation (IV)		0.141	0.016	6.105***	1.036
Performance-avoidance	0.139				
Performance-approach	-0.073				
Step 2. Learning orientation (IV)	0.389***	0.287	0.147***	11.189***	22.866***
Criterion: Job Satisfaction					
Step 1. Control Variable		0.057		6.891**	
Family Income[1]	0.239**				
Step 2. Performance orientation (IV)		0.066	0.009	2.621 $^{\gamma}$	0.516
Performance-avoidance	0.093				
Performance-approach	-0.080				
Step 3. Learning orientation (IV)	0.085	0.073	0.007	2.174	0.843

Note: : $^{\gamma}$ $p < .06$; * $p < .05$; ** $p \leq .01$; $^{***}p < .001$
[1] Income of the family he/she was the child of

4.2.4 Model Testing

The analyses conducted for the actor data were conducted for the teacher data as well. The justification for these analyses, which test relationships that were not hypothesized, has been discussed in the actors section.

4.2.4.1 Predictors of Flow

There are six variables that highly correlate with flow. Among these, age is highly correlated with both "years of living in this city" (r = .277) and "experience in the occupation" (r = .964). Moreover income of the family and income now are also highly correlated (r = .478), leaving the first model of regression with four control variables (i.e. years of living in this city, income of the family, sex, experience in the occupation) (Table 4.13). The second model has implicit theory of intelligence variable which makes a significant contribution (ΔR^2 = .040, p = .015). Addition of the performance orientations to the model does not reduce the effect of implicit theory of intelligence on flow. However, adding learning orientation (ΔR^2 = .090, p < .001) causes the effect of implicit theory of intelligence to become non-significant. Therefore learning orientation mediates between implicit theory and flow, whereas performance orientations do not. Thus, incremental theory affects the adoption of learning orientation, which, in turn, affects the amount of flow experience one has. This is similar to what was found in the actor sample.

Table 4.13

Mediational and moderational multiple regression analyses testing the predictors of flow in teacher sample

	Model 1				Model 2				Model 3			
Variable	*B*	*SE B*	*β*	*Sig.*	*B*	*SE B*	*β*	*Sig.*	*B*	*SE B*	*β*	*Sig.*
F. Inc.	.269	.071	.326	.000	.256	.070	.310	.000	.259	.071	.313	.000
Sex	.412	.204	.176	.045	.293	.205	.125	.156	.286	.206	.122	.168
Tenure	.026	.008	.272	.002	.022	.008	.237	.008	.022	.008	.228	.011
City	.007	.008	.085	.343	.011	.008	.126	.159	.011	.008	.123	.169
ITI					.221	.089	.210	.015	.232	.090	.221	.012
P_App									-.018	.119	-.014	.880
P_Avoi									.183	.137	.122	.185
Learning												
I_lear												
I_avoi												
I_app												

	Model 4				Model 5			
Variable	*B*	*SE B*	*β*	*Sig*	*B*	*SE B*	*β*	*Sig*
F. Inc.	.263	.067	.318	.000	.250	.067	.303	.000
Sex	.164	.195	.070	.402	.183	.194	.078	.350
Tenure	.021	.008	.218	.010	.019	.008	.205	.015
City	.012	.007	.137	.103	.012	.007	.140	.101
ITI	.112	.090	.106	.218	.074	.092	.070	.426
P_App	-.109	.114	-.086	.342	-.141	.120	-.111	.244
P_Avoi	.190	.129	.126	.142	.180	.132	.120	.175
Learning	.704	.178	.333	.000	.657	.182	.311	.000
Skill					.162	.084	.153	.057
I_lear					-.008	.183	-.004	.966
I_avoi					.052	.120	.036	.668
I_app					.146	.135	.094	.281

4.2.4.2 Predictors of Job Satisfaction

Mediational and moderational multiple regression analyses testing the predictors of job satisfaction for teachers are presented in Table 4.14. Following the control variables, implicit theory of intelligence is added to the second model which is a strong predictor of job satisfaction both before (p = .004) and after (p=.007) goal orientations are included in the equation. The effect of the independent variable (i.e. implicit theory of intelligence) on the dependent variable (i.e. job satisfaction) should be reduced or should become non-significant when the mediator variable is controlled for mediation to exist. In this case the reduction of the effect is almost negligible; therefore, it is concluded that there is no mediation of goal orientation.

Moderation, on the other hand, is positive and marginally significant for performance approach orientation (t(105) = 1.913, p = .058). Among those individuals with performance approach orientation, those who have jobs with higher skill variety experience more job satisfaction (see Figure 4.3).

4.3 Comparison of the Two Samples

T-tests were conducted to reveal differences in the scores of the two samples. There was a significant effect of occupation only for skill variety (t(245) = 4.37, p = .00) demonstrating that theatre actors rate their job as requiring more variable skills (M = 4.75, SD = .88) than teachers (M = 4.23, SD = .99).

Table 4.14

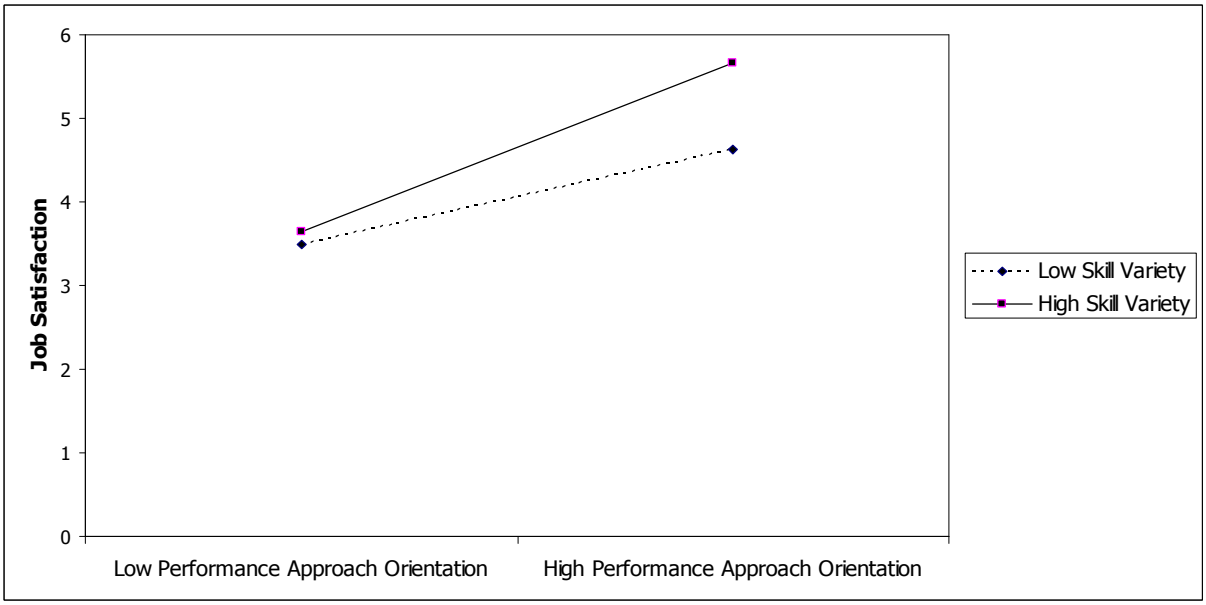
Mediational and moderational multiple regression analyses testing the predictors of job satisfaction in teacher sample

	Model 1				Model 2				Model 3			
Variable	*B*	*SE B*	*β*	*Sig.*	*B*	*SE B*	*β*	*Sig.*	*B*	*SE B*	*β*	*Sig.*
F. Inc.	0.162	0.070	.211	.023	0.138	0.069	.179	.047	0.122	0.070	.159	.083
City	-0.358	0.196	-.167	.070	-0.439	0.192	-.205	.024	-0.529	0.200	-.247	.010
ITI					0.250	0.086	.258	.004	0.254	0.086	.263	.004
P_App									-0.159	0.120	-.136	.189
P_Avoi									0.213	0.137	.153	.121
Learning												
I_app												
I_avoi												
I_lear												

Variable	Model 4				Model 5			
	B	*SE B*	*β*	*Sig*	*B*	*SE B*	*β*	*Sig*
F. Inc.	0.122	0.070	.159	.084	0.097	0.068	.126	.158
City	-0.529	0.201	-.247	.010	-0.525	0.194	-.244	.008
ITI	0.254	0.093	.263	.007	0.211	0.092	.218	.024
P_App	-0.159	0.124	-.136	.200	-0.177	0.125	-.151	.160
P_Avoi	0.213	0.137	.153	.123	0.135	0.136	.097	.325
Learning	0.001	0.187	.000	.996	-0.025	0.185	-.013	.891
Skill					0.238	0.086	.241	.007
I_app					0.264	0.138	.183	.058
I_avoi					-0.172	0.124	-.129	.167
I_lear					-0.053	0.187	-.026	.778

Figure 4.3.

The interaction effect of performance approach orientation and skill variety on job satisfaction



It should be noted that the effect of occupation was marginal for performance-avoidance orientation score ($t(244) = 1.91$, $p = .06$). Teachers scored slightly higher ($M = 3.93$, $SD = .70$) than actors ($M = 3.74$, $SD = .78$). None of the other scores revealed differences between the two occupations. Moreover, the hypotheses which were found to be supported by two professions were very similar. The exploratory findings revealed minor differences between the samples which will be discussed in the next chapter.

