

**“Identification and Comparison of Learning styles and
Personality types of undergraduate Hospitality /
Tourism Students from Thailand and Lao PDR”.**

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**By
Ameya Purushottam Ghanekar**

**Under the Guidance of
Dr. Deepak J. Tilak**

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CERTIFICATE

This is to certify that the thesis entitled, “Identification and Comparison of Learning Styles and Personality Types of Undergraduate Hospitality / Tourism management students from Thailand and Lao PDR” which is being submitted here with for the award of Degree of Vidyavachaspati (Ph.D.) in Management Faculty of Tilak Maharashtra Vidyapeeth, Pune is the result of original research work completed by Mr. Ameya Purushottam Ghanekar under my supervision and guidance. To the best of my knowledge and belief the work incorporated in this thesis has not formed the basis for the award of any Degree or similar title of this or any other university or examining body upon him and due references are being mentioned in bibliography.

Place - Pune, Maharashtra, India

Signature of the Guide

Date - 17th July 2011

(Dr. Deepak J. Tilak)

I hereby declare that the thesis entitled **“Identification and Comparison of Learning styles and Personality types of undergraduate Hospitality / Tourism Students from Thailand and Lao PDR”** completed and written by me has not previously formed the basis of award of any Degree or other similar title upon me of this or any other Vidyapeeth or examining body.

Pune, 17th July 2011.

Ameya Purushottam Ghanekar

Chapter 1

Introduction

Chapter One Outline

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Background

Learning styles are a combination of many biological and experientially imposed characteristics that contribute to concentration, each in its own way and all together as a unit. Learning style is more than merely whether a student remembers new and difficult information most easily by hearing, seeing, reading, writing, illustrating, verbalizing, or actively experiencing; perceptual strength is only one part of learning style. It is also more than whether a person processes information sequentially or analytically rather than in a holistic, simultaneous, global fashion; information-processing style is just one component of style. It is important to recognize not only individual behaviors, but to explore and examine the whole of each person's inclinations toward learning (Dunn, Thies, & Honigsfeld, 2001).

Keefe (1979) states that “learning styles are characteristic cognitive, effective and psychological behaviors that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment”. In the last two decades, several models and measurement instruments have been developed to classify individual learning preferences.

Kolb (1984), who developed Kolb’s Learning Style Inventory (LSI), declared that individuals develop a preferred style of learning because of a personally unique set of experiences. Learning style affects not only how one processes materials as one studies, but also how one absorbs the information during an educational experience (Carrier, Newell & Lange, 1982). The theories of learning styles deal with how individuals prefer to learn. Learning style is the way each person begins to concentrate on, process, internalize and retain new and difficult academic information (Dunn & Dunn, 1992, 1993, 1998).

Often, there is a disconnect in communication and information exchange between the student and the instructor. Some of this disconnect can be attributed to various factors such as experience and motivation while other portions are embedded in the nature of the participants in this interaction. The research literature in education

suggests that students are more likely to achieve success if they are actively engaged in their learning process (Dewar, 1996; Hartman, 1995). In particular, adjusting teaching materials to meet the needs of a variety of learning styles can benefit all students (Agogino & Hsi, 1995).

Sims and Sims (1995) stated that institutions of higher education are always searching for ways to make their educational initiatives more effective. With concerns for students' learning, they further indicated that university administrators and teachers are also under pressure to contribute more suitable and effective teaching methods and services. Educators need to find ways to understand their students and help them achieve their educational goals.

Experiential Learning Theory states that learning style is not a psychological trait but a dynamic state resulting from synergistic transactions between the person and the environment. This dynamic state arises from an individual's preferential resolution of the dual dialectics of experiencing/conceptualizing and acting/reflecting. "The stability and endurance of these states in individuals comes not solely from fixed genetic qualities or characteristics of human beings: nor, for that matter, does it come from the stable fixed demands of environmental circumstances. Rather, stable and enduring patterns of human individuality arise from consistent patterns of transaction between the individual and his or her environment. The way we process the possibilities of each new emerging event determines the range of choices and decisions we see. The choices and decisions we make to some extent determine the events we live through, and these events influence our future choices. Thus, people create themselves through the choice of actual occasions they live through." (Kolb 1984: 63-64).

Aiken (1996, p.3) defined personality as a person's private, central, and inner core. Included within this private core are in individual's motivations, attitudes, interests, beliefs, fantasies, cognitive styles, and other mental processes. No two people are exactly alike; everyone is unique (Aiken, 1996, p.3). One of most important

personality theories is Psychological Type developed by Carl G. Jung (1875-1961) to explain some of the apparently random differences in people's behavior. According to Myers and McCaulley (1985a), an understanding of personality type could help individuals relate learning activities to learning style.

The idea of matching learning styles to personality profiles is not new (Keirsey & Bates, 1984; Myers, 1993; Wicklein & Rojewski, 1995). Numerous studies have found that learning styles and personality types were correlated with students' academic achievement (Borg & Shapiro, 1996; Haygood & Iran-Nejad, 1994; Horton & Oakland, 1997; Sternberg, 1997; Luk, 1998; Fouzder & Markwick, 2000; Taylor, 2001; Ziegert, 2000).

Kluckhohn and Murray (1967, p.53) concluded that every person, in certain ways, is like no other person, is like some other persons, and is like all other persons. These differences and similarities may be tied to learning experiences. While individuals learn all the time, they do not all learn in the same way (Kolb, 1976).

Carl Jung's (1921/1971) theory is that the variations in human behavior are due to the logical results of a few basic observable preferences (Myers et al. 2003). He attempted to explain individual differences in personalities with two types which are extraverts and introverts (Myers et al., p. 22). Then he divided his initial classifications into types by identifying two pair of opposite mental functions: those being two opposite perceiving functions respectively labeled; Sensation (S) and Intuition (N); and two opposite judging functions, which Jung called Thinking (T) and Feeling (F) (Bell, 2005, p.30).

A way to determine learning style and personality is to administer known learning style and personality profile instruments and to match the results with known results from existing information. Both the Myers-Briggs Type Indicator (MBTI) and Personal Style Inventory (PSI) identify individuals according to personality type. On the other hand, Kolb's Learning Style Inventory (LSI) identifies individuals based on learning style. The MBTI, PSI and LSI are primarily used in

English speaking countries, although some have been translated into other languages (Kolb, 2000; Myers, 1993). The reliability of the instruments may differ among cultures and countries due to translation processes. Consequently, studying the learning style preferences and personality types of hospitality students may be able to help initiate more suitable and effective teaching and services.

The research for this study was in regards to Jungian Personality Theory, Kolb's experiential learning theory, Kolb's Learning Style Inventory, Personal Style Inventory, the reliability and validity of the Learning Style Inventory and Myers-Briggs Type Indicator, learning style studies, hospitality and tourism education in Thailand, higher education and hospitality and tourism education in Lao PDR. However, there was no specific research was available concerning learning styles and personality types of hospitality and tourism undergraduate students in Thailand as well as Lao PDR as both the countries were comparatively new to Hospitality and Tourism education. In Lao PDR even the 1st batch had not completed their university degree specializing in Hospitality and Tourism in 2008. The secondary data was mostly collected from the research papers from various conferences focusing on learning styles in general. It was also a challenge to collect data about personality types of Thai as well as Lao hospitality undergraduates. It was very difficult to locate even few researches done in the area of learning styles and personality types of Thai and Lao students in general. This study will be a milestone in itself in understanding the learning styles and personality types of Thai and Lao students. Although both the countries belong to South East Asian Region still the comparative study would also stand as a benchmark for the further researches. Both the countries had few similar factors like language – both the countries could speak, understand and read Thai language. Location – both the countries were located in South east Asia, Orientation to Hospitality and tourism education – Both the countries were comparatively new to the concept of hospitality and tourism at higher education level, Culture and Life style – Both the countries had a great influence of Buddhism

on their cultures as well as life style. Although Thailand and Lao PDR had so many similarities there is huge amount of diversity which was displayed through their education system, financial stability, education planning of the country, per capita income, literacy, approach towards life, diversity within ethnic groups etc which lead to this research and investigation in understanding Learning style and Personality type of each country and later comparing it with each other so as to develop a better understating about learning styles and personality types of Thailand and Lao PDR students for educators as well as for students.

Jungian Personality Theory

Aiken (1996) indicated that personality theories include multiple approaches to the question of who individuals are and how and why they are similar and different from other individuals. These approaches use basic psychometric and assessment techniques, and descriptive taxonomies of individual differences, developed for the study of personality and ability.

One of most important personality theories is Psychological Type developed by Carl G. Jung (1875-1961), a Swiss psychiatrist, to explain some of the apparently random differences in individual's behavior. Jung found predictable and differing patterns of normal behavior from his observations of clients and others. Jung (1923) stated that Psychological Type recognizes the existence of these patterns or types, and provides an explanation of how types develop. According to Jung's theory (1923), predictable differences in individuals are caused by differences in the way individuals prefer to use their minds. The core idea is that, when one's mind is active, one is involved in one of two mental activities: Perceiving, which is taking in information; or Judging, which is organizing that information and coming to conclusions.

Jung (1971) observed that there are two opposite ways to perceive, which he called Sensing and Intuition; and two opposite ways to judge, Thinking and Feeling. Everyone uses these four essential processes daily in both the external world and

internal world. Jung called the external world of people, things, and experience, Extroversion; and the internal world of inner processes and reflections, Introversion. These four basic processes used in the external world and the internal world present one of eight ways of using one's mind. Based on his personality theory, Jung's typology of psychological types includes four such pairs of dialectically opposed adaptive orientations. Jung described individuals' (1) mode of relation to the world via introversion and extroversion, (2) mode of decision making via perception or judgment, (3) preferred way of perceiving via sensing or intuition, and (4) preferred way of judging via thinking or feeling. These opposing orientations are described in Figure 1.1 (Kolb, 1984, p. 79).

Jung (1923) believed that everyone has a natural preference for using one kind of perceiving and one kind of judging. He also observed that a person is drawn toward either the external world or the internal world. As one exercises one's preferences, one develops distinct perspectives and approaches to life and human interaction.

Extroverts vs. Introverts

Extroverts are directed towards the objective world whereas Introverts are directed towards the subjective world. The most common differences between Extroverts and Introverts are shown below:

Extroverts	Introverts
<ul style="list-style-type: none"> • are interested in what is happening around them • are open and often talkative • compare their own opinions with the opinions of others • like action and initiative • easily make new friends or adapt to a new group 	<ul style="list-style-type: none"> • are interested in their own thoughts and feelings • need to have own territory • often appear reserved, quiet and thoughtful • usually do not have many friends • have difficulties in making new contacts

- say what they think
- are interested in new people
- easily break unwanted relations
- like concentration and quiet
- do not like unexpected visits and therefore do not make them
- work well alone

Sensing vs. Intuition

Sensing is an ability to deal with information on the basis of its physical qualities and its affection by other information. Intuition is an ability to deal with the information on the basis of its hidden potential and its possible existence. The most common differences between Sensing and Intuitive types are shown below:

Sensing types

- see everyone and sense everything
- live in the here and now
- quickly adapt to any situation
- like pleasures based on physical sensation
- are practical and active
- are realistic and self-confident

Intuitive types

- are mostly in the past or in the future
- worry about the future more than the present
- are interested in everything new and unusual
- do not like routine
- are attracted more to the theory than the practice
- often have doubts

Thinking vs. Feeling

Thinking is an ability to deal with information on the basis of its structure and its function. Feeling is an ability to deal with information on the basis of its initial energetic condition and its interactions. The most common differences between Thinking and Feeling type are shown below:

Thinking types

- are interested in systems, structures, patterns
- expose everything to logical analysis
- are relatively cold and unemotional
- evaluate things by intellect and right or wrong
- have difficulties talking about feelings
- do not like to clear up arguments or quarrels

Feeling types

- are interested in people and their feelings
- easily pass their own moods to others
- pay great attention to love and passion
- evaluate things by ethics and good or bad
- can be touchy or use emotional manipulation
- often give compliments to please people

Perceiving vs. Judging

Perceiving types are motivated into activity by the changes in a situation. Judging types are motivated into activity by their decisions resulting from the changes in a situation. The most common differences between Perceiving and Judging types are shown below:

Perceiving types

- act impulsively following the situation
- can start many things at once without finishing them properly
- prefer to have freedom from obligations
- are curious and like a fresh look at things
- work productivity depends on their mood
- often act without any preparation

Judging types

- do not like to leave unanswered questions
- plan work ahead and tend to finish it
- do not like to change their decisions
- have relatively stable workability
- easily follow rules and discipline

Mode of relation to the world	E EXTROVERT TYPE Oriented toward external world of other people and things	I INTROVERT TYPE Oriented toward inner world of ideas and feelings
Mode of decision making	J JUDGING TYPE Emphasis on order through reaching decision and resolving issues	P PERCEIVING TYPE Emphasis on gathering information and obtaining as much data as possible
Mode of perceiving	S SENSING TYPE Emphasis on sense perception, on facts, details and concrete events	N INTUITION TYPE Emphasis on possibilities, imagination, meaning, and seeing things as a whole.
Mode of Judging	T THINKING TYPE Emphasis on analysis, using logic and rationality	F FEELING TYPE Emphasis on human values, establishing personal friendships, decisions made mainly on beliefs and likes.

Figure 1.1 Jung's Psychological Types (Kolb, 1984, p. 80)

Kolb's Experiential Learning Theory and Learning Context

Kolb (1984) developed his experiential theory of learning by drawing primarily on learning philosophy works by Dewey, Lewin, and Piaget, and the personality theory work of Jung. For learning philosophy, John Dewey, in the 1920s, implicated the value of hands-on learning experiences and commented experiences as an important element of learning (Dewey, 1916). Jean Piaget introduced learning in terms of progression through developmental stages (Piaget, 1966). Kurt Lewin advanced experiential learning via his pioneer works in the psychology field (Marrow, 1969). Regarding personality theory, Carl Jung emphasized variations in personal behavior through psychological types (Jung, 1971).

Kolb studies the relationship between learning and experience and determined that each individual's learning style is a result of a combination of heredity, past life experiences, and demands of the present environment (Kolb, 1984). He described learning as a four-step process, called a cycle of learning. Learners must first involve themselves in the experience and then reflect on the experience from different perspectives. These reflections result in the creation of generalizations about the experiences and the integration of them into theories and models that are then used to test new situations (Kolb, 2000).

The Experiential Learning Model is a simple description of the learning cycle and it states how experiences are translated into concepts, which, in turn, are used as guides in the choice of new experience. As shown in Figure 1.1 and Figure 1.2, this cycle consists of the following four stages:

- People learn through immediate or concrete experience.
- This concrete experience is the basis for observations and reflections.
- These observations and reflections are assimilated and distilled into a theory or concept, however informal, from which new implications for action can be drawn.
- These implications can be tested and serve as guides in creating new experiences (Kolb, 2000, p.1)

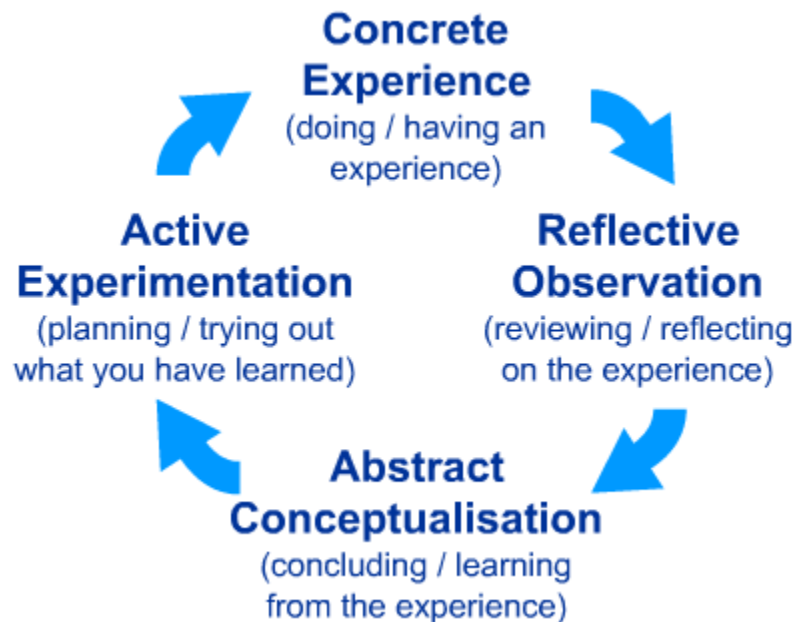


Figure 1.2 The Experiential Learning Model (Kolb, 2000, p.1)

The theory, described in detail in *Experiential Learning: Experience as the Source of Learning and Development* (Kolb 1984), is built on six propositions -

1. Learning is best conceived as a process, not in terms of outcomes. To improve learning in higher education, the primary focus should be on engaging students in a process that best enhances their learning —a process that includes feedback on the effectiveness of their learning efforts. “...education must be conceived as a continuing reconstruction of experience: ... the process and goal of education are one and the same thing.”(Dewey 1897: 79)
2. All learning is relearning. Learning is best facilitated by a process that draws out the students’ beliefs and ideas about a topic so that they can be examined, tested, and integrated with new, more refined ideas.
3. Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world. Conflict, differences, and disagreement are what drive the

learning process. In the process of learning, one is called upon to move back and forth between opposing modes of reflection and action and feeling and thinking.