4.4 Summary of Results

Table 4.15 shows the summary of the hypotheses test results, and Table 4.16 shows the summary of the exploratory findings

Table 4.15

Summary of the hypotheses test results

Hypothesis #	Statement	Support?	
		Actors	Teachers
1a	Individuals with an incremental theory of intelligence are more likely to adopt learning goals than are individuals with an entity theory of intelligence.	Supported	Supported
1b	Individuals with an entity theory of intelligence are more likely to adopt performance goals than are individuals with an incremental theory of intelligence.	Supported for performance approach orientation	No
2	Individuals who prefer learning goals are more likely to score higher on flow than those who prefer performance goals.	Supported for both flow control and flow involvement	Supported
3	Individuals who prefer learning goals are more likely to show higher levels of job satisfaction than those who prefer performance goals.	Supported	No

Table 4.16

Summary of the exploratory findings

Finding	Sample	
	Actors	Teachers
Learning orientation is a mediator between implicit theory of intelligence and flow.	Supported for incremental theory and flow involvement	Supported
Skill variety moderates the relationship between performance approach orientation and flow (i.e. as skill variety increases, the negative effect of performance approach orientation on flow involvement decreases).	Supported for flow involvement	Not Supported
Skill variety moderates the relationship between performance approach orientation and job satisfaction (i.e. as skill variety increases, the positive effect of performance approach orientation on job satisfaction increases).	Not Supported	Marginally Supported

Chapter 5

DISCUSSION

5.1 Summary of Findings

Considering the unexpected factor structures of some of the scales, each hypothesis was tested separately for each factor of the variables. In this chapter, unlike the results section, a finding will be summarized and discussed for both samples allowing a comparison between the samples.

5.1.1 Hypothesized relationships

5.1.1.1 Implicit Theory of Intelligence and Goal Orientation

Individuals with an incremental theory of intelligence have been found to adopt learning goals more than individuals with an entity theory of intelligence. This hypothesis was strongly supported in both samples as expected. Although this relationship has been

primarily studied in developmental and educational psychology literature (e.g., Dweck & Leggett, 1988; Butler, 1992; Smiley & Dweck, 1994; Dupeyrat & Marine, 2005), some studies had shown its generalizability to adults (eg., Beaubien & Payne, 1999; Steele Johnson et al., 2000; Dupeyrat & Marine, 2001) including the present study.

It should be noted that a marginal effect of occupation was found for performance-avoidance orientation score, teachers scoring slightly higher (M = 3.93, SD = .70) than actors (M = 3.74, SD = .78), $t(244) = 1.91$, $p = .06$. A speculation to explain this difference might be that teachers focus on avoidance of showing incompetence not to lose the students' trust in their knowledge.

Individuals with an entity theory of intelligence were expected to be more likely to adopt performance goals than are individuals with an incremental theory of intelligence. While the teacher sample did not support this hypothesis, the actor sample supported it for performance approach orientation. As reviewed by Beaubien and Payne (1999), there are studies in the literature that had found a significant relationship between incremental theory of intelligence and learning orientation, while reporting a non-significant relationship between entity theory of intelligence and performance orientation. Therefore, the present result provides supportive evidence to a some of the findings in the literature.

It should also be emphasized that the factor analyses as well as the regression analysis supported a trichotomous framework for goal orientation. Although a

dichotomous scale was employed, its performance goal orientation items had to be divided into two scores based on the results of the factor analysis which separated the approach items from the avoidance items. The significant correlation between entity theory and performance approach orientation, but not between entity theory and performance avoidance orientation supports a trichotomous construal of goal orientation.

5.1.1.2 Goal Orientation and Flow

In congruence with the next hypothesis, learning goal oriented individuals were found to be more likely to score higher on flow than performance goal oriented individuals in both samples. In order to discuss this finding, it is necessary to briefly address measures of the flow construct, and the calculations of flow scores for this study.

The most commonly used flow measure, experience sampling method, only operationalizes the challenge/skill balance, which was found to be strongly related to flow. However, as flow studies in non-American cultures indicate (Heine, Kitayama, Lehman, Takata, Ide, Leung & Matsumoto, 2001; Cheng & Hau 2003), this operationalization might not be applicable to different cultures. It is possible that this measure is merely showing the balance between the present challenges and skills rather than indicating the existence of dimensions of flow such as losing track of time.

The second most commonly used flow measure is developed by creating items for each dimension of flow. Flow trait scale (Jackson & Marsh, 1996) and flow state scale

(Jackson et al., 1998) have thirty-six items including four items for each dimension. However, others (e.g., Oh, 2001) have used one item for each dimension. Both of these approaches have their advantages. Using a nine-item questionnaire is more convenient especially considering that it has to be completed following a performance when the subjects are tired and least willing. It is more likely that subjects agree to complete a second copy of the same scale if it has nine items rather than if it has thirty-six. A thirty-six item questionnaire, on the other hand, allows calculating different scores for each dimension of flow. The literature lacks studies reporting the flow dimensions separately to show their relationships with each other as well as with other variables. The only exception that was found in the literature (Nieh & Lu, 2001) suggests that different dimensions relate to different outcomes. This is a very important finding that needs to be taken into consideration. If there were an accumulated knowledge on the effects of dimensions, it could be appropriate to employ only some dimensions of flow in certain studies.

In the current study, a new approach was undertaken by calculating two flow scores as a result of the factor analysis. They were called “flow control” and “flow involvement”, since no such separation was reported and defined in the literature before. Four items that group into one factor represent similar feelings regarding being in control of the task. Three items that load on the other factor share the meaning of being involved in the work and being unaware of other things as one is engaged in the task at hand. Analyses revealed that calculating two scores was further supported, since they relate to different constructs. This is a new and a crucial finding that may be influential in a better

understanding of the flow phenomenon. It was found that learning goal oriented individuals are more likely to score higher on both flow control and flow involvement than performance goal oriented individuals, in the actor sample. However, two flow scores lead to distinct relationships with other variables. Flow involvement is significantly related to incremental theory of intelligence score as well as education, whereas flow control is not. Learning orientation is a mediator between incremental theory of intelligence and flow involvement, and skill variety moderates the relationship between performance approach orientation and flow involvement. Neither of these relationships are significant for flow control.

5.1.1.3 Goal Orientation and Job Satisfaction

Individuals who prefer learning goals were expected to show higher levels of job satisfaction than those who prefer performance goals. This expectation was supported in the actor sample. However, only income (both the present income and income of the family s/he was raised in) was related to job satisfaction in the teacher sample. This was an unpredicted result because the job satisfaction scale did not include any items regarding the materialistic aspects or external environment of the job. Employing the same scale, Janssen and Van Yperen (2004) had reported a significant relationship between learning orientation and job satisfaction in a sample of white collar employees. The lack of this relationship in the teacher sample shows that unmeasured variables affect teachers' job satisfaction more than the variables studied here.

5.1.2 Further relationships

Some noteworthy correlations are found that were not hypothesized. Learning and performance goal orientation were shown to be two distinct constructs. There are four different relationships between learning goal orientation and performance goal orientations the in the two different samples. These are learning orientation and performance approach orientation in actor sample, learning orientation and performance avoidance orientation in actor sample, learning orientation and performance approach orientation in teacher sample, and learning orientation and performance avoidance orientation in teacher sample. None of these relationships were found to be significant. In other words, scoring high on learning goal orientation does not imply a low score on any of the performance orientations, and vice versa. The two performance orientations, on the other hand, were significantly correlated with each other. However, the fact that they were correlated with different constructs supports a trichotomous framework for goal orientation.

The person's education level was a strong negative predictor of job satisfaction ($r(124) = -.24$, $p < .01$) in the actors sample, although no such relationship was found in the teacher sample ($r(113) = -.05$, $p > .63$). This would be an unexpected finding in most settings, but it might be explained by the undesirable working conditions and very low wages earned by these actors. Only 8 subjects out of the 130 work in private theaters, where actors are better compensated for their work. The actors in the public theater have

a very low income, and not very nice working conditions. In some of the theaters, the backstage is so small that not all of the actors have a chance to have a seat as they wait for the play to start. It is possible that expectations from one's work grow higher as years of education increase. Accordingly, the more educated an actor is, the less satisfied s/he may become in the same working conditions because the expectations are higher.

Flow involvement is highly correlated with education in the actor sample (r (122) = -.24, $p < .01$) similar to job satisfaction. There is no indication of any kind of relationship between education and flow in the literature. Since there is no knowledge on the causal links between these variables, it could be proposed that education affects job satisfaction, which then affects flow involvement. However, it is not possible to go beyond speculation regarding these relationships.

It was proposed, in the results section, that the high mean of flow scores might be partly due to the working conditions of the public theaters. It was argued that actors might work in the public theater for non-monetary reasons, one of which was predicted to be flow. On the other hand, the negative correlation between job satisfaction and education is also explained by working conditions. These two reasonings might seem contradictory; however, they are complementary.

Although it might seem like one of the non-monetary reasons to work at a public theater could be job satisfaction, there are other issues such as limited job opportunities due to the existence of few private theaters, unstable and low job security. Further, it is

very hard to separate job satisfaction from the external environment and the material aspects of the job. Apparently, the job satisfaction scale that was used in this study failed to exclude the effect of working conditions. Therefore, one of the non-monetary reasons to work in a public theater does not seem to be job satisfaction for the actor sample.

In line with the different predictors of job satisfaction and flow, flow control was not found to be related to job satisfaction. However, flow involvement was significantly related to job satisfaction (r (127) = .24, $p < .01$). This may be explained by the fact that experiencing positive emotions at work increases job satisfaction. In the teacher sample, flow was related to job satisfaction (r (117) = .43, $p < .01$).

The relationship between flow and job satisfaction in the actor sample highlights the difference between the two flow scores. In the actor sample, flow involvement was related to job satisfaction; however, flow control was not ($p > .40$). There is no empirical finding to explain this difference. It is possible that being in control of the task is not a positive emotion for the actors, thus not heightening job satisfaction.

5.1.3 The model

Learning orientation was found to be a mediator between incremental theory of intelligence and flow in the teacher sample, and between incremental theory of intelligence and flow involvement in the actor sample. In other words, implicit theory of

intelligence affects flow because it affects learning orientation. No such relationship was present for performance orientation because it is not strongly related to entity theory.

Skill variety was the only variable that occupation significantly affected. Theatre actors rate their job as requiring more variable skills ($M = 4.75$, $SD = .88$) than teachers ($M = 4.23$, $SD = .99$), $t(245) = 4.37$, $p = .00$). This perception about their job probably reflects the reality as they act in a different play every season. Elementary school teachers who participated in this study are specialized on a certain subject, such as geography, and the content of the material they teach probably requires less skill variety than the different roles the actors play.

Skill variety moderated the relationship between performance approach orientation and flow involvement in the actor sample. Individuals with performance approach orientation experienced significantly less flow involvement if their job required a high variety of skills. Since these individuals are focused on the outcomes, this result was expected as a result of the anxiety the required skill variety might cause. Performance avoidance orientation was not affected by skill variety because it was not even related to flow involvement.

Skill variety marginally ($p = .06$) moderated the relationship between performance approach orientation and job satisfaction in the teacher sample. As expected, individuals with performance approach orientation experienced significantly less job

satisfaction, if their job required a high variety of skills. Once again performance avoidance orientation was not related to job satisfaction.

5.2 Conclusion

The main findings of the present study can be summarized as follows:

1. In both actor and teacher samples, individuals with an incremental theory of intelligence were significantly more likely to adopt learning goals than are individuals with an entity theory of intelligence.
2. In actor sample individuals with an entity theory of intelligence adopted performance approach goal orientation significantly more than individuals with an incremental theory of intelligence. Neither performance approach nor performance avoidance orientation was related to entity theory of intelligence in teacher sample.
3. Both samples showed a relationship between goal orientation and flow. In actor sample learning orientation significantly predicted high scores for both flow involvement and flow control. In teacher sample learning orientation significantly predicted high scores for flow.
4. In actor sample individuals who prefer learning goals showed significantly higher levels of job satisfaction than those who prefer performance goals. In teacher sample a relationship between goal orientation and job satisfaction was not present.

5. In actor sample learning orientation was a mediator between incremental theory of intelligence and flow involvement. Similarly, in teacher sample learning orientation was a mediator between incremental theory of intelligence and flow.
6. In actor sample skill variety moderated the relationship between performance approach orientation and flow.
7. In teacher sample skill variety had a marginal moderating effect on the relationship between performance approach orientation and job satisfaction.

5.3 Contributions of the Present Study to the Literature

Most of the relationships explored in this study were either unexplored or lacked research with working adults. The relationship between implicit theories of intelligence and goal orientation had mostly been investigated in educational and developmental psychology. Flow is a recent construct for industrial organizational psychology. Only one study was found exploring the relationship between goal orientation and job satisfaction. Therefore, the explored relationships and the findings contribute to the industrial and organizational psychology literature and provide further understanding of the relevant phenomenon.

Studies are usually not replicated with different samples. Most of the time, researchers conduct their own study without using the same set of constructs or scales that another publication reports. In addition to that, most studies employ one sample

restricting the opportunity of comparison. Since two samples of different occupations were conducted in this study, comparison of the results was possible.

5.4 Contributions of the Present Study to Practice

The main focus of this research is employees' well-being. Thus, the main contribution is to the individuals rather than the companies, although both flow (Moneta, 2004a; Demerouti, 2006), and job satisfaction (Judge, Bono, Thoresen & Patton, 2001) have been shown to influence job performance. In the current study, dispositional antecedents of flow and job satisfaction are being explored, which do not take external influencers into account.

Although it might not be possible to change one's goals as an employee, it is possible to change one's attitude towards that goal. Any task can be achieved with either a learning orientation or a performance orientation. It is demonstrated that learning orientation is beneficial for experiencing more flow and higher job satisfaction.

The practical contributions for organizations cluster around goal orientation which was both a criterion and a predictor in this study. Although educational psychology was not the main focus of this study, a sample of teachers inevitably creates implications for educational psychology. Vansteenkiste, Simons, Lens, Sheldon and Deci (2004) found that teachers' use of learning goals and their providing autonomy-supportive learning climates have significant effects on students becoming more fully

dedicated and more genuinely engaged in learning activities. It can be proposed that teachers' use of learning goals would be related to their trait goal orientation, in which case the present research suggests that it is important for teachers to be learning oriented rather than performance oriented. In addition to that, teachers who are good motivators provide opportunities for active learning (Shernoff, Csikszentmihalyi, Schneider & Shernoff, 2003). Schweinle, Meyer and Turner (2006) also reported that the more the teachers emphasize learning for its own sake, the more the students are motivated.

Since flow was found to be contagious from teachers to students (Bakker, 2005), another advantage of teachers being learning oriented is increased flow experiences of both themselves and the students. Based on flow literature, Smith (2005) proposes using a framework for learning geography by creating an environment in which students are able to experience flow, demonstrating adoption of flow findings in practice.

Phillips and Gully (1997) found training effects to be enhanced by situationally fostering a learning orientation among trainees. VandeWalle, Brown, Cron and Slocum (1999) and VandeWalle (2003) conclude that managers might want to encourage a learning goal orientation (e.g., cooperation among colleagues, encouragement of experimentation, developmental appraisal systems) and discourage a performance goal orientation (e.g., competition among colleagues, punishment of mistakes, evaluative appraisal systems) at work. However, consideration of the nature of the job as well as the company culture would be advantageous in deciding which goal orientation should be encouraged.

The outcomes regarding goal orientation imply that screening applicants on the basis of goal orientation is useful. A learning goal orientation should especially be preferred for positions that are complex in nature and that require consistent learning. Performance orientation should be preferred for positions that do not offer new tasks. It is important for the employers to realize that a good match between employees and jobs have many positive affects including enhanced job satisfaction (Saari & Judge, 2004).

Goal orientation has been proposed to play an important role in other human resources decisions as well, such as recruitment (e.g., Rynes & Gerhart, 1990), training (e.g., Brown, 2001), and performance appraisal (e.g., VandeWalle & Cummings, 1997). Farr, Hofmann and Ringenbach (1993) propose that goal orientation may profitably be incorporated into design and implementation of training programs, management of performance appraisal systems and the methods by which work role innovations are encouraged.

Not only can implicit theories and goal orientation be tools when it comes to recruiting, selecting, training and evaluating employees, but they are also worth considering as an attribute of the human resources experts who are engaged in these functions. Selection process done by a person who believes that traits are fixed and static would be very different than someone who believes that people can improve their abilities by working on them.

5.5 Limitations and Future Directions

The first and the inevitable limitation of the study is the fact that all of the theories and the hypotheses are derived from research that was conducted in non-Turkish cultures, although the study was conducted in Turkey. Studies by Elliott, Chirkov, Kim and Sheldon (2001) show the importance of culture regarding goal orientation. In a series of cross-cultural studies employing samples from United States (Asian Americans and non-Asian Americans), South Korea and Russia, they have shown that adoption of avoidance versus approach performance orientation varies as a function of individualism-collectivism. They have also reported that the same orientation (i.e. performance avoidance) is a negative predictor of subjective well-being in individualistic cultures, but not in collectivistic cultures.

Another study (Heine et al, 2001) reveals the differences between reactions of Japanese and American subjects when they are given feedback about a task. It was found that success and failure cause divergent consequences due to the cultural differences in views regarding effort. Japanese are more motivated by failure, whereas Americans are more motivated by success. In terms of reactions to failure and persistence on a task, Japanese are more learning oriented, and Americans are more performance oriented. Similar to the Japanese culture, Cheng and Hau (2003) state that working hard despite the possibility of failure and showing one's weakness is considered to be a virtue in Chinese culture because education and hard work are strongly valued. Culturally valuing hard work in the face of obstacles and highly possible failures, Chinese would also be

expected to be more learning oriented than Americans. There are no published studies about the goal orientation preferences in the Turkish culture.

A second limitation that actually applies to all empirical research is that generalization of the findings to other settings may be limited. Performance avoidance orientation was not correlated with job satisfaction in either of the samples. Performance approach orientation was also not correlated with job satisfaction in the teacher sample. This is in congruence with the developmental psychology literature; however, it is possible that many industrial organizational psychology studies will contradict these findings. Since performance is the main criterion of evaluation in the work setting, performance orientation might be correlated with job satisfaction. This has been demonstrated by Harris, Mowe and Brown (2005) with sales employees from the real-estate industry.