4. Learning is a holistic process of adaptation to the world. It is not just the result of cognition but involves the integrated functioning of the total person—thinking, feeling, perceiving, and behaving.

5. Learning results from synergetic transactions between the person and the environment. In Piaget's terms, learning occurs through equilibration of the dialectic processes of assimilating new experiences into existing concepts and accommodating existing concepts to new experience.

6. Learning is the process of creating knowledge. ELT proposes a constructivist theory of learning whereby social knowledge is created and recreated in the personal knowledge of the learner. This stands in contrast to the "transmission" model on which much current educational practice is based, where pre-existing fixed ideas are transmitted to the learner. ELT defines learning as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (Kolb 1984: 41).

Based on Kolb's Experiential Learning Theory, Kolb (2000) maintained that while individuals learn all the time, people do not all learn in the same way due to a personal, unique set of experiences. Probably, individuals develop a preferred style of learning; this style is simply the way that they prefer to understand and incorporate new information (Kolb, 2000).

Learning style not only can affect the way individuals solve problems, make decisions, and develop and change their attitudes and behavior, but also can determine the career in which a person will find the most comfortable fit (Kolb, 2000). In addition, learning style determines what kind of learning experience each type of learner will find effective, comfortable, and growth-promoting (Kolb, 1984). To educators or facilitators, understanding the learning styles of students is, perhaps, the most important

element needed to mimic and design the correspondent learning experiences for the different types of learners that they encounter.

As shown in Figure 1. 3, four learning preferences are described by Kolb (1984) as Divergent (CE/RO), Assimilative (RO/AC). Convergent (AC/AE), and Accommodative (AE/CE). Kolb further proposed that the dominant learning styles represent personality characteristics and are relatively stable over time; however, he also stated that learning styles are influenced by long or short-term situational factors and by differing levels of maturity (Kolb, 1984).

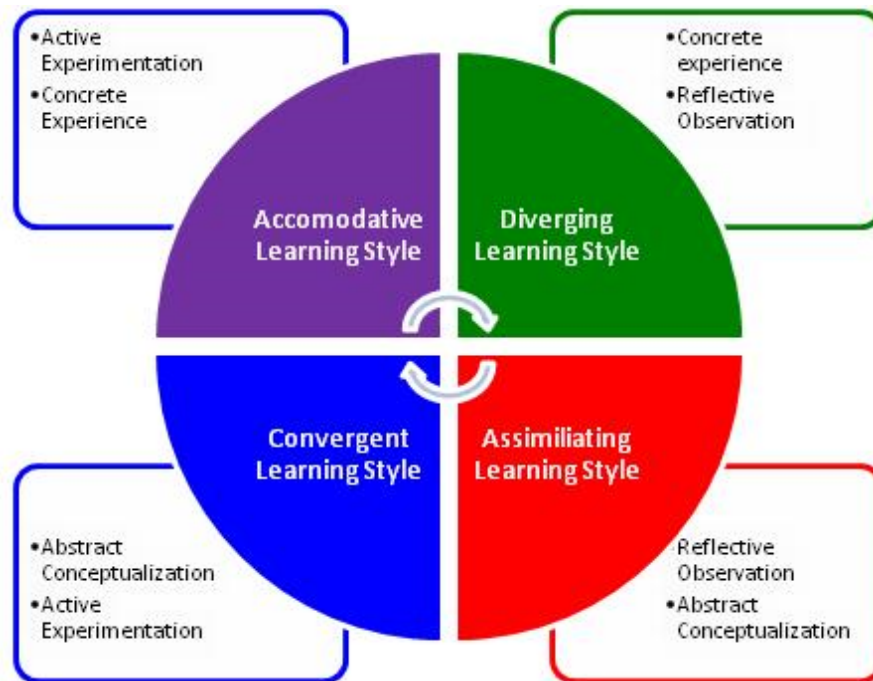


Figure 1.3 Learning Style Type Grid (Kolb, 2000, p.5).

Kolb (2000) described the characteristics of these four learning styles as follows:

1. The Divergent Learning Style

Learners who perceive or take in information concretely and process or transform it reflectively are known as Divergers. The learner of this type combines the learning stages

of concrete experience and reflective observation. Divergers are so named because of their imagination, and their ability to perform best in situations calling for the generation of many alternative (divergent) ideas and implications. The person oriented toward Divergence is often known as a “people person” because she or he is interested in people, and tends to be feeling-oriented.

2. The Assimilative Learning Style

Learners who perceive or take in new information abstractly and process or transform it reflectively are known as Assimilators for their ability to assimilate disparate observations into an integrated, rational explanation. Assimilators emphasize the learning stages of abstract conceptualization and reflective observation. Learners of this style excel at inductive reasoning and the creation of models and theories, and are goal setters and systematic planners.

3. The Convergent Learning Style

Learners who perceive or take in new information abstractly and process or transform it actively are known as Convergers for their ability to use hypothetical-deductive reasoning to arrive at a single best solution to a question or problem. Learners of this style emphasize abstract experience and active experimentation. Convergent learners’ greatest strength lies in their abilities for decision making, problem solving and in finding practical uses for theories.

4. The Accommodative Learning Style

Learners who perceive or take in new information concretely and who process or transform it actively are known as Accommodators for their ability to adapt to changing immediate circumstances. Accommodators combine the learning stages of concrete experience and active experimentation. Learners of this type enjoy doing, carrying out plans and tasks, and getting involved in new experiences (p.6).

Kolb (1984) indicated learning style preferences would relate to career choice. For example, a computer scientist is required to establish a dynamic interplay between conceptual knowledge and experimentation in order to develop software. Many computer scientists probably prefer a convergent learning style. Individuals in the computer science world are attracted to and remain in the profession due to this preference; but, certainly, not all computer scientists have this innate preference.

Kolb (1981, 1984) also suggested that not only professional or academic demands may temporarily affect or permanently adjust learning style preferences, but also that an individual will respond to the demands of different learning contexts by utilizing, to differing degrees, concrete, abstract, active or reflective learning strategies. In light of this, it is important to note that although the Learning Style Inventory assesses both learning style preference and the relative strength of preference for each learning mode, the inventory does not specify preference on the part of the respondent to a particular learning context (Kolb, 1984). Based on his learning theory, Kolb gave several examples to explain that learners could likely adjust their learning preferences in different situations. Thus, the responses of a given individual when focusing upon learning preferences related to acquiring driving skills might be quite different from the responses recorded when the individual focuses upon the study of English Literature in academic context (Kolb, 1984). Similarly, a computer scientist with a general preference for a divergent learning style (CE/RO) might record a preference for a convergent learning style (AC/AE) if, at the time of taking a test, the respondent is asked to focus on learning in the context of a computer science course (Kolb, 1976, 1985).

Factors that Shape and Influence Learning Styles (Hays – Kolb guidelines 3.1)

The above patterns of behavior associated with the four basic learning styles are shaped by transactions between people and their environment at five different levels—personality, educational specialization, professional career, current job role, and adaptive competencies. While some have interpreted learning style as a personality variable (Garner 2000; Furnam, Jackson, and Miller 1999), ELT defines learning style as a social

psychological concept that is only partially determined by personality. Personality exerts a small but pervasive influence in nearly all situations; but at the other levels, learning style is influenced by increasingly specific environmental demands of educational specialization, career, job, and tasks skills. Table 1 summarizes previous research that has identified how learning styles are determined at these various levels.

1. Personality Types

Although the learning styles of and learning modes proposed by ELT are derived from the works of Dewey, Lewin, and Piaget, many have noted the similarity of these concepts to Carl Jung's descriptions of individuals' preferred ways for adapting in the world. Several research studies relating the LSI with the Myers-Briggs Type Indicator (MBTI) indicate that Jung's Extraversion/Introversion dialectical dimension correlates with the Active/Reflective dialectic of ELT, and the MBTI Feeling/Thinking dimension correlates with the LSI Concrete Experience/ Abstract Conceptualization dimension. The MBTI Sensing type is associated with the LSI Accommodating learning style, and the MBTI Intuitive type with the LSI Assimilating style. MBTI Feeling types correspond to LSI Diverging learning styles, and Thinking types to Converging styles. The above discussion implies that the Accommodating learning style is the Extraverted Sensing type, and the Converging style the Extraverted Thinking type. The Assimilating learning style corresponds to the Introverted Intuitive personality type, and the Diverging style to the Introverted Feeling type. Myers (1962) descriptions of these MBTI types are very similar to the corresponding LSI learning styles as described by ELT (Kolb 1984, 83-85).

2. Educational Specialization

Early educational experiences shape people's individual learning styles by instilling positive attitudes toward specific sets of learning skills and by teaching students how to learn. Although elementary education is generalized, an increasing process of specialization begins in high school and becomes sharper during the college years. This specialization in the realms of social knowledge influences individuals' orientations toward learning, resulting in particular relations between learning styles and early

training in an educational specialty or discipline. For example, people specializing in the arts, history, political science, English, and psychology tend to have Diverging learning styles, while those majoring in more abstract and applied areas such as medicine and engineering have Converging learning styles. Individuals with Accommodating styles often have educational backgrounds in education, communications, and nursing, and those with Assimilating styles in mathematics and physical sciences.

3. Professional Career

A third set of factors that shape learning styles stems from professional careers. One's professional career choice not only exposes one to a specialized learning environment, but it also involves a commitment to a generic professional problem, such as social service, that requires a specialized adaptive orientation. In addition, one becomes a member of a reference group of peers who share a professional mentality and a common set of values and beliefs about how one should behave professionally. This professional orientation shapes learning style through habits acquired in professional training and through the more immediate normative pressures involved in being a competent professional. Research over the years has shown that social service and arts careers attract people with a Diverging learning style. Professions in the sciences and information or research have people with an Assimilating learning style. The Converging learning styles tends to be dominant among professionals in technology-intensive fields such as medicine and engineering. Finally, the Accommodating learning style characterizes people with careers in fields such as sales, social service, and education.

4. Current Job Role

The fourth level of factors influencing learning style is the person's current job role. The task demands and pressures of a job shape a person's adaptive orientation. Executive jobs, such as general management, that requires a strong orientation to task accomplishment and decision making in uncertain emergent circumstances require an Accommodating learning style. Personal jobs, such as counseling and personnel administration, which require the establishment of personal relationships and effective

communication with other people, demand a Diverging learning style. Information jobs, such as planning and research, which require data gathering and analysis, as well as conceptual modeling, require an Assimilating learning style. Technical jobs, such as bench engineering and production, require technical and problem-solving skills, which require a convergent learning orientation.

5. Adaptive Competencies

The fifth and most immediate level of forces that shapes learning style is the specific task or problem the person is currently working on. Each task we face requires a corresponding set of skills for effective performance. The effective matching of task demands and personal skills results in an adaptive competence. The Accommodative learning style encompasses a set of competencies that can best be termed Acting skills: Leadership, Initiative, and Action. The Diverging learning style is associated with valuing skills: Relationship, Helping Others, and Sense Making. The Assimilating learning style is related to Thinking skills: Information Gathering, Information Analysis, and Theory Building. Finally, the Converging learning style is associated with Decision skills like Quantitative Analysis, Use of Technology, and Goal Setting (Kolb1984).

The Learning Style Inventory

Purpose

The Learning Style Inventory (LSI) was created to fulfill two purposes:

1. To serve as an educational tool to increase individuals' understanding of the process of learning from experience and their unique individual approach to learning. By increasing awareness of how they learn, the aim is to increase learners' capacity for meta-cognitive control of their learning process, enabling them to monitor and select learning approaches that work best for them in different learning situations. By providing a language for talking about learning styles and the learning process, the inventory can foster conversation among learners and educators about how to create the most effective learning environment for those involved. For this purpose, the inventory is best presented

not as a test, but as an experience in understanding how one learns. Scores on the inventory should not be interpreted as definitive, but as a starting point for exploration of how one learns best. To facilitate this purpose, a self-scoring and interpretation book that explains the experiential learning cycle and the characteristics of the different learning styles, along with scoring and profiling instructions, is included with the inventory.

2. To provide a research tool for investigating experiential learning theory (ELT) and the characteristics of individual learning styles. This research can contribute to the broad advancement of experiential learning and, specifically, to the validity of interpretations of individual learning style scores. A research version of the instrument, including only the inventory to be scored by the researcher, is available for this purpose. The LSI is not a criterion-referenced test and is not intended for use to predict behavior for purposes of selection, placement, job assignment, or selective treatment. This includes not using the instrument to assign learners to different educational treatments, a process sometimes referred to as tracking. Such categorizations based on a single test score amount to stereotyping that runs counter to the philosophy of experiential learning, which emphasizes individual uniqueness. “When it is used in the simple, straightforward, and open way intended, the LSI usually provides a valuable self-examination and discussion that recognizes the uniqueness, complexity, and variability in individual approaches to learning. The danger lies in the reification of learning styles into fixed traits, such that learning styles become stereotypes used to pigeonhole individuals and their behavior.” (Kolb 1981a: 290-291) The LSI is constructed as a self-assessment exercise and tool for construct validation of ELT. Tests designed for predictive validity typically begin with a criterion, such as academic achievement, and work backward to identify items or tests with high criterion correlations. Even so, even the most sophisticated of these tests rarely rises above a .5 correlation with the criterion. For example, while Graduate Record Examination Subject Test scores are better predictors of first-year graduate school grades than either the General Test score or undergraduate GPA, the combination of these three measures only produces multiple correlations with grades ranging from .4 to .6 in various fields (Anastasi and Urbina 1997).

Construct validation is not focused on an outcome criterion, but on the theory or construct the test measures. Here the emphasis is on the pattern of convergent and discriminant theoretical predictions made by the theory. Failure to confirm predictions calls into question the test and the theory. “However, even if each of the correlations proved to be quite low, their cumulative effect would be to support the validity of the test and the underlying theory.” (Selltiz, Jahoda, Deutsch, and Cook 1960: 160) Judged by the standards of construct validity, ELT has been widely accepted as a useful framework for learning-centered educational innovation, including instructional design, curriculum development, and life-long learning. Field and job classification studies viewed as a whole also show a pattern of results consistent with the ELT structure of knowledge theory.

History

Five versions of the Learning Style Inventory have been published over the last 35 years. During this time, attempts have been made to openly share information about the inventory, its scoring, and its technical characteristics with other interested researchers. The results of their research have been instrumental in the continuous improvement of the inventory.

Learning Style Inventory-Version 1 (Kolb 1971, Kolb 1976)

The original Learning Style Inventory (LSI 1) was created in 1969 as part of an MIT curriculum development project that resulted in the first management textbook based on experiential learning (Kolb, Rubin, and McIntyre 1971). It was originally developed as an experiential educational exercise designed to help learners understand the process of experiential learning and their unique individual style of learning from experience. The term “learning style” was coined to describe these individual differences in how people learn. Items for the inventory were selected from a longer list of words and phrases developed for each learning mode by a panel of four behavioral scientists familiar with experiential learning theory. This list was given to a group of 20 graduate students who were asked to rate each word or phrase for social desirability. Attempting to select words

that were of equal social desirability, a final set of 12 items including a word or phrase for each learning mode was selected for pre-testing. Analysis showed that three of these sets produced nearly random responses and were thus eliminated, resulting in a final version of the LSI with 9 items. These items were further refined through item-whole correlation analysis to include six scored items for each learning mode.

Research with the inventory was stimulated by classroom discussions with students, who found the LSI to be helpful to them in understanding the process of experiential learning and how they learned. From 1971 until it was revised in 1985, there were more than 350 published research studies using the LSI. Validity for the LSI 1 was established in a number of fields, including education, management, psychology, computer science, medicine, and nursing (Hickcox 1990, Iliff 1994). The results of this research with LSI 1 provided empirical support for the most complete and systematic statement of ELT, *Experiential Learning: Experience as the Source of Learning and Development* (Kolb 1984). Several studies of the LSI 1 identified psychometric weaknesses of the instrument, particularly low internal consistency reliability and test-retest reliability.

Learning Style Inventory-Version 2 (Kolb 1985)

Low reliability coefficients and other concerns about the LSI 1 led to a revision of the inventory in 1985 (LSI 2). Six new items chosen to increase internal reliability (alpha) were added to each scale, making 12 scored items on each scale. These changes increased scale alphas to an average of .81 ranging from .73 to .88. Wording of all items was simplified to a seventh grade reading level, and the format was changed to include sentence stems (e.g., “When I learn”). Correlations between the LSI 1 and LSI 2 scales averaged .91 and ranged from .87 to .93. A new more diverse normative reference group of 1446 men and women was created. Research with the LSI 2 continued to establish validity for the instrument. From 1985 until the publication of the LSI 3 1999, more than 630 studies were published, most using the LSI 2. While internal reliability estimates for the LSI 2 remained high in independent studies, test-retest reliability remained low.

Learning Style Inventory-Version 2a (Kolb 1993)

In 1991 Veres, Sims, and Locklear published a reliability study of a randomized version of the LSI 2 that showed a small decrease in internal reliability but a dramatic increase in test-retest reliability with the random scoring format. To study this format, a research version of the random format inventory (LSI 2a) was published in 1993.

Kolb Learning Style Inventory-Version 3 (Kolb 1999)

In 1999 the randomized format was adopted in a revised self-scoring and interpretation booklet (LSI 3) that included a color-coded scoring sheet to simplify scoring. The new booklet was organized to follow the learning cycle, emphasizing the LSI as an “experience in learning how you learn.” New application information on teamwork, managing conflict, personal and professional communication, and career choice and development were added. The LSI 3 continued to use the LSI 2 normative reference group until norms for the randomized version could be created.

Kolb Learning Style Inventory-Version 3.1 (Kolb 2005)

The new LSI 3.1 described here modified the LSI 3 to include new normative data described below. This revision includes new norms that are based on a larger, more diverse and representative sample of 6977 LSI users. The format, items, scoring, and interpretative booklet remain identical to KLSI 3. The only change in KLSI 3.1 is in the norm charts used to convert raw LSI scores.

Format

The Learning Style Inventory is designed to measure the degree to which individuals display the different learning styles derived from experiential learning theory. The form of the inventory is determined by three design parameters. First, the test is brief and straightforward, making it useful both for research and for discussing the learning process with individuals and providing feedback. Second, the test is constructed in such a way that individuals respond to it as they would respond to a learning situation: it requires them to resolve the tensions between the abstract-concrete and active-reflective orientations. For this reason, the LSI format requires them to rank order their preferences

for the abstract, concrete, active, and reflective orientations. Third, and most obviously, it was hoped that the measures of learning styles would predict behavior in a way consistent with the theory of experiential learning. All versions of the LSI have had the same format—a short questionnaire (9 items for LSI 1 and 12 items for subsequent versions) that asks respondents to rank four sentence endings that correspond to the four learning modes— Concrete Experience (e.g., experiencing), Reflective Observation (reflecting), Abstract Conceptualization (thinking), and Active Experimentation (doing). Items in the LSI are geared to a seventh grade reading level. The inventory is intended for use by teens and adults. It is not intended for use by younger children. The LSI has been translated into many languages, including, Arabic, Chinese, French, Japanese, Italian, Portuguese, Spanish, Swedish, and Thai, and there have been many cross cultural studies using it (Yamazaki 2002).

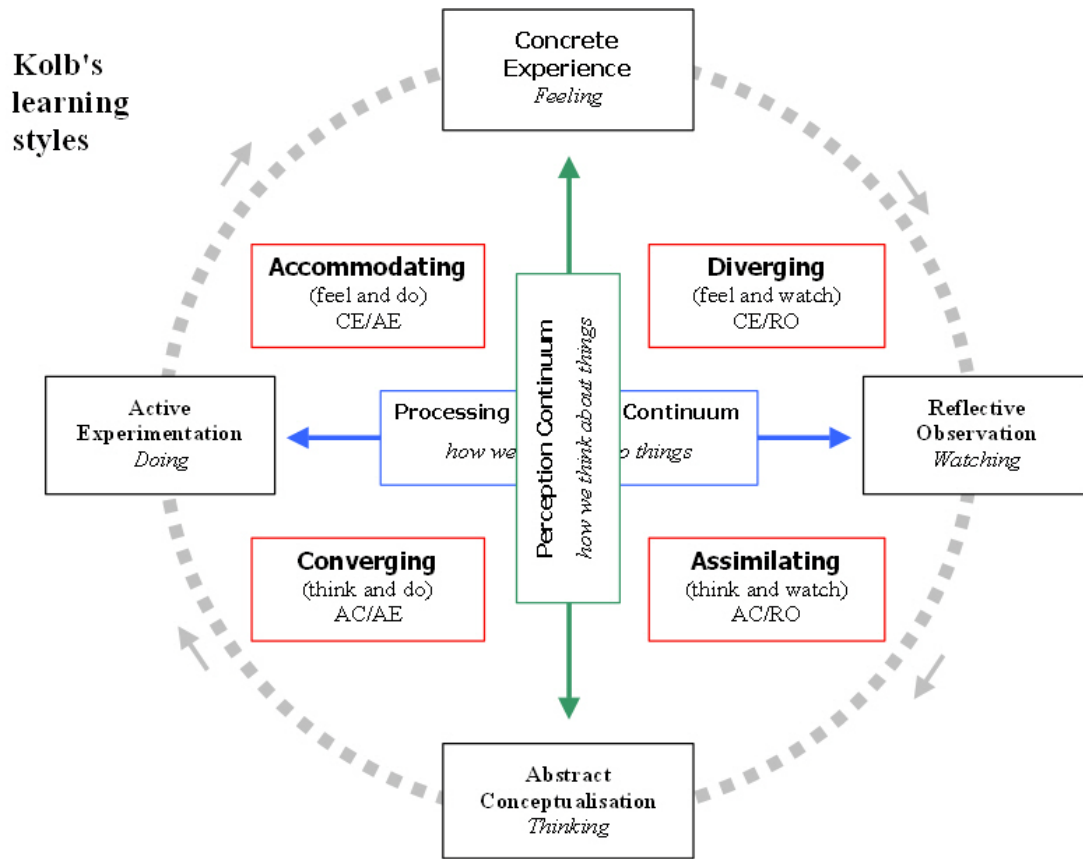
The Experiential Learning Theory postulates the existence of four learning modes that combine to form two learning dimensions – concrete/abstract and active/reflective (Kolb, 1984). These two main dimensions of the learning process correspond to the two major ways that individuals learn. The first dimension is how people perceive new information or experience, and the second is how individuals process what they perceive.

As shown in Figure 1.4, it is theorized that almost every individual utilizes each learning mode to some extent, but has a preferred learning style resulting from the tendency to either learn through Concrete Experience (CE) or through the construction of theoretical frameworks (Abstract Conceptualization – AC) combined with the tendency to either learn through Active Experimentation (AE) or through reflection (Reflective Observation – RO) (Kolb, 2000).

Based on this theory, four learning preferences are described by Kolb (1984) as Divergent (CE/RO), Assimilative (RO/AC), Convergent (AC/AE), and Accommodative (AE/CE) in the Kolb's Learning Style Inventory.

Kolb's Learning Style Inventory (LSI) was first published in 1976 (Kolb, 1976). The LSI I, revised as LSI II, consists of twelve sentence-completion items (Kolb, 1993). There are

four endings per sentence. Each ending corresponds to one of the learning stages in Kolb's experiential learning model: Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE).



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Figure 1.4 Kolb's learning styles

Respondents are asked to rank the endings for 1 through 4 in a manner which best describes the way they like to learn. Responses are also asked to give four scores ranging from 12-48. The total scores should be 120 for four learning stages. These scores measure which emphasis a respondent places on each stage of Kolb's learning cycle. The four

scores are plotted on a grid to create an individual learning profile. The four scores produced from the LSI are used to create two learning dimension mean scores. These scores range from +48 to -48 (Kolb, 1993).

Each score is plotted on the intersecting grid of the Learning Style Type Grid. The two axes are labeled AC-CE and AE-RO. These two axes represent Kolb's belief that learning requires skills which are polar opposites. The first of these two scores is obtained by subtracting the CE score from the AC score (the total plotted on the vertical axis) which indicates one's learning style preference in the concrete-abstract dimension. The second score is obtained by subtracting the RO from the AE score (the total plotted on the horizontal axis), which indicates one's learning style preference in the active-reflective dimension (Kolb, 1993).

In his studies in 1976 and 1984, Kolb (1976, 1984) used the LSI to investigate the similarities in individuals by college majors and reported the results by undergraduate majors. Business majors tended to be Accommodators; engineers usually were Convergers; history, English, political science, education, science, and psychology majors were Divergers; and mathematics, economics, sociology, chemistry and social sciences majors were Assimilators. Physics majors were between the Assimilator and Converger quadrants (Kolb, 1976, 1984).

As shown in Figure 1.5, Willcoxson and Prosser (1996) identified the results of several later studies to categorize individuals in specific disciplines and professions to cluster in different learning styles. The information in these studies may provide general ideas regarding different college majors and professions.

In addition, Bagdan and Boger (2000) examined learning style preferences and hospitality undergraduate students' demographic variables: class, gender, age, American College Testing Program (ACT) score, and Grade Point Average (GPA). They found no significant differences on the Learning Style Inventory (LSI) as examined by class; gender, age, and ACT score results. A significant difference was found associating LSI

and GPA. Hospitality students who were identified as Diverging learning preference on the LSI and lower GPAs.

Accommodative (AE/CE)	Divergent (CERO)
<ul style="list-style-type: none"> • Business (Kolb, 1976) • Family medicine (Plovnick, 1975) • Family practice residents (Sadler et al, 1978) • Social work (RUZICH ET AL, 1986) • Practicing architects (Newland et al, 1987) 	<ul style="list-style-type: none"> • English/languages/education, philosophy/history (Kolb, 1976, 1984) • Arts/Humanities (Kolb, 1984) • Social work graduates (Kruzich et al, 1986) • Liberal/Fine Arts/Science (Reading brown et al, 1989) • Psychology (Katz, 1988)
Convergent (AC/AE)	Assimilative (RO/AC)
<ul style="list-style-type: none"> • Physical Sciences (Kolb, 1984) • Occupational therapy(Katz, 1988) • Practicing chemists (Smedley, 1987) • Social work academics (Kruzich et al, 1986) • Engineering/Business (Reading-Brown et al, 1989) • Mathematics/Biology/Engineering (Katz, 1988) 	<ul style="list-style-type: none"> • Chemistry/Sociology/ Mathematics, Economics (Kolb, 1976, 1984) • Social sciences (Kolb, 1984)

Figure 1.5 Learning Style Preference, by Discipline or Profession (Willcoxson & Prosser, 1996, p. 248).

CONVERGER - Those with highest scores in **Abstract Conceptualization (AC)** and **Active Experimentation (AE)**. This person's greatest strength lies in the practical application of ideas. A person with this style seems to do best in those situations where there is a single correct answer or solution to a question or problem and can focus on specific problems or situations. Research on this style of learning shows that Convergents are relatively unemotional, preferring to deal with things rather than people. They often choose to specialize in the physical sciences, engineering, and computer sciences.

DIVERGER - Those with highest scores in **Concrete Experience (CE)** and **Reflective Observation (RO)**. Divergers have characteristics opposite from convergers. Their greatest strengths lie in creativity and imaginative ability. A person with this learning style excels in the ability to view concrete situations from many perspectives and generate many ideas such as in a "brainstorming" session. Research shows that Divergers are interested in people and tend to be imaginative and emotional. They tend to be interested in the arts and often have humanities or liberal arts backgrounds. Counselors, organizational development specialists, and personnel managers tend to be characterized by this learning style.

ASSIMILATOR - Those with highest scores in **Abstract Conceptualization (AC)** and **Reflective Observation (RO)**. This person's strength lies in the ability to understand and create theories. A person with this learning style excels in inductive reasoning and in synthesizing various ideas and observations into an integrated whole. This person, like the converger, is less interested in people and more concerned with abstract concepts, but is less concerned with the practical use of theories. For this person it is more important that the theory be logically sound and precise; in a situation where a theory or plan does not fit the "facts," the Assimilator would be likely to disregard or re-examine the facts. As a result, this learning style is more characteristic of the basic sciences and mathematics rather than the applied sciences. Assimilators often choose careers involving research and planning.

ACCOMMODATOR - Those with highest scores in **Concrete Experience (CE)** and **Active Experimentation (AE)**. Accommodators are polar opposites from Assimilators. Their greatest strengths lie in carrying out plans and experiments and involving themselves

in new experiences. They are risk-takers and excel in those situations requiring quick decisions and adaptations. In situations where a theory or plan does not fit the "facts," they tend to discard it and try something else. They often solve problems in an intuitive trial and error manner, relying heavily on other people for information. Accomodators are at ease with people but may be seen as impatient and "pushy." Their educational background is often in practical fields such as business or education. They prefer "action-oriented" jobs such as nursing, teaching, marketing, or sales.

Personality Types

In 1942, Katharine Cook Briggs and her daughter, Isabel Briggs Myers, studied and elaborated on Carl G. Jung's work and developed the Myers-Briggs Type Indicator (MBTI) (Myers, 1993). The MBTI is a self-reporting questionnaire designed to identify and make psychological types understandable. Although the MBTI is widely used, the developers are cautious about how the MBTI is used. They suggested that the results must be interpreted by an institutional certified psychological professional and are useful in identifying individual strengths and unique talents. These cautions recognize the possibility of misinterpreting results and therefore making assumptions about people and labeling them (Myers, 1993).

Individuals are categorized into one of sixteen personality profiles, which characterize an individual's preferences in two major categories of Perceiving (taking in information) or Judging (organizing information) characteristics. The variations in what you prefer, use and develop lead to fundamental differences between people. The resulting predictable patterns of behavior form psychological types (Myers, 1993).

Adapting the theory of the Myers-Briggs Type Indicator instrument, Hogan and Champagne developed the Personal Style Inventory (PSI) in 1979, which is a simplified variation of the MBTI instrument. The purpose of the PSI is to provide a simple instrument for knowing one's preferences, but that profile, while different from the profiles of other persons' personalities, has nothing to do with mental health or mental problems (Hogan & Champagne, 1979).

The Personal Style Inventory provides a means of characterizing one's preferred style with respect to four dimensions. Each dimension is presented in bi-polar scales for all learners: extroversion-introversion, sensing-intuition, thinking-feeling, and judging-perceiving (Hogan & Champagne, 1979). It is designed to determine if individuals demonstrate a balance among the four dimensions, E-I, S-N, T-F and J-P, or if they have slight, definite, or considerable strengths and weaknesses in each dimension.

Twenty questions comprise the PSI questionnaire. Each question has two endings. The respondents are asked to allocate 5 points between the two question endings (from 0 to 5 for each ending, but the total score can't exceed 5) according to the individual's preference in performing in a certain manner. Each dimension has five questions and ten endings. The combined score of each dimension should be 25. The total scores of each component (column) of the dimension, which describes one personality preference, should range between 0 and 25. The questionnaire is followed by instructions for self-evaluation and interpretation of the results. The total scores in each column indicate relative strengths and balances in the four dimensions.

- Column scores of 12 or 13 suggest a balance in the two components of the dimension.
- Column scores of 14 or 15 suggest slight imbalance; the dimension component with the higher score is slightly stronger than the other component.
- Column scores between 16 and 19 suggest a definite imbalance; the dimension component with the higher score is definitely stronger than the other component.
- Column scores between 20 and 25 suggest a considerable imbalance; the dimension component with the higher score is considerably stronger than the other component.