The other limitation that is also common in research is the lack of causation. The hypothesized relationships are theoretically based, but it is not possible to draw causal conclusions from this study because it was not experimental. Furthermore, Shernoff, Csikszentmihalyi, Schneider and Shernoff (2003) state that when all of the study variables have been assessed at a single point in time, there is no way to draw causal links other than depending on the theory. An example from the literature concerns job characteristics and job satisfaction. Many studies confirmed that job characteristics affect job satisfaction. James and his colleagues (James & Jones, 1980; James & Tetrick, 1986) argued against the general findings. They proposed that job satisfaction influences job

characteristics, which would be meaningless if both of these variables were not measured by self-report questionnaires. In other words, what is regarded as job characteristics is actually perceived job characteristics because it is measured by asking the participants about their jobs. James and his colleagues proposed that job satisfaction influences how employees perceive the characteristics of their jobs. In a similar way, one could propose that the relationship between goal orientation and job satisfaction, and experiencing flow is twofold.

What might be considered as a limitation is the significant difference between the means of learning orientation score and the performance orientation score. In actor sample, results indicated a preference for learning orientation ($M = 4.23$, $SD = .70$) over performance orientation ($M = 3.63$, $SD = .63$), $t(129) = 6.925$, $p = .00$. Similar results were obtained in teacher sample, as learning orientation ($M = 4.25$, $SD = .50$) was significantly more preferred than performance orientation ($M = 3.74$, $SD = .64$), $t(115) = 7.008$, $p = .00$). Identifying the reasons for this difference is not possible, but the nature of the occupations as well as the desirability of being learning oriented might be two explanations. Miller et al. (1993) emphasize that this is unavoidable, and only laboratory studies can ensure equal allocation to both orientations. Since the manipulations made in the experiments cause changes in state goal orientation rather than the trait goal orientation, there does not seem to be a way to equate the mean scores of trait goal orientations.

There are three issues that need further attention in the future. The first one is the difference between trait and state goal orientations. Their difference and the four studies that demonstrated the difference have been discussed in the literature review chapter. Many publications do not report which was one employed in the study. Research about the difference between the two goal orientations may in fact reveal that they are related to completely different variables.

The second issue is regarding flow studies. More research about flow is required in industrial organizational psychology to confirm the findings of positive psychology and sport psychology in work settings. The generality of the assumed requirement of a balance of challenges and skills needs to be investigated in various cultures. This study has been the first to define two dimensions of flow. Developing measures that allow calculating scores for various dimensions of flow or grouping the nine dimensions into categories according to factor analysis might make the measurement of flow more convenient and feasible. This way, distinct antecedents and consequences for each dimension/category can be searced.

The last issue concerns the lack of research with working adults. Most of the studies that report results with adults employ undergraduate students as their participants, who get course credit for participating in the study. Although this way of recruiting the participants results in big sample sizes, the applicability of the results to the real world situations may be questionable. Recruiting employees for studies would result in a much higher external validity.

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APPENDICES

Appendix A

Questionnaire of the present study that was distributed to the actor sample

Değerli katılımcı,

Katılımınızı rica ettiğimiz bu araştırma, Koç Üniversitesi Endüstri ve Örgüt Psikolojisi Yüksek Lisans Programı bitirme tezi için yapılmaktadır. Gönüllü olarak katılacağınız bu araştırma hiç bir şekilde kimlik bilgisi istememektedir. Vereceğiniz cevaplar yalnızca bilimsel amaçlarla kullanılacak, kesinlikle hiç bir kişi ya da kurumla paylaşılmayacaktır. Araştırmanın tüm katılımcılar bazındaki sonuçları dilerseniz rapor halinde size sunulacaktır.

Anketin cevaplanmasında süre kısıtlaması bulunmamaktadır. İlk altı bölümü herhangi bir zaman doldurabilirsiniz. On iki kısa sorudan oluşan son bölümü oynadığınız bir oyun bittikten sonra yirmi dakika içerisinde cevaplandırmanızı rica ediyoruz.

Hiç bir sorunun doğru ya da yanlış cevabı yoktur. Sizin içtenlikle vereceğiniz cevaplar bizim için en yararlı olanlardır. Lütfen her soruyu dikkatle okuyunuz ve hiç bir soruyu yanıtsız bırakmayınız.

Çalışmama yaptığınız katkı benim için çok değerlidir. Bu anketi doldurmak için zaman ayırdığınız için teşekkür ederim.

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Tüm anketteki ifadeleri değerlendirirken, lütfen ölçekte sizce uygun olan rakamı ifadenin sağındaki boşluğa yazınız.

Eğer tiyatro oyunculuğundan farklı bir işiniz de varsa lütfen işinizle ilgili soruları yalnızca tiyatro oyunculuğunu düşünerek yanıtlayınız.

I. Aşağıda bazı konularda görüşler yer almaktadır. Lütfen her maddeyi dikkatlice okuduktan sonra o maddede yazana ne kadar katıldığınızı/katılmadığınızı aşağıda verilen ölçeği kullanarak değerlendiriniz.

1	2	3	4	5	6
Kesinlikle katılmıyorum	**Katılmıyorum**	**Kısmen katılmıyorum**	**Kısmen katılıyorum**	**Katılıyorum**	**Kesinlikle katılıyorum**

1. İnsanların belirli bir düzeyde zekası vardır ve bunu değiştirmek için çok fazla bir şey yapamazlar.	
2. İnsanların zekası fazla değiştiremeyecekleri bir özellikleridir.	
3. Kim olursa olsun, her insan zeka düzeyini kayda değer bir şekilde değiştirebilir.	
4. Dürüst olmak gerekirse, insanlar ne kadar zeki olduklarını değiştiremezler.	
5. İnsanlar her zaman zekalarını belirgin bir oranda değiştirebilirler.	
6. İnsanlar yeni şeyler öğrenebilir fakat temel zeka düzeylerini değiştiremezler.	
7. İnsanların zeka düzeyleri ne olursa olsun, zekalarını her zaman belirgin bir miktar değiştirebilirler.	
8. İnsanlar temel zeka düzeylerini bile hatırı sayılır oranda değiştirebilirler.	

II. Aşağıda verilen her bir maddede işinizin bir yönü ele alınmıştır. Lütfen işinizin söz konusu yönünden ne kadar tatmin olduğunuzu/olmadığınızı belirtiniz.

1	2	3	4	5
Hiç tatmin etmiyor	**Pek tatmin etmiyor**	**Ne ediyor ne etmiyor**	**Oldukça tatmin ediyor**	**Çok tatmin ediyor**

1. Şu andaki işinizde kendinize koyduğunuz hedefleri yerine getirmede kaydettiğiniz ilerleme	
2. Kariyer hedefleriniz açısından baktığınızda şu anki işiniz	
3. Başka kurumlardaki (tiyatrolardaki) işleri göz önünde bulundurduğunuzda şu anki işiniz	
4. İşinizin en iyi yapabildiğiniz şeyi yapmanıza olanak sağlaması	
5. İşinize ilk girdiğinizdeki beklentilerinizi düşünürseniz şu anki işiniz	

III. Lütfen aşağıdaki soruyu altında yer alan ölçekteki tanımlardan faydalanarak cevaplayınız.

İşinizde ne kadar çeşitlilik var? Yani işiniz farklı şeylerle uğraşmanızı, farklı beceri ve yeteneklerinizi kullanmanızı ne seviyede sağlıyor?	

1	2	3	4	5
Çok düşük seviyede çeşitlilik İşim, rutin olarak hep aynı şeyleri yapmamı gerektiriyor.	**Düşük seviyede çeşitlilik**	**Orta seviyede çeşitlilik**	**Yüksek seviyede çeşitlilik**	**Çok yüksek seviyede çeşitlilik** İşim bir çok farklı şeyi içeriyor; bunları gerçekleştirmek için sürekli farklı beceri ve yeteneklerimi kullanmam gerekiyor.

IV. Yaptığınız işi göz önünde bulundurduğunuzda, aşağıdaki ifadelerin ne kadar doğru veya yanlış olduğunu, verilen ölçeği kullanarak değerlendiriniz.

1	2	3	4	5	6
Tamamen yanlış	**Çoğunlukla yanlış**	**Kısmen yanlış**	**Kısmen doğru**	**Çoğunlukla doğru**	**Tamamen doğru**

1. İşim bir çok karmaşık ve ileri seviye becerileri kullanmamı gerektirir.	
2. İşim oldukça basittir ve aynı görevlerin tekrarından ibarettir.	