An individual's personality style type is identified by combining the four columns with scores of 14 or greater, Column scores of 12 or 13 reflect a balance between the two characteristics (Jewler & Gardner, 1993, p.54). Additionally, the inventory is designed to determine if individuals demonstrate a balance among the four dimensions or if they have

slight, definite, or considerable strengths and weaknesses in the dimensions. There are a total sixteen personality types which are based on four paired dimensions (Hogan & Champagne, 1979). The characteristics of the 16 personality types are described in Figure 1.6 and Figure 1.7.

The following paragraphs describe the personal style types in the four dimensions. Type descriptions are quoted from Jewler and Gardner (1993):

Extroversion – Introversion

Extroverted persons are attuned to the culture, people, and things around them. The extrovert is outgoing, socially free, interested in variety and in working with people. The extrovert may become impatient with long, slow tasks and does not mind being interrupted by people. Persons more introverted than extroverted tend to make decisions somewhat independently of culture, people, or things around them. They are quiet, diligent at working alone, and socially reserved. They may dislike being interrupted while working and may tend to forget names and faces.

Sensing – Intuition

The sensing type prefers the concrete, factual, tangible here-and-now, becoming impatient with theory and the abstract, mistrusting intuition. The sensing type thinks in detail, remembering real facts, but possibly missing a conception of the overall. The intuitive person prefers possibilities, theories, invention, and the new and becomes bored with nitty-gritty details and facts unrelated to concepts. The intuitive person thinks and discusses in spontaneous leaps of intuition that may neglect details. Problem solving comes easily for this individual, although there may be a tendency to make errors in fact.

Thinking – Feeling

The thinker makes judgments based on logic, analysis, and evidence, avoiding decisions based on feelings and values. As a result, the thinker is more interested in logic, analysis and verifiable conclusions than in empathy, values, and personal warmth. The thinker may step

on others' feelings and needs without realizing it, neglecting to take into consideration the values of others. The feeler makes judgments based on empathy, warmth, and personal values. As a consequence, feelers are more interested in people and feelings than in impersonal logic, analysis, and things, and in harmony more than in being on to or achieving impersonal goals. The feeler gets along well with people in general.

Judging – Perceiving

The judger is decisive, firm, and sure, setting goals and sticking to them. The judger wants to make decisions and get on to the next project. When a project does not yet have closure, judgers will leave it behind and go on to new tasks.

The perceiver is a gatherer, always wanting to know more before deciding, holding off decisions and judgments. As a consequence, the perceiver is open, flexible, adaptive, nonjudgmental, able to see and appreciate all sides of issues, always welcoming new perspectives. However, perceivers are also difficult to pin down and may become frustrated at times. Even when they finish tasks, perceivers will tend to look back at them and wonder whether they could have been done another way. The perceiver wishes to roll with life rather than change it. (Jewler & Gardner, 1993, pp. 54-55).

ESTP (DOER)	ENFP (CLARIFIER)
Matter-of-fact, do not worry or hurry, enjoy whatever comes along. Tend to like mechanical things and sports, with friends on the side. May be a bit blunt or insensitive. Can do math and science when they see the need. Dislike long explanations. Are best with real things that can be worked, handled, taken apart or put together. Hearty and outgoing. Resourceful. Love activity. Good	Warmly enthusiastic, high- spirited, ingenious, imaginative. Able to do almost anything that interests them. Quick with a solution to any difficulty and ready to help anyone with a problem. Often rely on their ability to improvise instead of preparing in advance. Can usually find compelling reasons for whatever they want. Gifted observers and enterprisers. Charming and likable. Not interested in

observers. Good negotiators and manipulators.	routine living patterns.
ESFP (PERFORMER)	ENTP (INNOVATOR)
Outgoing, easygoing, accepting, friendly. Enjoy everything and make things more fun for others by their enjoyment. Like sports and making things. Know what's going on and join in eagerly. Find remembering facts easier than mastering theories. Are best in situations that need sound commonsense and practical ability with people as well as with things. Charming and open to others. Generous and optimistic. Like company and excitement. Conventional.\	Quick, Ingenious, good at many things. Stimulating company, alert and outspoken. May argue for fun on either side of a question. Resourceful in solving new and challenging problems, but may neglect routine assignments. Apt to turn to one new interest after another. Skilful in finding logical reasons for what they want. Inspiring and enthusiastic, Analytical. Like novelty and uncertainty. Pragmatic and goal oriented. Love challenges.
ESTJ (STABLILIZER)	ENFJ (ENERGIZER)
Practical, realistic, matter-of-fact, with a natural head for business or mechanics. Not interested in subjects for which they see no use, but can apply themselves when necessary. Like to organize and run activities. Responsible and orderly. Loyal and steadfast. May be impatient with others or impetuous. Like to be involved in community activities.	Responsive and responsible. Generally feel real concern for what others think or want, and try to handle things with due regard for other people's, feelings. Can present a proposal or lead a group discussion with ease and tact. Sociable, popular, active, but put time enough into their work to perform well. Natural leaders. Effective in interpersonal

	relationships and skills. Tolerant trusted and forgiving.
ESFJ (SOCIALIZER)	ENTJ (TRAILBLAZER)
Warm-hearted, talkative, popular, conscientious, born cooperators, active committee members, need harmony and may be good at creating it. Always doing something nice for someone. Work best with encouragement and praise. Little interest in abstract thinking or technical subjects. Main interest is in things that directly and visibly affect people's lives. Sociable and outgoing. Responsible, attentive and traditional. Loyal and hard working. Dislike obstructions.	Hearty, frank, able in studies and work. Seek leadership roles. Are usually well-informed and enjoy adding to their fund of knowledge. May sometimes be more positive and confident than their experience in an area warrants. Outgoing and outspoken. Like to organize people and projects. Desire to give structure. Natural leaders. Strive for efficiency and effectiveness.

Figure 1.6 Characteristics Frequently Associated with Extroversion Type (Hogan & Champagne, 1979, p.11)

ISTJ (SYSTEMATIZER)	INFJ (HARMONIZER)
<p>Serious, quiet, earn success by concentration and thoroughness. Practical, orderly, matter of-fact, logical, realistic and dependable. See to it that everything is well organized. Take responsibility. Make up their own minds as to what should be accomplished and work toward it steadily regardless of protests or distractions. Detail-oriented and stable. Patient and sensible. Dislike novelty and frivolity.</p>	<p>Succeed by perseverance, originality and desire to do whatever is needed or wanted. Put their best efforts into Their work. Quietly forceful, conscientious, concerned for others. Respected for their firm principles. Likely to be honored and followed for their clear convictions as to how best to serve the common good Gifted and effective communicators. Imaginative and intuitive. Good interpersonal skills. Excel at problem solving.</p>
ISFJ (PRESERVER)	INTJ (DESIGNER)
<p>Quiet, friendly, responsible and conscientious. Work devoutly to meet their obligations and serve their friends and fellow workers. Thorough, painstaking, accurate. May need time to master technical subjects. Patient with details and routine. Loyal, considerate, concerned with how other people feel. Dedicated and service-oriented. Dependable and orderly. Relate well to individual needs. Traditional and procedural.</p>	<p>Usually have original minds and great drive for their own ideas and purposes. In fields that appeal to them, they have a fine power to organize a job and carry it through with or without help. Skeptical, critical, independent determined, often stubborn, Must learn to yield less important points in order to win the most important. Builders and designers of both systems and products. Logical, evaluative with positive outlook. Theoretical and somewhat impersonal.</p>

ISTP (STRATEGIZER)	INFP (IDEALIZER)
Cool onlookers. Quiet, reserved, observing and analyzing life with detached curiosity and unexpected flashes of original humor. Usually interested in impersonal principles, cause and effect, how and why mechanical things work. Exert themselves no more than they think necessary because any waste of energy would be inefficient. Action-oriented, precise and tireless. Can be impulsive. Challenged by complex equipment. Somewhat solitary.	Full of enthusiasms and loyalties but seldom talk of it until they know you well. Care about learning, ideas, language and independent projects of their own. Tend to undertake too much, then somehow get it done. Friendly but often too absorbed in what they are doing to be sociable. Little concern with possessions or physical surroundings. Idealistic and committed. Adaptable. Respond well to the needs of others. Dislike detail.
ISFP (EXPERIENCER)	INTP (THEORIZER)
Retiring, quietly friendly, sensitive, kind, and modest about their abilities. Shun disagreements; do not force their opinions values on others. Usually do not care to lead but are often loyal followers. More relaxed about getting things done because they enjoy the present moment and do not want to spoil it by undue haste or exertion. Solitary. Seek simplicity and freedom. Digest experience deeply.	Quiet, reserved, brilliant in exams, especially in theoretical or scientific subjects. Logical to the point of hair-splitting. Mainly interested in ideas, with little liking for parties or small talk. Tend to have sharply defined interests. Need to choose careers focused around a strong interest. Logical and precise. Preserving and thorough, somewhat impersonal. Not impressed with authority. Theoretical.

Figure 1.7 Characteristics Frequently Associated with Introversion Type (Hogan & Champagne, 1979, p.12)

The Relationship between Learning Style and Personality Type

As mentioned earlier, Kolb's Experiential Learning Style theory as well as his learning Style Inventory (LSI) and Hogan & Champagne's Personal Style Inventory derived from Myers-Briggs Type Indicator (MBTI) were all extracted from and developed based on Jung's psychological types theory. There are relationships between the subject's learning style preference outcomes and the subject's personality type outcomes in terms of experiential learning modes (active experimentation, reflective observation, concrete experience, and abstract conceptualization) and personal psychological types (extroversion, introversion, sensing, intuition, thinking, feeling, judging, and perceiving) (Kolb, 1984).

According to Kolb (1984), there is a correspondence between the Jungian concepts of introversion and reflective observation via intentional transformation, and between extroversion and active experimentation via extension. He proposed that the transformation processes of intention and extension can be applied to our concrete apprehensions of the world as well as to our symbolic comprehension (Kolb, 1984, p.52).

Learning occurs through the active extension and grounding of ideas and experiences in the external world and through internal reflection about the attributes of these experiences and ideas (Kolb, 1984). Based on his findings, Kolb further explained that the extraverted sensing type of personality is associated with the accommodative learning style, the introverted intuitive type of personality is associated with the assimilative learning style, the introverted feeling type of personality is associated with the divergent learning style, and the extraverted thinking type of personality is associated with the convergent learning style.

Chapter 2

Analysis of 13 Learning Style Models and 16 Personality Types

Chapter Two Outline

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Meta-analysis review of learning styles families (theories)

Families of learning styles - review of most influential historical theories and models of learning styles and instruments from 1909 -				
Learning styles are largely continuously based , including four modalities – visual, auditory, kinesthetic, tactile (VAKT model)	Learning styles reflect deep-seated features of the cognitive structure	Learning styles are one component of a relatively stable personality type	Learning styles are flexibly stable learning preferences	Move on from learning styles to learning approaches, strategies, orientations and conceptions of learning
Bartlett (1932)	Broverman (1960)	Apter (1998) Motivation Style Profile (MSP)	Allinson and Hayes (1996) Cognitive Style Index (CSI)	Biggs (1987) Study Process Questionnaire
Betts (1909) Betts Inventory	Cooper (1997) Learning Styles ID	Epstein-Meier (1989) Constructive Thinking Inventory (CTI)	Felder and Silverman (1989) Index of Learning Styles (ILS)	Conti & Kolody (1990) Self Knowledge Inventory of Lifelong Learning Skills (SKILLS)
Dunn and Dunn (1975, 1979, 1992, 2003) VAK Learning Style Theory; Learning Style Inventory (LSI); Building Excellence Survey (BES)	Gardner et al (1959) Tolerant/intolerant	Harrison- Branson (1998) revised Inquiry Mode Questionnaire	Honey and Mumford (1982) Learning Style Questionnaire (LSQ)	Entwistle (1979, 2000) Approaches to Study Inventory (ASI), Revised Approaches to Study Inventory (RASI), Approaches and Study Skills Inventory Students (ASSIST)
Gordon (1949) Scale of Imagery Control	Guilford (1950) Convergent/divergent thinking	Jackson (2002) Learning Style Profiles (LSP)	Herrmann (1995) Brain Dominance Instrument (BDI)	Grasha-Riechmann (1974) Student Learning Style Scales (SLSS)
Gregorc (1977) Gregorc Mind Styles Delineator (MSD)	Holzman & Klein (1954) Schematizing Test	Myers – Briggs (1962) Myers-Briggs Type Indicator (MBTI)	Hermanussen (2000) Questionnaire Practice Oriented Learning (QPL)	Hill (1976) Cognitive Style Profile

Families of learning styles - review of most influential historical theories and models of learning styles and instruments from 1909 -				
Marks (1973) Marks Vividness of Visual Imagery Questionnaire	Hunt (1978) Paragraph Completion Method	Miller (1991) Personality typology: cognitive, affective, conative	Kaufmann (1989) The A-E Inventory	McKenney & Keen (1974) Model of Cognitive Style
Paivio (1971) Individual Difference Questionnaire (IDQ)	Kagen (1967) Matching Familiar Figures Test	Witkin (1962) Group Embedded Figure Test (GEFT)	Kolb* (1976, 1985, 1999) Learning Style Inventory (LSI); Revised Learning Style Inventory (R-LSI); LSI Version 3	Pask (1976) Serialist – Holist Model
Richardson (1977) Verbaliser Visualiser Questionnaire	Kogan (1973) Sorting Styles into Types		Kirton (1989) Kirton Adaption Innovation Inventory (KAI)	Sternberg (1998) Thinking Styles
Scheehan (1967) Shortened Betts Inventory	Messick (1976) Analytic / non-analytic conceptualizing		McCarthy (1987) 4MAT	Schmeck (1977) Inventory of Learning Processes
Torrance (1990) Style of Learning and Thinking	Prettigrew (1958) Scale of Cognitive Style			Vermunt (1996) Inventory of Learning Styles (ILS)
	Riding (1991) Cognitive Style Analysis (CSA)			Weinstein, Zimmerman, Palmer (1988) Learning and Study Strategies Inventory

Figure 1.8 Source: Adapted from Coffield, Moseley, Hall & Ecclestone, 2004; Reynolds & Vince, 2007; Li et al., 2008. *the shaded boxes – (LSQ theory were used for the analysis in this study)

Meta-analysis through chronological taxonomy of recent research on learning styles

Chronological taxonomy of recent research into learning styles and (organizational) learning			
2000-2004	2005-2006	2007	2008
Alban & Metcalfe (2002) - disorder type behavior among undergraduates	Cuthbert - student learning process: learning styles or learning approaches - learning situation - teaching in higher education	Argyris - double loop learning in a classroom setting	Armstrong & Mahmud - experiential learning and the acquisition of managerial tacit knowledge - Kolb's learning style inventory
Dart et al (2000) - students' conceptions of learning	Laureano-Cruces, Ramrez-Rodrguez, de Arriaga & Escarela-Perez - intelligent learning systems (ILSs)	Champoux - experiential learning in the on-line environment	Alkhasawneh, Mrayyan, Docherty, Alashram & Yousef - problem-based learning (PBL): assessing students' learning preferences
Duff & Duffy (2002) - Kolb's learning style questionnaire, academic performance - Honey & Mumford's learning style questionnaire	Yannibelli, Godoy & Amandi - a genetic algorithm approach to recognize students' learning styles - computer-based educational systems	Demirbas & Demirkan - learning styles and academic performance - using Kolb's experiential learning theory (ELT)	Dimovski, Škerlavaj, Kimman & Hernaus - organizational learning processes, Slovenia, Croatia, Malaysia
Dunn & Griggs (2003) - Synthesis of the Dunn and Dunn learning style model research		Garcia, Amandi, Schiaffino & Campo - detecting students' learning styles - web based education	Duff, Dobie & Guo - the use of case studies and learning styles in accounting education in New Zeland - use of business case studies

			(BCS)
Kayes (2002) - experiential learning theory and its critics: the role of experience in management learning and education		Hornyak, Green & Heppard - implementing experiential learning	Filippidis & Tsoukalas - Felder-Silverman's learning style theory - adaptive educational system
Lhori-Posey (2003) - determining learning style preferences of students		Herbert & Stenfors - management education and experiential learning methods	Graf, Lin & Kinshuk - relationship between learning styles and cognitive traits - Felder-Silverman learning style model - working memory capacity
Loo (2004) - Kolb's learning style and learning preferences		Kayes - power and experience - management education - conversational learning	Li, Chen & Tsai - learning styles in Taiwan (higher education) - using Myers-Briggs Type Indicator
		Reynolds & Vince - experiential learning and management education	Metallidou & Platsidou - the psychometric properties of Kolb's LSI-1985 in a Greek sample meta-cognitive knowledge - problem-

			solving strategies
		Škerlavaj & Dimovski - network perspective of intra-organizational learning	
		Škerlavaj, Indihar-Štemberger, Škrinjar, & Dimovski - organizational learning culture in Slovenian companies	Peters, Jones & Peters - preferred learning styles' and their relationship with grades for students undertaking
		Verpoorten, Poumay & Leclercq - eight Learning Events Model - pedagogical framework	Tseng, Chu, Hwang, & Tsai - adaptive learning system - computer-assisted learning
		Welsh, Dehler & Murray - learning about and through aesthetic experience	

Figure 1.9 Source: Adapted from Coffield, Moseley, Hall & Ecclestone, 2004; Reynolds & Vince, 2007; Li et al., 2008

One of the key differences between the various theories or families (Coffield et al., 2004) of learning styles is the extent to which they are thought to be stable, or fixed (hard wired') into learners' minds. Some theorists believe that learning styles are rooted in fixed genetic traits,

while others emphasize the influence on how learners gain of experience, the environment and curriculum design. Keefe (1979) defined a learning style as —characteristics cognitive, affective and psychological behaviors that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment. In Duffy and Duffy's (2002) definition of learning style outlines that learning style is the composite of characteristics of cognitive, affective, and psychological factors that serves as an indicators of how an individual interacts with and responds to the learning environment. The report on continuum of learning styles view most influential theories and models of learning styles and their literature grouped into five families/groups according to Coffield's classification. Coffield et al. (2004) compare the 13 theories of learning styles based on the qualitative meta-analysis on four criteria as internal consistency, test-retest reliability, constructive and predictive reliability.