V. Her maddeyi dikkatlice okuduktan sonra o maddeye ne derecede katıldığınızı verilen ölçeği kullanarak değerlendiriniz.

1	2	3	4	5
Kesinlikle katılmıyorum	**Katılmıyorum**	**Ne katılıyorum ne katılmıyorum**	**Katılıyorum**	**Kesinlikle katılıyorum**

1. İyi yapabildiğim şeyleri yapmayı, başarısız olduğum şeyleri yapmaya tercih ederim.	
2. İşte en mutlu olduğum zamanlar, hata yapmayacağımı bildiğim işleri yaptığım zamanlardır.	
3. En çok zevk aldığım şeyler en iyi yaptıklarımdır.	
4. Başkalarının belli şeyleri ne kadar iyi yapabildiğimle ilgili düşünceleri benim için önemlidir.	
5. Bir şeyi hatasız yaptığım zaman kendimi akıllı hissederim.	
6. Bir işe girişmeden önce o işi başarabileceğimi az çok bilmek isterim.	
7. Geçmişte başarılı olduğum şeyler üzerinde çalışmak isterim.	
8. Bir şeyi diğer insanların çoğundan daha iyi yapabildiğim zaman kendimi akıllı hissederim.	
9. Zor işler üzerinde çalışabilmek benim için önemlidir.	
10. Zor bir işi tamamlamakta başarısız olduğumda bir dahaki sefer bu konuda daha büyük bir gayretle çalışmayı amaçlarım.	
11. Beni yeni şeyler öğrenmeye zorlayan görevlerde çalışmayı tercih ederim.	
12. Yeni şeyler öğrenme fırsatlarına önem veririm.	
13. Oldukça zor görevler üzerinde çalışırken en iyi performansımı gösteririm.	
14. Geçmiş performansımı geliştirmek için çok çaba harcarım.	
15. Becerilerimin çeşitliliğini arttırma fırsatları benim için önemlidir.	
16. Bir problemi çözmekte sorun yaşadığımda değişik yaklaşımlar deneyerek hangisinin işe yaradığını görmekten keyif alırım.	

VI. Genel Bilgiler

1. Kaç yaşındasınız? _____

2. Cinsiyetiniz: ❒ Kadın ❒ Erkek

3. Kaç yıldır tiyatro oyunculuğu yapıyorsunuz? _____

4. Şu anda hangi şehirde yaşıyorsunuz? _____

5. Şu anda yaşadığınız şehirde kaç yıldır yaşıyorsunuz? _____

6. Kaç kardeşsiniz? _____

7. İçinde büyüdüğünüz aileyle en uzun süre yaşadığınız yer neresidir? Lütfen aşağıdaki beş seçenekten uygun olanının yanına belirtiniz.

   ⇒ Metropol: ❒ Ankara ❒ İstanbul ❒ İzmir
   ⇒ Şehir (lütfen belirtiniz): _____
   ⇒ Kasaba (lütfen hangi ile bağlı olduğunu belirtiniz): _____
   ⇒ Köy (lütfen hangi ile bağlı olduğunu belirtiniz): _____
   ⇒ Yurtdışı (lütfen hangi ülke olduğunu belirtiniz): _____

8. Lütfen aşağıdaki tabloda annenizin ve babanızın eğitimleriyle kendi eğitiminizi işaretleyiniz.

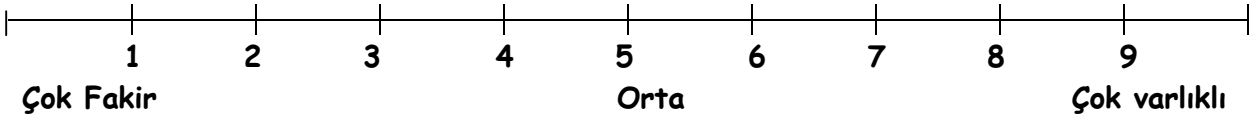
	Annenizin eğitimi:	**Babanızın eğitimi:**	**Sizin eğitiminiz:**
❒ Eğitimsiz/eğitimsizim			
❒ İlkokula devam etmiş/ettim			
❒ İlkokulu bitirmiş/bitirdim			
❒ Ortaokul veya benzerine devam etmiş/ettim			
❒ Ortaokul veya benzerini bitirmiş/bitirdim			
❒ Lise veya benzerine devam etmiş/ettim			
❒ Lise veya benzerini bitirmiş/bitirdim			
❒ Üniversite veya yüksekokula devam etmiş/ettim			
❒ Üniversite veya yüksekokulu bitirmiş/bitirdim			
❒ Yüksek lisans mezunu/mezunuyum			
❒ Doktora yapmış/yaptım			

9. Medeni haliniz: ❒ Bekar ❒ Evli

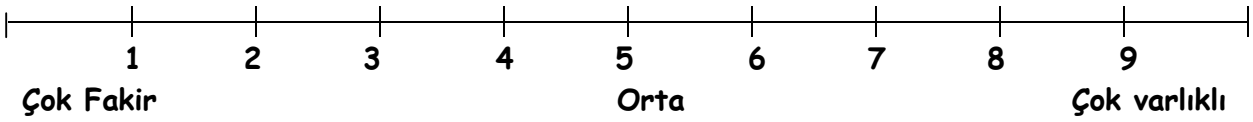
10. Çocuğunuz varsa kaç tane? _____

    Kaç yaşlarındalar? ___, ___, ___, ___, ___, ___

11. Sizce içinde büyüdüğünüz aileniz aşağıdaki genel gelir boyutunda nerededir?



12. Sizce şu anda kendi aileniz (evli değilseniz kendiniz) aşağıdaki genel gelir boyutunda nerededir?



VII. Lütfen bu bölümün sorularının tamamını rol aldığınız oyun bittikten sonra 20 dakika içerisinde, rol aldığınız oyunu göz önünde bulundurarak cevaplandırınız.

Aşağıdaki cümlelere ne kadar katıldığınızı/katılmadığınızı verilen ölçeği kullanarak 1'den 9'a kadar değerlendiriniz ve ilgili rakamı yuvarlak içine alınız.

1	2	3	4	5	6	7	8	9
Kesinlikle Katılmıyorum		**Katılmıyorum**		**Ne katılıyorum ne katılmıyorum**		**Katılıyorum**		**Kesinlikle Katılıyorum**

1. Dikkatim tamamen yaptığım iş üzerine odaklanmıştı.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2. Ne yapmam gerektiğini net olarak biliyordum.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
3. Aklımın ve bedenimin mükemmel bir birliktelik içinde çalıştığını hissettim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
4. Aklımı yapmam gereken iş üzerinde tutmak için özel bir çaba sarf etmem gerekmedi.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
5. Herşey kontrolüm altındaydı.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
6. Bu deneyimden gerçekten keyif aldım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
7. Kendimi yaptığım işe tamamen ama zahmetsizce kaptırdığımı hissettim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
8. İşi yaparken nasıl (ne kadar iyi) yaptığımı anlayabiliyordum.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
9. Yaptığım işe dalmıştım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
10. Zamanın nasıl geçtiğini anlamadım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
11. Aktivitenin zorluğu ile becerilerim arasında uygun bir denge olduğunu hissettim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Appendix B

Questionnaire of the present study that was distributed to the teacher sample

Değerli katılımcı,

Katılımınızı rica ettiğimiz bu araştırma, Koç Üniversitesi Endüstri ve Örgüt Psikolojisi Yüksek Lisans Programı bitirme tezi için yapılmaktadır. Gönüllü olarak katılacağınız bu araştırma hiç bir şekilde kimlik bilgisi istememektedir. Vereceğiniz cevaplar yalnızca bilimsel amaçlarla kullanılacak, kesinlikle hiç bir kişi ya da kurumla paylaşılmayacaktır. Araştırmanın tüm katılımcılar bazındaki sonuçları dilerseniz rapor halinde size sunulacaktır.

Anketin cevaplanmasında süre kısıtlaması bulunmamaktadır. İlk altı bölümü herhangi bir zaman doldurabilirsiniz. On iki kısa sorudan oluşan son bölüm iki kopya olarak yer almaktadir. Her birini farklı zamanlarda birer ders çıkışında yirmi dakika içerisinde cevaplandırmanızı rica ediyoruz.

Hiç bir sorunun doğru ya da yanlış cevabı yoktur. Sizin içtenlikle vereceğiniz cevaplar bizim için en yararlı olanlardır. Lütfen her soruyu dikkatle okuyunuz ve hiç bir soruyu yanıtsız bırakmayınız.

Çalışmama yaptığınız katkı benim için çok değerlidir. Bu anketi doldurmak için zaman ayırdığınız için teşekkür ederim.

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Tüm anketteki ifadeleri değerlendirirken, lütfen ölçekte sizce uygun olan rakamı ifadenin sağındaki boşluğa yazınız.

Eğer öğretmenlikten farklı bir işiniz de varsa lütfen işinizle ilgili soruları yalnızca öğretmenliği düşünerek yanıtlayınız.

I. Aşağıda bazı konularda görüşler yer almaktadır. Lütfen her maddeyi dikkatlice okuduktan sonra o maddede yazana ne kadar katıldığınızı/katılmadığınızı aşağıda verilen ölçeği kullanarak değerlendiriniz.

1	2	3	4	5	6
Kesinlikle katılmıyorum	**Katılmıyorum**	**Kısmen katılmıyorum**	**Kısmen katılıyorum**	**Katılıyorum**	**Kesinlikle katılıyorum**

1. İnsanların belirli bir düzeyde zekası vardır ve bunu değiştirmek için çok fazla bir şey yapamazlar.	
2. İnsanların zekası fazla değiştiremeyecekleri bir özellikleridir.	
3. Kim olursa olsun, her insan zeka düzeyini kayda değer bir şekilde değiştirebilir.	
4. Dürüst olmak gerekirse, insanlar ne kadar zeki olduklarını değiştiremezler.	
5. İnsanlar her zaman zekalarını belirgin bir oranda değiştirebilirler.	
6. İnsanlar yeni şeyler öğrenebilir fakat temel zeka düzeylerini değiştiremezler.	
7. İnsanların zeka düzeyleri ne olursa olsun, zekalarını her zaman belirgin bir miktar değiştirebilirler.	
8. İnsanlar temel zeka düzeylerini bile hatırı sayılır oranda değiştirebilirler.	

II. Aşağıda verilen her bir maddede işinizin bir yönü ele alınmıştır. Lütfen işinizin söz konusu yönünden ne kadar tatmin olduğunuzu/olmadığınızı belirtiniz.

1	2	3	4	5
Hiç tatmin etmiyor	**Pek tatmin etmiyor**	**Ne ediyor ne etmiyor**	**Oldukça tatmin ediyor**	**Çok tatmin ediyor**

1. Şu andaki işinizde kendinize koyduğunuz hedefleri yerine getirmede kaydettiğiniz ilerleme	

2. Kariyer hedefleriniz açısından baktığınızda şu anki işiniz	
3. Başka okullardaki işleri göz önünde bulundurduğunuzda şu anki işiniz	
4. İşinizin en iyi yapabildiğiniz şeyi yapmanıza olanak sağlaması	
5. İşinize ilk girdiğinizdeki beklentilerinizi düşünürseniz şu anki işiniz	

III. Lütfen aşağıdaki soruyu altında yer alan ölçekteki tanımlardan faydalanarak cevaplayınız.

İşinizde ne kadar çeşitlilik var? Yani işiniz farklı şeylerle uğraşmanızı, farklı beceri ve yeteneklerinizi kullanmanızı ne seviyede sağlıyor?	

1	2	3	4	5
Çok düşük seviyede çeşitlilik İşim, rutin olarak hep aynı şeyleri yapmamı gerektiriyor.	**Düşük seviyede çeşitlilik**	**Orta seviyede çeşitlilik**	**Yüksek seviyede çeşitlilik**	**Çok yüksek seviyede çeşitlilik** İşim bir çok farklı şeyi içeriyor; bunları gerçekleştirmek için sürekli farklı beceri ve yeteneklerimi kullanmam gerekiyor.

IV. Yaptığınız işi göz önünde bulundurduğunuzda, aşağıdaki ifadelerin ne kadar doğru veya yanlış olduğunu, verilen ölçeği kullanarak değerlendiriniz.

1	2	3	4	5	6
Tamamen yanlış	**Çoğunlukla yanlış**	**Kısmen yanlış**	**Kısmen doğru**	**Çoğunlukla doğru**	**Tamamen doğru**

3. İşim bir çok karmaşık ve ileri seviye becerileri kullanmamı gerektirir.	
4. İşim oldukça basittir ve aynı görevlerin tekrarından ibarettir.	

V. Her maddeyi dikkatlice okuduktan sonra o maddeye ne derecede katıldığınızı verilen ölçeği kullanarak değerlendiriniz.

1	2	3	4	5
Kesinlikle katılmıyorum	**Katılmıyorum**	**Ne katılıyorum ne katılmıyorum**	**Katılıyorum**	**Kesinlikle katılıyorum**

17. İyi yapabildiğim şeyleri yapmayı, başarısız olduğum şeyleri yapmaya tercih ederim.	
18. İşte en mutlu olduğum zamanlar, hata yapmayacağımı bildiğim işleri yaptığım zamanlardır.	
19. En çok zevk aldığım şeyler en iyi yaptıklarımdır.	
20. Başkalarının belli şeyleri ne kadar iyi yapabildiğimle ilgili düşünceleri benim için önemlidir.	
21. Bir şeyi hatasız yaptığım zaman kendimi akıllı hissederim.	
22. Bir işe girişmeden önce o işi başarabileceğimi az çok bilmek isterim.	
23. Geçmişte başarılı olduğum şeyler üzerinde çalışmak isterim.	
24. Bir şeyi diğer insanların çoğundan daha iyi yapabildiğim zaman kendimi akıllı hissederim.	
25. Zor işler üzerinde çalışabilmek benim için önemlidir.	
26. Zor bir işi tamamlamakta başarısız olduğumda bir dahaki sefer bu konuda daha büyük bir gayretle çalışmayı amaçlarım.	
27. Beni yeni şeyler öğrenmeye zorlayan görevlerde çalışmayı tercih ederim.	
28. Yeni şeyler öğrenme fırsatlarına önem veririm.	
29. Oldukça zor görevler üzerinde çalışırken en iyi performansımı gösteririm.	
30. Geçmiş performansımı geliştirmek için çok çaba harcarım.	
31. Becerilerimin çeşitliliğini arttırma fırsatları benim için önemlidir.	
32. Bir problemi çözmekte sorun yaşadığımda değişik yaklaşımlar deneyerek hangisinin işe yaradığını görmekten keyif alırım.	

VI. Genel Bilgiler

8. Kaç yaşındasınız? _____

9. Cinsiyetiniz: ❒ Kadın ❒ Erkek

10. Kaç yıldır öğretmenlik yapıyorsunuz? _____

11. Şu anda hangi şehirde yaşıyorsunuz? _____

12. Şu anda yaşadığınız şehirde kaç yıldır yaşıyorsunuz? _____

13. Kaç kardeşsiniz? _____

14. İçinde büyüdüğünüz aileyle en uzun süre yaşadığınız yer neresidir? Lütfen aşağıdaki beş seçenekten uygun olanının yanına belirtiniz.

⇒ Metropol: ❒ Ankara ❒ İstanbul ❒ İzmir
⇒ Şehir (lütfen belirtiniz): _____
⇒ Kasaba (lütfen hangi ile bağlı olduğunu belirtiniz): _____
⇒ Köy (lütfen hangi ile bağlı olduğunu belirtiniz): _____
⇒ Yurtdışı (lütfen hangi ülke olduğunu belirtiniz): _____

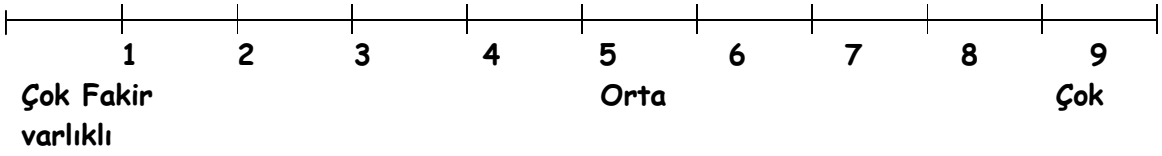
8. Lütfen aşağıdaki tabloda annenizin ve babanızın eğitimleriyle kendi eğitiminizi işaretleyiniz.

	Annenizin eğitimi:	**Babanızın eğitimi:**	**Sizin eğitiminiz:**
❒ Eğitimsiz/eğitimsizim			
❒ İlkokula devam etmiş/ettim			
❒ İlkokulu bitirmiş/bitirdim			
❒ Ortaokul veya benzerine devam etmiş/ettim			
❒ Ortaokul veya benzerini bitirmiş/bitirdim			
❒ Lise veya benzerine devam etmiş/ettim			
❒ Lise veya benzerini bitirmiş/bitirdim			
❒ Üniversite veya yüksekokula devam etmiş/ettim			
❒ Üniversite veya yüksekokulu bitirmiş/bitirdim			
❒ Yüksek lisans mezunu/mezunuyum			
❒ Doktora yapmış/yaptım			

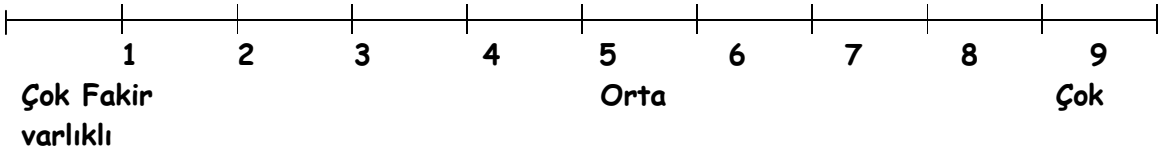
9. Medeni haliniz: ❒ Bekar ❒ Evli

10. Çocuğunuz varsa kaç tane? _____
Kaç yaşlarındalar? ___, ___, ___, ___, ___, ___

11. Sizce içinde büyüdüğünüz aileniz aşağıdaki genel gelir boyutunda nerededir?



12. Sizce şu anda kendi aileniz (evli değilseniz kendiniz) aşağıdaki genel gelir boyutunda nerededir?



VII. Lütfen bu bölümün sorularının tamamını dersten çıktıktan sonra 20 dakika içerisinde, vermiş olduğunuz dersi göz önünde bulundurarak cevaplandırınız.

Aşağıdaki cümlelere ne kadar katıldığınızı/katılmadığınızı verilen ölçeği kullanarak 1'den 9'a kadar değerlendiriniz ve ilgili rakamı yuvarlak içine alınız.