Influential models of learning styles

The main models chosen for detailed study are as follows:

- Allinson and Hayes' Cognitive Style INDEX (CSI)
- Apter's Motivational Style Profile (MSP)
- Dunn and Dunn's model and instruments of learning styles.
- Entwistle's Approaches and Study Skills Inventory for Students (ASSIST)
- Gregorc's Mind Styles Model and Style Delineator (GSD)
- Herrmann's Brain Dominance Instrument (HBDI)
- Honey and Mumford's Learning Styles Questionnaire (LSQ)
- Jackson's Learning Styles Profiler (LSP)
- Kolb's Learning Style Inventory (LSI)
- Myers-Briggs Type Indicator (MBTI)
- Riding's Cognitive Styles Analysis (CSA)
- Sternberg's Thinking Styles Inventory (TSI)
- Vermunt's Inventory of Learning Styles (ILS)

Families of Learning Styles

Learning styles and preferences are largely constitutionally based including the four modalities :VAKT	Learning styles reflect deep-seated features of the Cognitive structure , including ‘patterns of ability’	Learning styles are one component of a relatively stable personality type	Learning styles are flexibly stable learning preferences	Move on from learning styles to learning approaches, strategies, orientations and conceptions of learning
Dunn and Dun	Rinding	Apter	Allinson &	Entwistle
Gregorc	Broverman	Jackson	Hayes	Sternberg
Bartlett	Cooper	Myers-Briggs	Herrmann	Vermunt
Betts	Gardner <i>et al.</i>	Epstein & Meier	Honey & Mumford	Biggs
Gordon	Gullford	Harrison-	Kolb	Conti & Kolody
Marks	Holzman &	Branson	Felder &	Grasha-Riechmann
Paivio	Klein Hudson	Miller	Silverman	Hill, Marton & Saljo
Richardson	Hunt		Hermanussen, Wierstra, de Jong & Thijssen	Mckenney & Keen , Pask
Sheehan	Kagan			Pintrich, Smith,
Torrance	Kogan		Kaufmann	Garcia & McEachie,
	Messick		Kirton	Schmeck
	Pettigrew		McCarthy	Weinstein,
	Witkin			Zimmerman & Palmer
				Whetton & Cameron

Figure 1.10 Families of Learning styles

Families of learning styles

For the purposes of the continuum five families were identified and these form the basis for my detailed analyses of different models in Coffield *et al.* (2004):

- Constitutionally based learning styles and preferences
- Cognitive structure
- Stable personality type
- ‘Flexibly stable’ learning preferences
- Learning approaches and strategies.

To ensure comparability, each of these analyses uses the following headings:

- Origins and influence
- Definition, description and scope of the learning style instrument.
- Measurement by authors
 - Description of instrument
 - Reliability and validity
- External evaluation
 - Reliability and validity
 - general
- implications for pedagogy
- empirical evidence for pedagogical impact.

Summary evaluations of the 13 major models of learning styles

The 13 tables that follow summarize our findings on the 13 models chosen for study; the full reviews of each learning style are to be found in Coffield *et al* (2004).

Table 1 : Allinson and Hayes' Cognitive Styles Index (CSI)

	Strengths	Weaknesses
General	Designed for use with adults.	
Design of the model	A single bipolar dimension of intuition-analysis, which authors contend underpins other aspects of learning style.	The proposed single dimension is very broad and made up of diverse, loosely associated characteristics.
Reliability	<i>Internal consistency and test-retest reliability</i> are high, according to both internal and external evaluations.	
Validity	<ul style="list-style-type: none"> ▪ The CSI correlates with scales from other instruments, including four from the Myers-Briggs Type Indicator. ▪ Analysis is associated with more job satisfaction in junior roles than intuition, while intuition is associated with seniority in business and with success in entrepreneurship. 	<ul style="list-style-type: none"> ▪ There is unequivocal evidence that intuition and analysis, although negatively related, are not opposites. ▪ The authors acknowledge that more research is needed to understand the relationships between cognitive style, intellectual ability and educational achievement.
Implications for pedagogy	<ul style="list-style-type: none"> ▪ Intuitive managers are generally better liked, irrespective of the style of their subordinates. ▪ Matched styles are often effective in mentoring relationships. ▪ One study showed that <i>analytic</i> qualities in university dissertation 	It is not clear how far findings are context-dependent. Implications are, at best, interesting suggestions which need to be tested empirically.

	<p>supervisors are desirable.</p> <p>If it were to be shown that placing a higher value on intuitive performance by university students led to more successful career and business outcomes, changes in HE pedagogy and assessment would be indicated.</p>	
Evidence of pedagogical impact	None as yet.	
Overall assessment	<p>Overall, the CSI has the best evidence for reliability and validity of the 13 models studied. The constructs of analysis and intuition are relevant to decision making and work performance in many contexts, although the pedagogical implications of the model have not been fully explored. The CSI is a suitable tool for researching and reflecting on teaching and learning, especially if treated as a measure of two factors rather than one.</p>	
Key source	Allinson and Hayes 1996.	

Table 2 : Apter’s Motivational Style Profile (MSP)

	Strengths	Weaknesses
General	The theory provides a structure for understanding human behaviour and experience, not in terms of fixed personality ‘types’, but by outlining the dynamic interplay between ‘reversing’ motivational states.	The MSP is a measure of personality, not learning style alone.
Design of the model	There are four domains of experience in which there is interaction between emotion, cognition and volition. These are: means-ends, rules, transactions and relationships, Reversal theory is about systems in nature, bridging between biology and lived experience.	Apter’s claim that one of the four pairs of motivational states is always in operation is as yet unproven.
Reliability	The MSP has acceptable levels of internal consistency and test-retest reliability.	
Validity	There is an impressive amount of empirical evidence which supports reversal theory.	In general, it cannot be said that <i>factor analysis</i> has shown the MSP to measure adequately the binary oppositions’ on which reversal theory is built.
Implications for	<ul style="list-style-type: none"> ▪ Reversal has major implications for how we think about learning 	The implications of reversal theory for learning have not

pedagogy	<p>styles, leading us to expect reversals between learning styles as well as some degree of individual consistency over time.</p> <ul style="list-style-type: none"> ▪ Productive learning can be fostered by creating learning environments in which reversals through boredom and satiation are less likely to occur. 	<p>been fully elaborated or widely researched, except in specialized fields such as sport and addiction.</p>
Evidence of pedagogical impact	<p>Not as yet</p>	
Overall assessment	<p>A theory which poses a threat to fixed-trait models of learning style and which merits further research and development in educational contexts.</p>	
Key source	<p>Apter 2001.</p>	

Table 3 : Dunn and Dunn’s model and instruments of learning styles

	Strengths	Weaknesses
General	A user-friendly model that includes motivational factors, social interaction, physiological and environmental elements.	The model makes simplistic connections between physiological and psychological preferences and brain activity.
Design of the model	<ul style="list-style-type: none"> ▪ High or low preferences for 22 different factors are identified by learners. ▪ Strong preferences form the basis for teachers to adopt specific techniques or make environmental changes to areas such as light, sound, design, time of day or mobility. 	<ul style="list-style-type: none"> ▪ It is a model of instructional preferences, not learning. ▪ It is unsophisticated in its adoption of ideas from other fields, eg modality preference, circadian rhythm, hemispheric dominance. <p>Training courses and manuals simply list large numbers of studies where preferences are either prioritized or connected to others. Practitioners therefore have to take the theoretical support on trust.</p>
Reliability	Supporters make strong claims for reliability.	Critics highlight major problems with the design and reliability of key instruments.
Validity	Supporters make strong claims for validity.	There have been external criticisms of evidence of validity.
Implications for pedagogy	<p>It is claimed that:</p> <ul style="list-style-type: none"> ▪ Individual differences in preference can be discerned. 	<ul style="list-style-type: none"> ▪ The implications for pedagogy are so forcefully expressed that no other options are

	<ul style="list-style-type: none"> ▪ It is possible to adapt environments and pedagogy to meet these preferences. ▪ The stronger the preference, the more effect an intervention will have. <p>The impact will be even greater if low-achieving learners' strong preferences are catered for.</p>	<p>considered.</p> <ul style="list-style-type: none"> ▪ Labelling and generalizing about types of student may lead to simplistic injunctions about 'best practice'.
Evidence of pedagogical impact	<ul style="list-style-type: none"> ▪ The model has generated an extensive programme of international research. ▪ Isolation of individual elements in empirical studies allows for evaluation of the effects of those elements. 	<ul style="list-style-type: none"> ▪ Effect sizes of individual elements are conflated. ▪ There is a serious lack of independent evaluation of the LSI.
Overall assessment	<p>Despite a large and evolving research programme, forceful claims made for impact are questionable because of limitations in many of the supporting studies and the lack of independent research on the model. Concerns raised in our review need to be addressed before further use is made of the model in the UK.</p>	
Key source	<p>Dunn and Griggs 2003.</p>	

Table 4 : Entwistle’s Approaches and Study Skills Inventory for Students (ASSIST)

	Strengths	Weaknesses
General	Model aims to encompass approaches to learning, study strategies, Intellectual development skills and attitudes in higher education.	Complexity of the developing model and instruments is not easy for non-specialists to access.
Design of the model	Assess study/learning orientations, approaches to study and preferences for course organization and instruction.	There are dangers if the model is used by teachers without in-depth understanding of its underlying implications.
Reliability	Internal and external evaluations suggest satisfactory reliability and internal consistency.	<ul style="list-style-type: none"> ▪ Many of the sub-scales are less reliable. ▪ Test-retest reliability not shown.
Validity	<ul style="list-style-type: none"> ▪ Extensive testing by authors of construct validity. ▪ Validity of deep, surface and strategic approaches confirmed by external analysis. 	<ul style="list-style-type: none"> ▪ Construct and predictive validity have been challenged by external studies. ▪ Unquestioned preference for deep approaches, but strategic and even surface approaches may be effective in some contexts. ▪ Rather weak relationships between approaches and attainment.
Implications for	<ul style="list-style-type: none"> ▪ Teachers and learners can share ideas about effective 	<ul style="list-style-type: none"> ▪ The scope for manoeuvre in course design is variable outside the

pedagogy	<p>and ineffective strategies for learning.</p> <ul style="list-style-type: none"> ▪ Course teams and managers can use approaches as a basis for redesigning instruction and assessment. ▪ Model can inform the design of learning milieux within departments and courses. 	<p>relative autonomy of higher education, especially in relation to assessment regimes.</p> <ul style="list-style-type: none"> ▪ There is a large gap between using the instrument and transforming the pedagogic environment. ▪ As the terms ‘deep’ and ‘surface’ become popular they become attached to individuals rather than behaviors, against the author’s intention.
Evidence of pedagogical impact	<ul style="list-style-type: none"> ▪ Has been influential in training courses and staff development in British universities. 	<ul style="list-style-type: none"> ▪ Not tested directly as a basis for pedagogical interventions.
Overall assessment	<p>Potentially useful model and instrument for some post-16 contexts outside the success it has had in higher education, but significant development and testing will be needed.</p>	
Key source	<p>Entwistle 1998.</p>	

Table 5 : Gregorc’s Style Delineator (GSD)

	Strengths	Weaknesses
General	The GSD taps into the unconscious ‘mediation abilities’ of <i>perception</i> ’ and ‘ordering’.	Styles are natural abilities and not amenable to change.
Design of the model	There are two dimensions: Concrete-abstract and sequential-random. Individuals tend to be strong in one or two of the four categories: concrete sequential, concrete random, abstract sequential and abstract random.	<ul style="list-style-type: none"> ▪ Some of the words used in the instrument are unclear or may be unfamiliar. ▪ No normative data is reported, and detailed descriptions of the style characteristics are unvalidated.
Reliability	The author reports high levels of internal consistency and test-retest reliability.	Independent studies of reliability raise serious doubts about the GSD’s psychometric properties.
Validity	Moderate <i>correlations</i> are reported for criterion-related validity.	<ul style="list-style-type: none"> ▪ There is no empirical evidence for construct validity other than the fact that the 40 words were chosen by 60 adults as being expressive of the four styles. ▪ The sequential/random dimension stands up rather better to empirical investigation than the concrete/ abstract dimension.

Implications for pedagogy	Although Gregorc contends that clear-cut Mind Style dispositions are linked with preferences for certain instructional media and teaching strategies, he acknowledges that most people prefer instructional variety.	Gregorc makes the unsubstantiated claim that learners who ignore or work against their style may harm themselves.
Evidence of pedagogical impact	Results on study preference are mixed, though there is evidence that choice of subject is aligned with Mind Style and that success in science, engineering and mathematics is correlated with sequential style.	We have not found any published evidence addressing the benefits of self-knowledge of learning styles or the alignment of Gregorc-type learning and teaching styles.
Overall assessment	Theoretically and psychometrically flawed. Not suitable for the assessment of individuals.	
Key source	Gregorc 1985.	

Table 6 : Herrmann’s Brain Dominance Instrument (HBDI)

	Strengths	Weaknesses
General	<ul style="list-style-type: none"> ▪ The HBDI and new ways of using it effectively have been developed over more than 20 years. ▪ The ‘whole brain’ model is compatible with several other models of learning style. 	
Design of the model	<ul style="list-style-type: none"> ▪ It is based on theory which, although originally brain-based, incorporates, growth and development, especially in creativity. ▪ Learning styles as defined by the HBDI are not fixed personality traits, but to a large extent, learned patterns of behaviour. 	<ul style="list-style-type: none"> ▪ As with most self-report instruments, it is possible to complete it with the intention of presenting a particular profile. ▪ Some will find the HBDI items hard to read and understand.
Reliability and validity	Internal evidence suggests that the HBDI is psychometrically sound, and new analyses can draw on an enormous international database.	There are very few independent studies of the reliability and validity of the HBDI.
Implications for pedagogy	<ul style="list-style-type: none"> ▪ HBDI-based feedback does not seek to attach permanent labels to the individual. ▪ Herrmann provides rich accounts of how people think and learn, valuing diversity and arguing for mutual understanding. ▪ Teachers, students, managers 	The pedagogical implications of the ‘whole brain’ model have not yet been fully explored and tested.

	<p>and workers may be stimulated to examine and refine their ideas about communication and learning.</p> <ul style="list-style-type: none"> ▪ Herrmann argues that all learners need to develop stylish flexibility and where appropriate, extend their range of competence. 	
Evidence of pedagogical impact		Although well established in the business world, the use of the HBDI has yet to be extensively validated in education.
Overall assessment	A model which, although largely ignored in academic research, offers considerable promise for use in education and training. It is more inclusive and systemic than many others, taking an optimistic, open and non-labeling stance towards the development of people and organizations.	
Key source	Herrmann 1989.	

Table 7 : Honey and Mumford’s Learning Styles Questionnaire (LSQ)

	Strengths	Weaknesses
General	LSQ probes the attitudes and behaviours which determine preferences with regard to learning. To be used for personal/organizational development and not for assessment/selection. Not a psychometric instrument, but a checklist about how people learn.	Danger of labeling people as ‘theorists’ or ‘pragmatists’, when most people exhibit more than one strong preference.
Design of the model	Based on Kolb’s model, with new terms for style preferences which are aligned to the four stages in the learning cycle.	Evaluation by researchers has become increasingly critical, eg percentage of <i>variance</i> explained by personality and learning style put at 8% (Jackson and Lawty-Jones 1996).
Reliability		Only moderate internal consistency has been found.
Validity	Face validity is claimed by authors.	Validity not assessed by authors. More evidence is needed before LSQ is acceptable.
Implications for pedagogy	<ul style="list-style-type: none"> ▪ To help managers/employees to devise personal development plans. ▪ To show managers how to help 	All the suggestions are derived logically or from practice with using the LSQ;

	<p>their staff learn.</p> <ul style="list-style-type: none"> ▪ To be used as a starting point for discussion and improvement with a knowledgeable tutor. ▪ Suggestions made to help people strengthen an under-utilized style. 	<p>they have not been rigorously tested to see if they work.</p>
Evidence of pedagogical impact	No evidence quoted by authors.	No evidence found by researchers.
Overall assessment	Has been widely used in business, but needs to be redesigned to overcome weaknesses identified by researchers.	
Key source	Honey and Mumford 2000.	

Table 8 : Jackson's Learning Styles Profiler (LSP)

	Strengths	Weaknesses
General	<ul style="list-style-type: none"> ▪ The LSP is sophisticated instrument in terms of its theory base and computerized format. ▪ Designed for use in business and education. 	
Design of the model	The model describes four styles: Initiator, Analyst, Researcher and implementer.	It is possible that the style names chosen by Jackson are not good descriptors of the underlying constructs.
Reliability	The test-retest reliability of three scales is satisfactory.	The Reasoner scale has poor test-retest reliability.
Validity	<ul style="list-style-type: none"> ▪ The authors claim <i>factorial validity</i> on the basis of a four-factor solution. ▪ Some evidence of <i>concurrent validity</i> is provided by correlations with other measures of personality. 	Some further refinement of items is needed, especially in the initiator scale.
Implications for pedagogy	<ul style="list-style-type: none"> ▪ There is a positive emphasis in the computer-generated recommendations for personal development which result from completing the questionnaire. ▪ The feedback is very detailed 	It is desirable, both for individuals and organizations, to build up multiple strengths rather than for people to work only in ways which come

	and contains suggestions for building on strengths, dealing with challenging situations and remedying maladaptive learning.	most naturally to them.
Evidence of pedagogical impact		The relevance, practicality and value of the personal feedback have yet to be evaluated.
Overall assessment	The theoretical model and the LSP for which UK norms exist, have promise for wider use and consequential refinement in organizational and educational contexts.	
Key source	Jackson 2002.	

Table 9 : Kolb’s Learning Style Inventory (LSI)

	Strengths	Weaknesses
General	<ul style="list-style-type: none"> ▪ Learning styles are not fixed personality traits, but relatively stable patterns of behaviour. ▪ 30 years of critique have helped to improve the LSI, which can be used as an introduction to how people learn. 	Should not be used for individual selection.
Design of the model	<ul style="list-style-type: none"> ▪ Learning styles are both flexible and stable. ▪ Based on the theory of experimental learning which incorporates growth and development. 	Three elements need to be separated: <ul style="list-style-type: none"> ▪ Process = the four stages of the learning cycle. ▪ Level = how well one performs at any of the four stages. ▪ Style = how each stage is approached.
Reliability	Changes to the instrument have increased its reliability	Long, public dispute over reliability of LSI, Third version is still undergoing examination.
Validity		<ul style="list-style-type: none"> ▪ The construct validity of the LSI has been challenged and the matter is not yet settled. ▪ It has now predictive validity, but it was developed

		for another purpose- as a self assessment exercise.
Implications for pedagogy	<ul style="list-style-type: none"> ▪ In general, the theory claims to provide a framework for the design and management of all learning experiences. ▪ Teachers and students may be stimulated to examine and refine their theories of learning: through dialogue, teachers may become more empathetic with students. ▪ All students to become competent in all four learning styles (active, reflective, abstract and concrete) to produce balanced, integrated learners. ▪ Instruction to be individualized with the help of IT. 	<ul style="list-style-type: none"> ▪ The notion of a learning cycle may be seriously flawed. ▪ The implications for teaching have been drawn logically from the theory rather than from research findings.

Evidence of pedagogical impact		<ul style="list-style-type: none"> ▪ There is no evidence that ‘matching’ improves academic performance in further education. ▪ The findings are contradictory and inconclusive. No large body of unequivocal evidence on which to base firm recommendations about pedagogy.
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Overall assessment	One of the first learning styles, based on an explicit theory. Problems about reliability, validity and the learning cycle continue to dog this model.
Key source	Kolb 1999.

Table 10 : Myers-Briggs Type Indicator (MBTI)

	Strengths	Weaknesses
General	Provides a view of the whole personality, including learning.	Not specifically about learning.
Design of the model	Based on Jung's theory on four bipolar scales, producing a possible 16 personality 'types'.	The relationships between elements and scales – 'types dynamics' – are extremely complex.
Reliability	Reliability co-efficient are high for individual pairs of scores relating to each of the scales.	The stability of the 16 types is less impressive.
Validity	The face validity of the MBTI is generally accepted.	Construct validity is controversial because of the debate about whether the constructs are best represented by opposing pairs.
Implications for pedagogy	<ul style="list-style-type: none"> ▪ The apparent correlation between achievement and intuitive-judging types has led to calls for extra support for sensing types. ▪ The use of type in career counseling is widespread and has been used to steer students into 'appropriate' areas of study. 	<ul style="list-style-type: none"> ▪ Links between type and methods of information processing have not been proved. ▪ There is no evidence to suggest that matching teacher and learner types has any positive effects on achievement.
Evidence of pedagogical	There is limited evidence to suggest that matching teacher and learner	<ul style="list-style-type: none"> ▪ Type does not appear to predict performance.

impact	types may increase student affect.	<ul style="list-style-type: none"> ▪ The proportion of critical literature, both reviews of the instrument and the resolution of the debate about personality measures in learning styles, has been seen as too low.
Overall assessment	It is still not clear which elements of the 16 personality types in the MBTI are most relevant for education.	
Key source	Myers and McCaulley 1985.	

Table 11 : Riding's Cognitive Styles Analysis (CSA)

	Strengths	Weaknesses
General	Learning strategies may be learned and improved.	'Default' learning styles are assumed to be fixed.
Design of the model	Two dimensions which are independent of intelligence, holist-analytic (ways of organizing information) and verbaliser-imager (ways of representing information)	<ul style="list-style-type: none"> ▪ Two very specific tasks bear the weight of broad and loosely defined constructs. ▪ Deals with cognitive, not affective or conative aspects of thinking and learning.
Reliability		<ul style="list-style-type: none"> ▪ No evidence provided by the author. ▪ Others have shown that internal consistency and test-retest reliability is very poor, especially for the verbaliser-imager ratio score.
Validity	<ul style="list-style-type: none"> ▪ Both dimensions have reasonable face validity. ▪ The hoist analytic measure may be useful for assessing group rather than individual differences. 	<ul style="list-style-type: none"> ▪ Performance is sampled over a very limited range of task difficulty. ▪ As the reliability of the CSA is so poor, studies of validity should not be accepted unless they have been replicated.
Implications for	<ul style="list-style-type: none"> ▪ There is evidence of links between cognitive styles and instructional preferences. 	<ul style="list-style-type: none"> ▪ Most teachers use a variety of instructional approaches any way (eg verbal

pedagogy	<ul style="list-style-type: none"> ▪ There is evidence that in computerized instruction, ‘hoist’ learners do better with ‘breadth first’ and ‘analytic’ learners with ‘depth first’. ▪ Riding claims that teachers need to take account of individual differences in working memory as well as style. 	<p>and visual).</p> <ul style="list-style-type: none"> ▪ A large number of recommendations are made without adequate empirical evidence.
Evidence of pedagogical impact	Inconclusive.	
Overall assessment	The simplicity and potential value of Riding’s model are not well served by an unreliable instrument, the CSA.	
Key source	Riding and Rayner 1998.	

Table 12 : Sternberg's Thinking Styles Inventory (TSI)

	Strengths	Weaknesses
General	13 thinking styles are proposed, based on the functions, forms, levels, scope and leanings of government.	<ul style="list-style-type: none"> ▪ Why these 13? 13 are too many. ▪ Learners self assess their likely behaviour by responding to statements which are context free.
Design of the model	Based on a new theory of 'mental self-government'.	<ul style="list-style-type: none"> ▪ Sternberg offers a metaphor rather than a theory. ▪ No explanation is given as to why some forms of government (eg monarchic) are chosen and not others (eg democratic).
Reliability and Validity	Claimed by author to be both reliable and valid.	<ul style="list-style-type: none"> ▪ Only limited empirical support for the reliability and validity of the TSI. ▪ Scores for reliability considerably lower than those found by author. ▪ Little or no support for validity of the TSI.
Implications for pedagogy	<ul style="list-style-type: none"> ▪ Teachers to use a variety of teaching and assessment methods. ▪ Teachers to be aware of the learning styles they encourage or punish. 	<ul style="list-style-type: none"> ▪ No solid research base for these suggestions, which are logical deductions from the theory. ▪ Fifth suggestion stems

	<ul style="list-style-type: none"> ▪ Teachers to let students know about the range of styles. ▪ Teachers to know about gender and cross-cultural differences in styles. ▪ Teachers to use extra-curricular activities to enhance quality of teaching and learning. 	from research on creativity, rather than learning styles. The advice is of a very general, common-sense nature, most of it known to teachers before any research done on learning styles.
Evidence of pedagogical impact	A series of students in the US and China have so far produced mixed results.	There is need for independent evaluation.
Overall assessment	An unnecessary addition to the proliferation of learning styles models.	
Key source	Sternberg 1999.	

Table 13 : Vermunt’s Inventory of Learning Styles (ILS)

	Strengths	Weaknesses
General	<ul style="list-style-type: none"> ▪ It applies to the thinking and learning of university students. ▪ New versions in preparation for 16-18 age group and for learning at work. ▪ Used for studying the learning styles of teachers and student teachers. 	<p>It has little to say about how personality interacts with learning style.</p>
Design of the model	<ul style="list-style-type: none"> ▪ It is experientially grounded in interviews with students. ▪ It seeks to integrate cognitive, affective, metacognitive and conative processes. ▪ It includes learning strategies, motivation for learning and preferences for organizing information. 	<ul style="list-style-type: none"> ▪ It excludes preferences for representing information. ▪ It is not comprehensive: there are no items on the control of motivation, emotions or attention. ▪ The interpersonal context of learning is underemphasized. ▪ Not applicable to all types and stages of learning. ▪ Notions of ‘constructive’ and ‘destructive’ friction are largely untested.
Reliability and	<p>It can be used to assess approaches to learning reliably and validly.</p>	

Validity		
Implications for pedagogy	<ul style="list-style-type: none"> ▪ It is dependent on context, ie a learning style is the interplay between personal and contextual influences. ▪ It provides a common language for teachers and learners to discuss and promote changes in learning and teaching. ▪ Emphasis not on individual differences, but on the whole teaching-learning environment. 	
Evidence of pedagogical impact		<ul style="list-style-type: none"> ▪ Little evidence so far of impact on pedagogy. ▪ It is not a strong predictor of learning outcomes.
Overall assessment	A rich model, validated for use in UK, HE contexts, with potential for more general use in post-16 education where text based learning is important. Reflective use of the ILS may help learners and teachers develop more productive approaches to learning.	
Key source	Vermunt 1998.	

Jungian Personality Theory (Detailed explanation)

Aiken (1996) indicated that personality theories include multiple approaches to the question of who individuals are and how and why they are similar and different from other individuals. These approaches use basic psychometric and assessment techniques, and descriptive taxonomies of individual differences, developed for the study of personality and ability.

One of most important personality theories is Psychological Type developed by Carl G. Jung (1875-1961), a Swiss psychiatrist, to explain some of the apparently random differences in individual's behavior. Jung found predictable and differing patterns of normal behavior from his observations of clients and others. Jung (1923) stated that Psychological Type recognizes the existence of these patterns or types, and provides an explanation of how types develop. According to Jung's theory (1923), predictable differences in individuals are caused by differences in the way individuals prefer to use their minds. The core idea is that, when one's mind is active, one is involved in one of two mental activities: Perceiving, which is taking in information; or Judging, which is organizing that information and coming to conclusions.

Jung (1971) observed that there are two opposite ways to perceive, which he called Sensing and Intuition; and two opposite ways to judge, Thinking and Feeling. Everyone uses these four essential processes daily in both the external world and internal world. Jung called the external world of people, things, and experience, Extroversion; and the internal world of inner processes and reflections, Introversion. These four basic processes used in the external world and the internal world present one of eight ways of using one's mind. Based on his personality theory, Jung's typology of psychological types includes four such pairs of dialectically opposed adaptive orientations. Jung described individuals' (1) mode of relation to the world via introversion and extroversion, (2) mode of decision making via perception or judgment, (3) preferred way of perceiving via sensing or intuition, and (4) preferred way of judging via thinking or feeling. These opposing orientations are described in Figure 1.1 (Kolb, 1984, p. 79).

Jung (1923) believed that everyone has a natural preference for using one kind of perceiving and one kind of judging. He also observed that a person is drawn toward either the external world or the internal world. As one exercises one's preferences, one develops distinct perspectives and approaches to life and human interaction.

Mode of relation to the world	E EXTROVERT TYPE Oriented toward external world of other people and things	I INTROVERT TYPE Oriented toward inner world of ideas and feelings
Mode of decision making	J JUDGING TYPE Emphasis on order through reaching decision and resolving issues	P PERCEIVING TYPE Emphasis on gathering information and obtaining as much data as possible
Mode of perceiving	S SENSING TYPE Emphasis on sense perception, on facts, details and concrete events	N INTUITION TYPE Emphasis on possibilities, imagination, meaning, and seeing things as a whole.
Mode of Judging	T THINKING TYPE Emphasis on analysis, using logic and rationality	F FEELING TYPE Emphasis on human values, establishing personal friendships, decisions made mainly on beliefs and likes.

Jung's Psychological Types (Kolb, 1984, p. 80)

Jung's Personality Theory

According to Jung's theory of Psychological Types we are all different in fundamental ways. One's ability to process different information is limited by their particular type. These types are sixteen.

People can be either Extroverts or Introverts, depending on the direction of their activity; Thinking, Feeling, Sensing, Intuitive, according to their own information pathways; Judging or Perceiving, depending on the method in which they process received information.

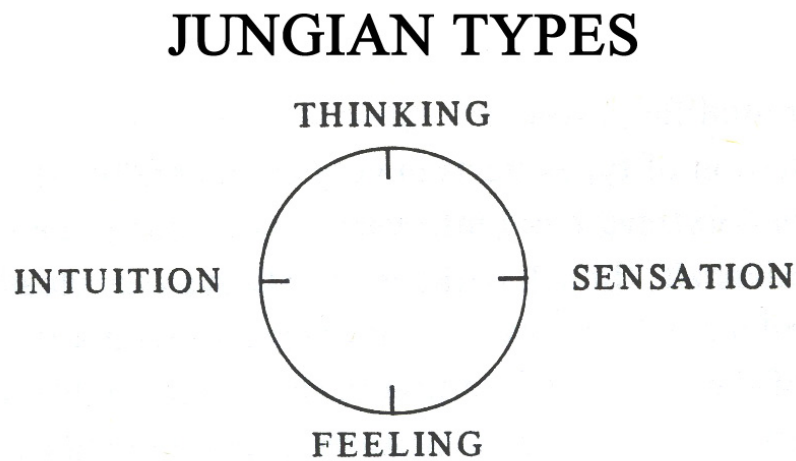


Figure 1.11 Jungian's Personality Dimensions

These opposite pairs of preferences define eight different ways of dealing with information, which in turn result in sixteen Psychological Types:

ENTp, ISFp, ESFj, INTj, ENFj, ISTj, ESTp, INFp, ESFp, INTp, ENTj, ISFj, ESTj, INFj, ENFp and ISTp, where E - Extrovert, I - Introvert, S - Sensing, N - Intuitive, T - Thinking, F - Feeling, j - Judging, p - Perceiving. So, ENTp for example would be Extrovert, Intuitive, Thinking and Perceiving type.