1	2	3	4	5	6	7	8	9
Kesinlikle Katılmıyorum		**Katılmıyorum**		**Ne katılıyorum ne katılmıyorum**		**Katılıyorum**		**Kesinlikle Katılıyorum**

1. Dikkatim tamamen yaptığım iş üzerine odaklanmıştı.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2. Ne yapmam gerektiğini net olarak biliyordum.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
3. Aklımın ve bedenimin mükemmel bir birliktelik içinde çalıştığını hissettim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
4. Aklımı yapmam gereken iş üzerinde tutmak için özel bir çaba sarf etmem gerekmedi.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
5. Herşey kontrolüm altındaydı.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
6. Bu deneyimden gerçekten keyif aldım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
7. Kendimi yaptığım işe tamamen ama zahmetsizce kaptırdığımı hissettim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
8. İşi yaparken nasıl (ne kadar iyi) yaptığımı anlayabiliyordum.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
9. Yaptığım işe dalmıştım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
10. Zamanın nasıl geçtiğini anlamadım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
11. Aktivitenin zorluğu ile becerilerim arasında uygun bir denge olduğunu hissettim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

VIII. Lütfen bu bölümün sorularının tamamını bir önceki bölümden farklı bir dersten çıktıktan sonra 20 dakika içerisinde, vermiş olduğunuz dersi göz önünde bulundurarak cevaplandırınız.

Aşağıdaki cümlelere ne kadar katıldığınızı/katılmadığınızı verilen ölçeği kullanarak 1'den 9'a kadar değerlendiriniz ve ilgili rakamı yuvarlak içine alınız.

1	2	3	4	5	6	7	8	9
Kesinlikle Katılmıyorum		**Katılmıyorum**		**Ne katılıyorum ne katılmıyorum**		**Katılıyorum**		**Kesinlikle Katılıyorum**

1. Dikkatim tamamen yaptığım iş üzerine odaklanmıştı.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2. Ne yapmam gerektiğini net olarak biliyordum.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
3. Aklımın ve bedenimin mükemmel bir birliktelik içinde çalıştığını hissettim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
4. Aklımı yapmam gereken iş üzerinde tutmak için özel bir çaba sarf etmem gerekmedi.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
5. Herşey kontrolüm altındaydı.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
6. Bu deneyimden gerçekten keyif aldım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
7. Kendimi yaptığım işe tamamen ama zahmetsizce kaptırdığımı hissettim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
8. İşi yaparken nasıl (ne kadar iyi) yaptığımı anlayabiliyordum.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
9. Yaptığım işe dalmıştım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
10. Zamanın nasıl geçtiğini anlamadım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
11. Aktivitenin zorluğu ile becerilerim arasında uygun bir denge olduğunu hissettim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Appendix C

Original items of the goal orientation scale (Button et al., 1996)

1. I prefer to do things that I can do well rather than things that I do poorly.
2. I'm happiest at work when I perform tasks on which I know that I won't make any errors.
3. The things I enjoy the most are the things I do the best.
4. The opinions others have about how well I can do certain things are important to me.
5. I feel smart when I do something without making any mistakes.
6. I like to be fairly confident that I can successfully perform a task before I attempt it.
7. I like to work on tasks that I have done well on in the past.
8. I feel smart when I can do something better than most other people.
9. The opportunity to do challenging work is important to me.
10. When I fail to complete a difficult task, I plan to try harder the next time I work on it.
11. I prefer to work on tasks that force me to learn new things.
12. The opportunity to learn new things is important to me.
13. I do my best when I'm working on a fairly difficult task.
14. I try hard to improve on my past performance.
15. The opportunity to extend the range of my abilities is important to me.
16. When I have difficulty solving a problem, I enjoy trying different approaches to see which one will work.

Appendix D

Original items of the flow scale (Oh.,2001)

1. My attention was focused entirely on what I was doing.
2. I knew clearly what I was supposed to do.
3. My mind and body seemed to work in perfect union.
4. It didn't take any effort to keep my mind on what I needed to do.
5. I was in complete control.
6. I really enjoyed the experience.
7. I felt completely but effortlesslyinvolved (really "into it").
8. I had clear feedback as to how well I was doing.
9. I was not self-conscious ("just doing it").
10. Time seemed to alter (either slow down/speed up).
11. I felt a fine balance between my skills and the challenge of the hole.

Appendix E

Original items of the job satisfaction scale (Bacharach, Bamberger, & Conley, 2001)

How satisfied or dissatisfied are you with . . .

1. The progress you are making toward the goals you set for yourself in your present position.
2. Your present job in light of your career expectations.
3. Your present job when you compare it to jobs in other organizations.
4. The chance your job gives you to do what you are best at.
5. Your present job when you consider the expectations you had when you took the job.

Appendix F

Original items of the skill variety scale (Hackman & Oldham.,1975; Idaszak & Drasgow, 1987)

1. How much variety is there in your job? That is, to what extend does the job require you to do many different things at work, using a variety of your skills and talents?

1---------2---------3---------4---------5---------6---------7

Anchors: 1 = Very little: The job requires me to do the same routine things over and over again; 4 = Moderate variety; 7 = Very much: The job requires me to do many different things using a number of skills and talents.

2. The job requires me to use a number of complex or high-level skills.

3. The job is quite simple and repetitive.

Appendix G

Calculations for the interaction graphs

Actor Sample

y1=	14.021	Actor Flow involvement p app –SD, skill var -SD
y2=	9.83905	Actor Flow involvement p app +SD, skill var -SD
y3=	9.14698	Actor Flow involvement p app +SD, skill var +SD
y4=	15.411	Actor Flow involvement p app –SD, skill var +SD

y1=8.256-0.454*8.69+0.249*3.29+0.357*3.92+0.224*3.74+0.252*(3.61-0.79)+0.682*4.23+0.128*(4.75-0.88)-0.749*(4.75-0.88)*(3.61-0.79)+0.26*(4.75-0.88)*(3.74)+0.426*(4.75-0.88)*(4.23)

y2=8.256-0.454*8.69+0.249*3.29+0.357*3.92+0.224*3.74+0.252*(3.61+0.79)+0.682*4.23+0.128*(4.75-0.88)-0.749*(4.75-0.88)*(3.61+0.79)+0.26*(4.75-0.88)*(3.74)+0.426*(4.75-0.88)*(4.23)

y3= 8.256-0.454*8.69+0.249*3.29+0.357*3.92+0.224*3.74+0.252*(3.61+0.79)+0.682*4.23+0.128*(4.75+0.88)-0.749*(4.75+0.88)*(3.61+0.79)+0.26*(4.75+0.88)*(3.74)+0.426*(4.75+0.88)*(4.23)

y4=8.256-0.454*8.69+0.249*3.29+0.357*3.92+0.224*3.74+0.252*(3.61-0.79)+0.682*4.23+0.128*(4.75+0.88)-0.749*(4.75+0.88)*(3.61-0.79)+0.26*(4.75+0.88)*(3.74)+0.426*(4.75+0.88)*(4.23)

Teacher Sample

y1=	3.4843	Teacher job satisfaction, p app –SD, skill var –SD
y2=	4.624	Teacher job satisfaction, p app +SD, skill var -SD
y3=	5.6631	Teacher job satisfaction, p app +SD, skill var +SD
y4=	3.6453	Teacher job satisfaction, p app -SD, skill var +SD

y1=2.107+0.097*5.56-0.525*0.29+0.211*3.8-0.177*(3.66-0.84)+0.135*3.93-0.025*4.25+0.238*(4.23-0.99)-0.053*(4.23-0.99)*4.25-0.172*(4.23-0.99)*3.93+0.264*(4.23-0.99)*(3.66-0.84)

y2=2.107+0.097*5.56-0.525*0.29+0.211*3.8-0.177*(3.66+0.84)+0.135*3.93-0.025*4.25+0.238*(4.23-0.99)-0.053*(4.23-0.99)*4.25-0.172*(4.23-0.99)*3.93+0.264*(4.23-0.99)*(3.66+0.84)

Appendix G (cont.)

y3=2.107+0.097*5.56-0.525*0.29+0.211*3.8-0.177*(3.66+0.84)+0.135*3.93-
0.025*4.25+0.238*(4.23+0.99)-0.053*(4.23+0.99)*4.25-
0.172*(4.23+0.99)*3.93+0.264*(4.23+0.99)*(3.66+0.84)

y4=2.107+0.097*5.56-0.525*0.29+0.211*3.8-0.177*(3.66-0.84)+0.135*3.93-
0.025*4.25+0.238*(4.23+0.99)-0.053*(4.23+0.99)*4.25-
0.172*(4.23+0.99)*3.93+0.264*(4.23+0.99)*(3.66-0.84)

Appendix H

Factor loadings for implicit theories of intelligence scale of the actor sample

Items	Factor Loadings F1	F2
1 İnsanların belirli bir düzeyde zekası vardır ve bunu değiştirmek için çok fazla bir şey yapamazlar.	.867	
2. İnsanların zekası fazla değiştiremeyecekleri bir özellikleridir.	.842	
4 Dürüst olmak gerekirse, insanlar ne kadar zeki olduklarını değiştiremezler.	.795	
6 İnsanlar yeni şeyler öğrenebilir fakat temel zeka düzeylerini değiştiremezler.	.696	
3 Kim olursa olsun, her insan zeka düzeyini kayda değer bir şekilde değiştirebilir.		.808
5 İnsanlar her zaman zekalarını belirgin bir oranda değiştirebilirler.		.782
8 İnsanlar temel zeka düzeylerini bile hatırı sayılır oranda değiştirebilirler.		.778
7 İnsanların zeka düzeyleri ne olursa olsun, zekalarını her zaman belirgin bir miktar değiştirebilirler.		.760
Eigenvalues:	4.634	.779
Percent of variance explained:	57.928	9.736

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

Appendix I

Factor loadings for implicit theories of intelligence scale of the teacher sample

Items	Factor Loadings
2. İnsanların zekası fazla değiştiremeyecekleri bir özellikleridir.	.816
5 İnsanlar her zaman zekalarını belirgin bir oranda değiştirebilirler.	.813
3 Kim olursa olsun, her insan zeka düzeyini kayda değer bir şekilde değiştirebilir.	.788
7 İnsanların zeka düzeyleri ne olursa olsun, zekalarını her zaman belirgin bir miktar değiştirebilirler.	.788
6 İnsanlar yeni şeyler öğrenebilir fakat temel zeka düzeylerini değiştiremezler.	.760
1 İnsanların belirli bir düzeyde zekası vardır ve bunu değiştirmek için çok fazla bir şey yapamazlar.	.754
8 İnsanlar temel zeka düzeylerini bile hatırı sayılır oranda değiştirebilirler.	.724
4 Dürüst olmak gerekirse, insanlar ne kadar zeki olduklarını değiştiremezler.	.628
Eigenvalues:	4.634
Percent of variance explained:	57.928

Note: Extraction Method: Principal Component Analysis. The solution could not be rotated by SPSS because only one component was extracted.

Appendix J

Factor loadings for the goal orientation scale for actor sample

Items	Factor Loadings F1	F2	F3
11. Beni yeni şeyler öğrenmeye zorlayan görevlerde çalışmayı tercih ederim.	.830		
10. Zor bir işi tamamlamakta başarısız olduğumda bir dahaki sefer bu konuda daha büyük bir gayretle çalışmayı amaçlarım.	.818		
12. Yeni şeyler öğrenme fırsatlarına önem veririm.	.802		
15. Becerilerimin çeşitliliğini arttırma fırsatları benim için önemlidir.	.785		
16. Bir problemi çözmekte sorun yaşadığımda değişik yaklaşımlar deneyerek hangisinin işe yaradığını görmekten keyif alırım.	.775		
9. Zor işler üzerinde çalışabilmek benim için önemlidir.	.742		
13. Oldukça zor görevler üzerinde çalışırken en iyi performansımı gösteririm.	.708		
14. Geçmiş performansımı geliştirmek için çok çaba harcarım.	.703		
8. Bir şeyi diğer insanların çoğundan daha iyi yapabildiğim zaman kendimi akıllı hissederim.		.795	
5. Bir şeyi hatasız yaptığım zaman kendimi akıllı hissederim.		.774	
7. Geçmişte başarılı olduğum şeyler üzerinde çalışmak isterim.		.702	
4. Başkalarının belli şeyleri ne kadar iyi yapabildiğimle ilgili düşünceleri benim için önemlidir.		.545	
2. İşte en mutlu olduğum zamanlar, hata yapmayacağımı bildiğim işleri yaptığım zamanlardır.			.801
6. Bir işe girişmeden önce o işi başarabileceğimi az çok bilmek isterim.			.711
3. En çok zevk aldığım şeyler en iyi yaptıklarımdır.			.662
1. İyi yapabildiğim şeyleri yapmayı, başarısız olduğum şeyleri yapmaya tercih ederim.			.430
Eigenvalues:	4.996	2.773	1.240
Percent of variance explained:	31.228	17.333	7.752

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

Appendix K

Factor loadings for the goal orientation scale for teacher sample

Items	Factor Loadings			
	F1	F2	F3	F4
11. Beni yeni şeyler öğrenmeye zorlayan görevlerde çalışmayı tercih ederim.	.800			
12. Yeni şeyler öğrenme fırsatlarına önem veririm.	.798			
15. Becerilerimin çeşitliliğini arttırma fırsatları benim için önemlidir.	.753			
14. Geçmiş performansımı geliştirmek için çok çaba harcarım.	.722			
13. Oldukça zor görevler üzerinde çalışırken en iyi performansımı gösteririm.	.642			
10. Zor bir işi tamamlamakta başarısız olduğumda bir dahaki sefer bu konuda daha büyük bir gayretle çalışmayı amaçlarım.	.632			
9. Zor işler üzerinde çalışabilmek benim için önemlidir.	.596			
16. Bir problemi çözmekte sorun yaşadığımda değişik yaklaşımlar deneyerek hangisinin işe yaradığını görmekten keyif alırım.	.569			
8. Bir şeyi diğer insanların çoğundan daha iyi yapabildiğim zaman kendimi akıllı hissederim.		.799		
5. Bir şeyi hatasız yaptığım zaman kendimi akıllı hissederim.		.785		
4. Başkalarının belli şeyleri ne kadar iyi yapabildiğimle ilgili düşünceleri benim için önemlidir.		.726		
1. İyi yapabildiğim şeyleri yapmayı, başarısız olduğum şeyleri yapmaya tercih ederim.	-.309	.398	.359	
2. İşte en mutlu olduğum zamanlar, hata yapmayacağımı bildiğim işleri yaptığım zamanlardır.			.854	
3. En çok zevk aldığım şeyler en iyi yaptıklarımdır.			.733	
7. Geçmişte başarılı olduğum şeyler üzerinde çalışmak isterim.		.414	.468	
6. Bir işe girişmeden önce o işi başarabileceğimi az çok bilmek isterim.				.789
Eigenvalues:	4.085	3.113	1.200	1.015
Percent of variance explained:	25.529	19.459	7.503	6.341

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

Appendix L

Factor loadings for flow scale of the actor sample

Items	Factor Loadings		
	F1	F2	F3
3. Aklım ve bedenimin mükemmel bir birliktelik içinde çalıştığını hissettim.	.788		
2. Ne yapmam gerektiğini net olarak biliyordum.	.783		
6. Bu deneyimden gerçekten keyif aldım.	.641		
5. Herşey kontrolüm altındaydı.	.573		.549
11. Aktivitenin zorluğu ile becerilerim arasında uygun bir denge olduğunu hissettim.	.530	.512	
10. Zamanın nasıl geçtiğini anlamadım.		.793	
9. Yaptığım işe dalmıştım.		.761	
1. Dikkatim tamamen yaptığım iş üzerine odaklanmıştı.		.625	
4. Aklımı yapmam gereken iş üzerinde tutmak için özel bir çaba sarf etmem gerekmedi.			.794
7. Kendimi yaptığım işe tamamen ama zahmetsizce kaptırdığımı hissettim.			.698
8. İşi yaparken nasıl (ne kadar iyi) yaptığımı anlayabiliyordum.	.554		.566
Eigenvalues:	4.196	1.340	1.231
Percent of variance explained:	38.144	12.180	11.188

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

Appendix M

Factor loadings for flow scale1 of the teacher sample

Items	Factor Loadings
6. Bu deneyimden gerçekten keyif aldım.	.880
7. Kendimi yaptığım işe tamamen ama zahmetsizce kaptırdığımı hissettim.	.860
8. İşi yaparken nasıl (ne kadar iyi) yaptığımı anlayabiliyordum.	.830
11. Aktivitenin zorluğu ile becerilerim arasında uygun bir denge olduğunu hissettim.	.825
5. Herşey kontrolüm altındaydı.	.824
4. Aklımı yapmam gereken iş üzerinde tutmak için özel bir çaba sarf etmem gerekmedi.	.787
9. Yaptığım işe dalmıştım.	.787
10. Zamanın nasıl geçtiğini anlamadım.	.772
3. Aklım ve bedenimin mükemmel bir birliktelik içinde çalıştığını hissettim.	.767
1. Dikkatim tamamen yaptığım iş üzerine odaklanmıştı.	.742
2. Ne yapmam gerektiğini net olarak biliyordum.	.620
Eigenvalues:	6.920
Percent of variance explained:	62.906

Note: Extraction Method: Principal Component Analysis. The solution could not be rotated by SPSS because only one component was extracted.

Appendix N

Factor loadings for flow scale2 of the teacher sample

Items	Factor Loadings
7. Kendimi yaptığım işe tamamen ama zahmetsizce kaptırdığımı hissettim.	.869
6. Bu deneyimden gerçekten keyif aldım.	.853
8. İşi yaparken nasıl (ne kadar iyi) yaptığımı anlayabiliyordum.	.811
1. Dikkatim tamamen yaptığım iş üzerine odaklanmıştı.	.806
3. Aklım ve bedenimin mükemmel bir birliktelik içinde çalıştığını hissettim.	.799
10. Zamanın nasıl geçtiğini anlamadım.	.783
9. Yaptığım işe dalmıştım.	.781
11. Aktivitenin zorluğu ile becerilerim arasında uygun bir denge olduğunu hissettim.	.763
5. Herşey kontrolüm altındaydı.	.729
4. Aklımı yapmam gereken iş üzerinde tutmak için özel bir çaba sarf etmem gerekmedi.	.681
2. Ne yapmam gerektiğini net olarak biliyordum.	.673
Eigenvalues:	6.683
Percent of variance explained:	60.752

Note: Extraction Method: Principal Component Analysis.