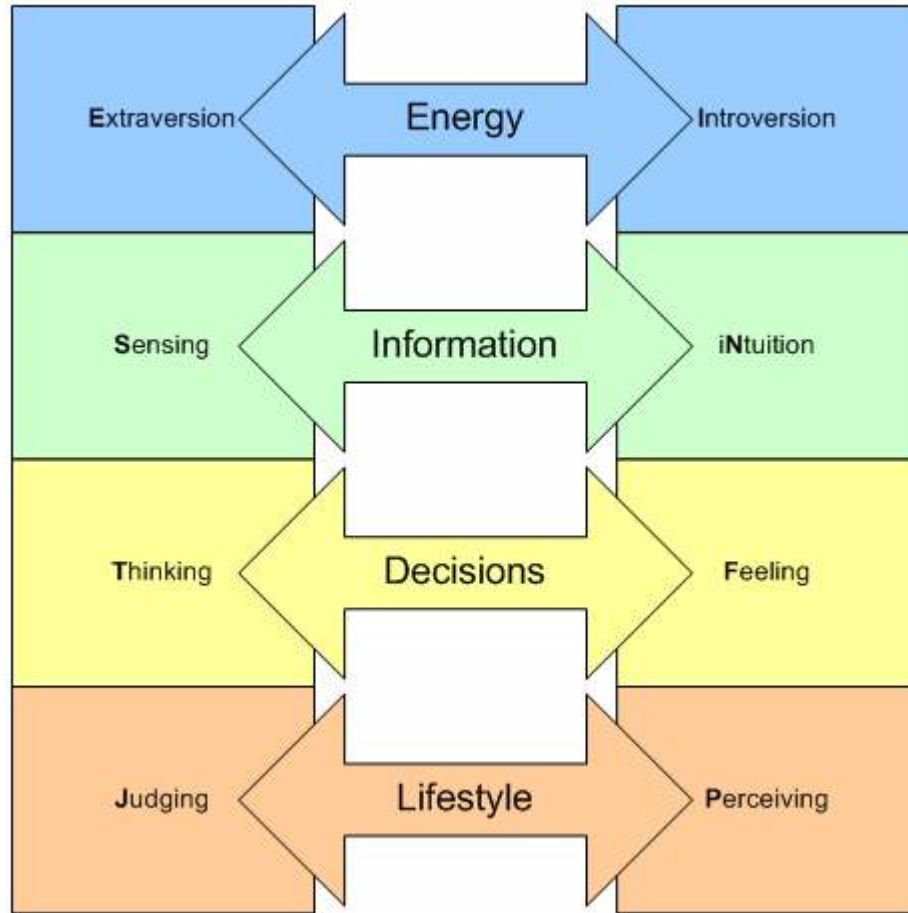


Figure 1.12 Differences in Personality Dimensions

Brief description of the Sixteen Personality Types

ISTJ

Serious and quiet, interested in security and peaceful living. Extremely thorough, Responsible, and dependable. Well-developed powers of concentration. Usually interested in supporting and promoting traditions and establishments. Well-organized and hard working, they work steadily towards identified goals. They can usually accomplish any task once they have set their mind to it.

ISTP

Quiet and reserved, interested in how and why things work. Excellent skills with mechanical things. Risk-takers who they live for the moment. Usually interested in and talented at extreme sports. Uncomplicated in their desires. Loyal to their peers and to their internal value systems, but not overly concerned with respecting laws and rules if they get in the way of getting something done. Detached and analytical, they excel at finding solutions to practical problems.

ISFJ

Quiet, kind, and conscientious. Can be depended on to follow through. Usually puts the needs of others above their own needs. Stable and practical, they value security and traditions. Well-developed sense of space and function. Rich inner world of observations about people. Extremely perceptive of other's feelings. Interested in serving others.

ISFP

Quiet, serious, sensitive and kind. Do not like conflict, and not likely to do things which may generate conflict. Loyal and faithful. Extremely well-developed senses, and aesthetic appreciation for beauty. Not interested in leading or controlling others. Flexible and open-minded. Likely to be original and creative. Enjoy the present moment.

INFJ

Quietly forceful, original, and sensitive. Tend to stick to things until they are done. Extremely intuitive about people, and concerned for their feelings. Well-developed value systems which they strictly adhere to. Well-respected for their perseverance in doing the right thing. Likely to be individualistic, rather than leading or following.

INFP

Quiet, reflective, and idealistic. Interested in serving humanity. Well-developed value system, which they strive to live in accordance with. Extremely loyal. Adaptable and laid-back unless a strongly-held value is threatened. Usually talented writers. Mentally quick, and able to see possibilities. Interested in understanding and helping people.

INTJ

Independent, original, analytical, and determined. Have an exceptional ability to turn theories into solid plans of action. Highly value knowledge, competence, and structure. Driven to derive meaning from their visions. Long-range thinkers. Have very high standards for their performance, and the performance of others. Natural leaders, but will follow if they trust existing leaders. .

INTP

Logical, original, creative thinkers. Can become very excited about theories and ideas. Exceptionally capable and driven to turn theories into clear understandings. Highly value knowledge, competence and logic. Quiet and reserved, hard to get to know well. Individualistic, having no interest in leading or following others.

ESTP

Friendly, adaptable, action-oriented. "Doers" who are focused on immediate results. Living in the here-and-now, they're risk-takers who live fast-paced lifestyles. Impatient with long explanations. Extremely loyal to their peers, but not usually respectful of laws and rules if they get in the way of getting things done. Great people skills.

ESTJ

Practical, traditional, and organized. Likely to be athletic. Not interested in theory or abstraction unless they see the practical application. Have clear visions of the way things should be. Loyal and hard-working. Like to be in charge. Exceptionally capable in organizing and running activities. "Good citizens" who value security and peaceful living.

ESFP

People-oriented and fun-loving, they make things more fun for others by their enjoyment. Living for the moment, they love new experiences. They dislike theory and impersonal analysis. Interested in serving others. Likely to be the center of attention in social situations. Well-developed common sense and practical ability.

ESFJ

Warm-hearted, popular, and conscientious. Tend to put the needs of others over their own needs. Feel strong sense of responsibility and duty. Value traditions and security. Interested in serving others. Need positive reinforcement to feel good about themselves. Well-developed sense of space and function.

ENFP

Enthusiastic, idealistic, and creative. Able to do almost anything that interests them. Great people skills. Need to live life in accordance with their inner values. Excited by new ideas, but bored with details. Open-minded and flexible, with a broad range of interests and abilities.

ENFJ

Popular and sensitive, with outstanding people skills. Externally focused, with real concern for how others think and feel. Usually dislike being alone. They see everything from the human angle, and dislike impersonal analysis. Very effective at managing people issues, and leading group discussions. Interested in serving others, and probably place the needs of others over their own needs.

ENTP

Creative, resourceful, and intellectually quick. Good at a broad range of things. Enjoy debating issues, and may be into "one-up-manship". They get very excited about new ideas and projects, but may neglect the more routine aspects of life. Generally outspoken and assertive. They enjoy people and are stimulating company. Excellent ability to understand concepts and apply logic to find solutions.

ENTJ

Assertive and outspoken - they are driven to lead. Excellent ability to understand difficult organizational problems and create solid solutions. Intelligent and well-informed, they usually excel at public speaking. They value knowledge and competence, and usually have little patience with inefficiency or disorganization.

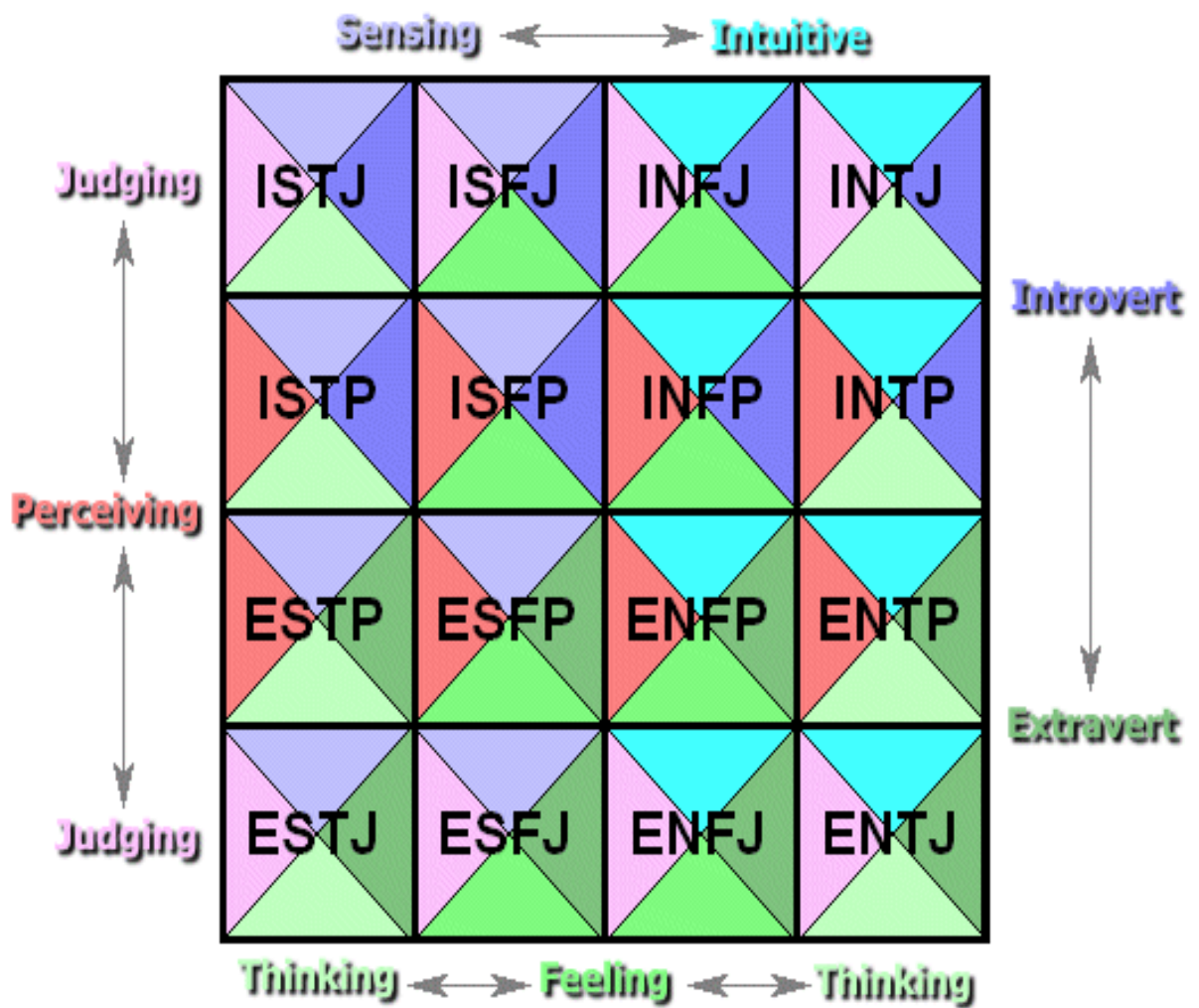


Figure 1.13 Personality type Grid

Portrait of an ISTJ - Introverted Sensing Thinking Judging (Introverted Sensing with Extraverted Thinking)

The Duty Fulfiller

As an ISTJ, your primary mode of living is focused internally, where you take things in via your five senses in a literal, concrete fashion. Your secondary mode is external, where you deal with things rationally and logically.

ISTJs are quiet and reserved individuals who are interested in security and peaceful living. They have a strongly-felt internal sense of duty, which lends them a serious air and the motivation to follow through on tasks. Organized and methodical in their approach, they can generally succeed at any task which they undertake.

ISTJs are very loyal, faithful, and dependable. They place great importance on honesty and integrity. They are "good citizens" who can be depended on to do the right thing for their families and communities. While they generally take things very seriously, they also usually have an offbeat sense of humor and can be a lot of fun - especially at family or work-related gatherings.

ISTJs tend to believe in laws and traditions, and expect the same from others. They're not comfortable with breaking laws or going against the rules. If they are able to see a good reason for stepping outside of the established mode of doing things, the ISTJ will support that effort. However, ISTJs more often tend to believe that things should be done according to procedures and plans. If an ISTJ has not developed their Intuitive side sufficiently, they may become overly obsessed with structure, and insist on doing everything "by the book".

The ISTJ is extremely dependable on following through with things which he or she has promised. For this reason, they sometimes get more and more work piled on them. Because the ISTJ has such a strong sense of duty, they may have a difficult time saying "no" when they are given more work than they can reasonably handle. For this reason, the ISTJ often works long hours, and may be unwittingly taken advantage of.

The ISTJ will work for long periods of time and put tremendous amounts of energy into doing any task which they see as important to fulfilling a goal. However, they will resist putting energy into things which don't make sense to them, or for which they can't see a practical application. They prefer to work alone, but work well in teams when the situation demands it. They like to be accountable for their actions, and enjoy being in positions of authority. The ISTJ has little use for theory or abstract thinking, unless the practical application is clear.

ISTJs have tremendous respect for facts. They hold a tremendous store of facts within themselves, which they have gathered through their Sensing preference. They may have difficulty understanding a theory or idea which is different from their own perspective. However, if they are shown the importance or relevance of the idea to someone who they respect or care about, the idea becomes a fact, which the ISTJ will internalize and support. Once the ISTJ supports a cause or idea, he or she will stop at no lengths to ensure that they are doing their duty of giving support where support is needed.

The ISTJ is not naturally in tune with their own feelings and the feelings of others. They may have difficulty picking up on emotional needs immediately, as they are presented. Being perfectionists themselves, they have a tendency to take other people's efforts for granted, like they take their own efforts for granted. They need to remember to pat people on the back once in a while.

ISTJs are likely to be uncomfortable expressing affection and emotion to others. However, their strong sense of duty and the ability to see what needs to be done in any situation usually allows them to overcome their natural reservations, and they are usually quite supporting and caring individuals with the people that they love. Once the ISTJ realizes the emotional needs of those who are close to them, they put forth effort to meet those needs.

The ISTJ is extremely faithful and loyal. Traditional and family-minded, they will put forth great amounts of effort at making their homes and families running smoothly. They are responsible parents, taking their parenting roles seriously. They are usually good and generous providers to their families. They care deeply about those close to them, although

they usually are not comfortable with expressing their love. The ISTJ is likely to express their affection through actions, rather than through words.

ISTJs have an excellent ability to take any task and define it, organize it, plan it, and implement it through to completion. They are very hard workers, who do not allow obstacles to get in the way of performing their duties. They do not usually give themselves enough credit for their achievements, seeing their accomplishments simply as the natural fulfillment of their obligations.

ISTJs usually have a great sense of space and function, and artistic appreciation. Their homes are likely to be tastefully furnished and immaculately maintained. They are acutely aware of their senses, and want to be in surroundings which fit their need for structure, order, and beauty. Under stress, ISTJs may fall into "catastrophe mode", where they see nothing but all of the possibilities of what could go wrong. They will berate themselves for things which they should have done differently, or duties which they failed to perform. They will lose their ability to see things calmly and reasonably, and will depress themselves with their visions of doom. In general, the ISTJ has a tremendous amount of potential. Capable, logical, reasonable, and effective individuals with a deeply driven desire to promote security and peaceful living, the ISTJ has what it takes to be highly effective at achieving their chosen goals - whatever they may be.

Jungian functional preference ordering:

Dominant: Introverted Sensing

Auxiliary: Extraverted Thinking

Tertiary: Introverted Feeling

Portrait of an ISTP - Introverted Sensing Thinking Perceiving (Introverted Thinking with Extraverted Sensing)

The Mechanic

As an ISTP, your primary mode of living is focused internally, where you deal with things rationally and logically. Your secondary mode is external, where you take things in via your five senses in a literal, concrete fashion.

ISTPs have a compelling drive to understand the way things work. They're good at logical analysis, and like to use it on practical concerns. They typically have strong powers of reasoning, although they're not interested in theories or concepts unless they can see a practical application. They like to take things apart and see the way they work.

ISTPs have an adventuresome spirit. They are attracted to motorcycles, airplanes, sky diving, surfing, etc. They thrive on action, and are usually fearless. ISTPs are fiercely independent, needing to have the space to make their own decisions about their next step. They do not believe in or follow rules and regulations, as this would prohibit their ability to "do their own thing". Their sense of adventure and desire for constant action makes ISTPs prone to becoming bored rather quickly.

ISTPs are loyal to their causes and beliefs, and are firm believers that people should be treated with equity and fairness. Although they do not respect the rules of the "System", they follow their own rules and guidelines for behavior faithfully. They will not take part in something which violates their personal laws. ISTPs are extremely loyal and faithful to their "brothers".

ISTPs like and need to spend time alone, because this is when they can sort things out in their minds most clearly. They absorb large quantities of impersonal facts from the external world, and sort through those facts, making judgments, when they are alone.

ISTPs are action-oriented people. They like to be up and about, doing things. They are not people to sit behind a desk all day and do long-range planning. Adaptable and spontaneous,

they respond to what is immediately before them. They usually have strong technical skills, and can be effective technical leaders. They focus on details and practical things. They have an excellent sense of expediency and grasp of the details which enables them to make quick, effective decisions.

ISTPs avoid making judgments based on personal values - they feel that judgments and decisions should be made impartially, based on the fact. They are not naturally tuned in to how they are affecting others. They do not pay attention to their own feelings, and even distrust them and try to ignore them, because they have difficulty distinguishing between emotional reactions and value judgments. This may be a problem area for many ISTPs.

An ISTP who is over-stressed may exhibit rash emotional outbursts of anger, or on the other extreme may be overwhelmed by emotions and feelings which they feel compelled to share with people (often inappropriately). An ISTP who is down on themselves will foray into the world of value judgments - a place which is not natural for the ISTP - and judge themselves by their inability to perform some task. They will then approach the task in a grim emotional state, expecting the worst.

ISTPs are excellent in a crisis situations. They're usually good athletes, and have very good hand-eye coordination. They are good at following through with a project, and tying up loose ends. They usually don't have much trouble with school, because they are introverts who can think logically. They are usually patient individuals, although they may be prone to occasional emotional outbursts due to their inattention to their own feelings.

ISTPs have a lot of natural ability which makes them good at many different kinds of things. However, they are happiest when they are centered in action-oriented tasks which require detailed logical analysis and technical skill. They take pride in their ability to take the next correct step.

ISTPs are optimistic, full of good cheer, loyal to their equals, uncomplicated in their desires, generous, trusting and receptive people who want no part in confining commitments.

Jungian functional preference ordering:

Dominant: Introverted Thinking

Auxiliary: Extraverted Sensing

Tertiary: Introverted Intuition

Portrait of an ISFJ - Introverted Sensing Feeling Judging (Introverted Sensing with Extraverted Feeling)

The Nurturer

As an ISFJ, your primary mode of living is focused internally, where you takes things in via your five senses in a literal, concrete fashion. Your secondary mode is external, where you deal with things according to how you feel about them, or how they fit into your personal value system.

ISFJs live in a world that is concrete and kind. They are truly warm and kind-hearted, and want to believe the best of people. They value harmony and cooperation, and are likely to be very sensitive to other people's feelings. People value the ISFJ for their consideration and awareness, and their ability to bring out the best in others by their firm desire to believe the best.

ISFJs have a rich inner world that is not usually obvious to observers. They constantly take in information about people and situations that is personally important to them, and store it away. This tremendous store of information is usually startlingly accurate, because the ISFJ has an exceptional memory about things that are important to their value systems. It would not be uncommon for the ISFJ to remember a particular facial expression or conversation in precise detail years after the event occurred, if the situation made an impression on the ISFJ.

ISFJs have a very clear idea of the way things should be, which they strive to attain. They value security and kindness, and respect traditions and laws. They tend to believe that existing systems are there because they work. Therefore, they're not likely to buy into doing things in a new way, unless they're shown in a concrete way why its better than the established method.

ISFJs learn best by doing, rather than by reading about something in a book, or applying theory. For this reason, they are not likely to be found in fields which require a lot of conceptual analysis or theory. They value practical application. Traditional methods of higher education, which require a lot of theorizing and abstraction, are likely to be a chore

for the ISFJ. The ISFJ learns a task best by being shown its practical application. Once the task is learned, and its practical importance is understood, the ISFJ will faithfully and tirelessly carry through the task to completion. The ISFJ is extremely dependable.

The ISFJ has an extremely well-developed sense of space, function, and aesthetic appeal. For that reason, they're likely to have beautifully furnished, functional homes. They make extremely good interior decorators. This special ability, combined with their sensitivity to other's feelings and desires, makes them very likely to be great gift-givers - finding the right gift which will be truly appreciated by the recipient.

More so than other types, ISFJs are extremely aware of their own internal feelings, as well as other people's feelings. They do not usually express their own feelings, keeping things inside. If they are negative feelings, they may build up inside the ISFJ until they turn into firm judgments against individuals which are difficult to unseed, once set. Many ISFJs learn to express themselves, and find outlets for their powerful emotions.

Just as the ISFJ is not likely to express their feelings, they are also not likely to let on that they know how others are feeling. However, they will speak up when they feel another individual really needs help, and in such cases they can truly help others become aware of their feelings.

The ISFJ feels a strong sense of responsibility and duty. They take their responsibilities very seriously, and can be counted on to follow through. For this reason, people naturally tend to rely on them. The ISFJ has a difficult time saying "no" when asked to do something, and may become over-burdened. In such cases, the ISFJ does not usually express their difficulties to others, because they intensely dislike conflict, and because they tend to place other people's needs over their own. The ISFJ needs to learn to identify, value, and express their own needs, if they wish to avoid becoming over-worked and taken for granted.

ISFJs need positive feedback from others. In the absence of positive feedback, or in the face of criticism, the ISFJ gets discouraged, and may even become depressed. When down on themselves or under great stress, the ISFJ begins to imagine all of the things that might go

critically wrong in their life. They have strong feelings of inadequacy, and become convinced that "everything is all wrong", or "I can't do anything right".

The ISFJ is warm, generous, and dependable. They have many special gifts to offer, in their sensitivity to others, and their strong ability to keep things running smoothly. They need to remember to not be overly critical of themselves, and to give themselves some of the warmth and love which they freely dispense to others.

Jungian functional preference ordering:

Dominant: Introverted Sensing

Auxiliary: Extraverted Feeling

Tertiary: Introverted Thinking

Inferior: Extraverted Intuition

Portrait of an ISFP - Introverted Sensing Feeling Perceiving (Introverted Feeling with Extraverted Sensing)

The Artist

As an ISFP, your primary mode of living is focused internally, where you deal with things according to how you feel about them, or how they fit into your value system. Your secondary mode is external, where you take things in via your five senses in a literal, concrete fashion.

ISFPs live in the world of sensation possibilities. They are keenly in tune with the way things look, taste, sound, feel and smell. They have a strong aesthetic appreciation for art, and are likely to be artists in some form, because they are unusually gifted at creating and composing things which will strongly affect the senses. They have a strong set of values, which they strive to consistently meet in their lives. They need to feel as if they're living their lives in accordance with what they feel is right, and will rebel against anything which conflicts with that goal. They're likely to choose jobs and careers which allow them the freedom of working towards the realization of their value-oriented personal goals.

ISFPs tend to be quiet and reserved, and difficult to get to know well. They hold back their ideas and opinions except from those who they are closest to. They are likely to be kind, gentle and sensitive in their dealings with others. They are interested in contributing to people's sense of well-being and happiness, and will put a great deal of effort and energy into tasks which they believe in.

ISFPs have a strong affinity for aesthetics and beauty. They're likely to be animal lovers, and to have a true appreciation for the beauties of nature. They're original and independent, and need to have personal space. They value people who take the time to understand the ISFP, and who support the ISFP in pursuing their goals in their own, unique way. People who don't know them well may see their unique way of life as a sign of carefree light-heartedness, but the ISFP actually takes life very seriously, constantly gathering specific

information and shifting it through their value systems, in search for clarification and underlying meaning.

ISFPs are action-oriented individuals. They are "doers", and are usually uncomfortable with theorizing concepts and ideas, unless they see a practical application. They learn best in a "hands-on" environment, and consequently may become easily bored with the traditional teaching methods, which emphasize abstract thinking. They do not like impersonal analysis, and are uncomfortable with the idea of making decisions based strictly on logic. Their strong value systems demand that decisions are evaluated against their subjective beliefs, rather than against some objective rules or laws.

ISFPs are extremely perceptive and aware of others. They constantly gather specific information about people, and seek to discover what it means. They are usually penetratingly accurate in their perceptions of others.

ISFPs are warm and sympathetic. They genuinely care about people, and are strongly service-oriented in their desire to please. They have an unusually deep well of caring for those who are close to them, and are likely to show their love through actions, rather than words.

ISFPs have no desire to lead or control others, just as they have no desire to be led or controlled by others. They need space and time alone to evaluate the circumstances of their life against their value system, and are likely to respect other people's needs for the same.

The ISFP is likely to not give them self enough credit for the things which they do extremely well. Their strong value systems can lead them to be intensely perfectionist, and cause them to judge themselves with unnecessary harshness.

The ISFP has many special gifts for the world, especially in the areas of creating artistic sensation, and selflessly serving others. Life is not likely to be extremely easy for the ISFP, because they take life so seriously, but they have the tools to make their lives and the lives of those close to them richly rewarding experiences.

Jungian functional preference ordering:

Dominant: Introverted Feeling

Auxiliary: Extraverted Sensing

Tertiary: Introverted Intuition

Inferior: Extraverted Thinking

Portrait of an INFJ - Introverted iNtuitive Feeling Judging (Introverted Intuition with Extraverted Feeling)

The Protector

As an INFJ, your primary mode of living is focused internally, where you take things in primarily via intuition. Your secondary mode is external, where you deal with things according to how you feel about them, or how they fit with your personal value system.

INFJs are gentle, caring, complex and highly intuitive individuals. Artistic and creative, they live in a world of hidden meanings and possibilities. Only one percent of the population has an INFJ Personality Type, making it the rarest of all the types.

INFJs place great importance on having things orderly and systematic in their outer world. They put a lot of energy into identifying the best system for getting things done, and constantly define and re-define the priorities in their lives. On the other hand, INFJs operate within themselves on an intuitive basis which is entirely spontaneous. They know things intuitively, without being able to pinpoint why, and without detailed knowledge of the subject at hand. They are usually right, and they usually know it. Consequently, INFJs put a tremendous amount of faith into their instincts and intuitions. This is something of a conflict between the inner and outer worlds, and may result in the INFJ not being as organized as other Judging types tend to be. Or we may see some signs of disarray in an otherwise orderly tendency, such as a consistently messy desk.

INFJs have uncanny insight into people and situations. They get "feelings" about things and intuitively understand them. As an extreme example, some INFJs report experiences of a psychic nature, such as getting strong feelings about there being a problem with a loved one, and discovering later that they were in a car accident. This is the sort of thing that other types may scorn and scoff at, and the INFJ themselves does not really understand their intuition at a level which can be verbalized. Consequently, most INFJs are protective of their inner selves, sharing only what they choose to share when they choose to share it. They are

deep, complex individuals, who are quite private and typically difficult to understand. INFJs hold back part of themselves, and can be secretive.

But the INFJ is as genuinely warm as they are complex. INFJs hold a special place in the heart of people who they are close to, who are able to see their special gifts and depth of caring. INFJs are concerned for people's feelings, and try to be gentle to avoid hurting anyone. They are very sensitive to conflict, and cannot tolerate it very well. Situations which are charged with conflict may drive the normally peaceful INFJ into a state of agitation or charged anger. They may tend to internalize conflict into their bodies, and experience health problems when under a lot of stress.

Because the INFJ has such strong intuitive capabilities, they trust their own instincts above all else. This may result in an INFJ stubbornness and tendency to ignore other people's opinions. They believe that they're right. On the other hand, INFJ is a perfectionist who doubts that they are living up to their full potential. INFJs are rarely at complete peace with themselves - there's always something else they should be doing to improve themselves and the world around them. They believe in constant growth, and don't often take time to revel in their accomplishments. They have strong value systems, and need to live their lives in accordance with what they feel is right. In deference to the Feeling aspect of their personalities, INFJs are in some ways gentle and easy going. Conversely, they have very high expectations of themselves, and frequently of their families. They don't believe in compromising their ideals.

INFJ is a natural nurturer; patient, devoted and protective. They make loving parents and usually have strong bonds with their offspring. They have high expectations of their children, and push them to be the best that they can be. This can sometimes manifest itself in the INFJ being hard-nosed and stubborn. But generally, children of an INFJ get devoted and sincere parental guidance, combined with deep caring.

In the workplace, the INFJ usually shows up in areas where they can be creative and somewhat independent. They have a natural affinity for art, and many excel in the sciences, where they make use of their intuition. INFJs can also be found in service-oriented

professions. They are not good at dealing with minutia or very detailed tasks. The INFJ will either avoid such things, or else go to the other extreme and become enveloped in the details to the extent that they can no longer see the big picture. An INFJ who has gone the route of becoming meticulous about details may be highly critical of other individuals who are not.

The INFJ individual is gifted in ways that other types are not. Life is not necessarily easy for the INFJ, but they are capable of great depth of feeling and personal achievement.

Jungian functional preference ordering:

Dominant: Introverted Intuition

Auxilliary: Extraverted Feeling

Tertiary: Introverted Thinking

Inferior: Extraverted Sensing

Portrait of an INFP - Introverted iNtuitive Feeling Perceiving (Introverted Feeling with Extraverted Intuition)

The Idealist

As an INFP, your primary mode of living is focused internally, where you deal with things according to how you feel about them, or how they fit into your personal value system. Your secondary mode is external, where you take things in primarily via your intuition.

INFPs, more than other iNtuitive Feeling types, are focused on making the world a better place for people. Their primary goal is to find out their meaning in life. What is their purpose? How can they best serve humanity in their lives? They are idealists and perfectionists, who drive themselves hard in their quest for achieving the goals they have identified for themselves

INFPs are highly intuitive about people. They rely heavily on their intuitions to guide them, and use their discoveries to constantly search for value in life. They are on a continuous mission to find the truth and meaning underlying things. Every encounter and every piece of knowledge gained gets sifted through the INFP's value system, and is evaluated to see if it has any potential to help the INFP define or refine their own path in life. The goal at the end of the path is always the same - the INFP is driven to help people and make the world a better place.

Generally thoughtful and considerate, INFPs are good listeners and put people at ease. Although they may be reserved in expressing emotion, they have a very deep well of caring and are genuinely interested in understanding people. This sincerity is sensed by others, making the INFP a valued friend and confidante. An INFP can be quite warm with people he or she knows well.

INFPs do not like conflict, and go to great lengths to avoid it. If they must face it, they will always approach it from the perspective of their feelings. In conflict situations, INFPs place little importance on who is right and who is wrong. They focus on the way that the conflict makes them feel, and indeed don't really care whether or not they're right. They don't want to

feel badly. This trait sometimes makes them appear irrational and illogical in conflict situations. On the other hand, INFPs make very good mediators, and are typically good at solving other people's conflicts, because they intuitively understand people's perspectives and feelings, and genuinely want to help them.

INFPs are flexible and laid-back, until one of their values is violated. In the face of their value system being threatened, INFPs can become aggressive defenders, fighting passionately for their cause. When an INFP has adopted a project or job which they're interested in, it usually becomes a "cause" for them. Although they are not detail-oriented individuals, they will cover every possible detail with determination and vigor when working for their "cause".

When it comes to the mundane details of life maintenance, INFPs are typically completely unaware of such things. They might go for long periods without noticing a stain on the carpet, but carefully and meticulously brush a speck of dust off of their project booklet.

INFPs do not like to deal with hard facts and logic. Their focus on their feelings and the Human Condition makes it difficult for them to deal with impersonal judgment. They don't understand or believe in the validity of impersonal judgment, which makes them naturally rather ineffective at using it. Most INFPs will avoid impersonal analysis, although some have developed this ability and are able to be quite logical. Under stress, it's not uncommon for INFPs to mis-use hard logic in the heat of anger, throwing out fact after (often inaccurate) fact in an emotional outburst.

INFPs have very high standards and are perfectionists. Consequently, they are usually hard on themselves, and don't give themselves enough credit. INFPs may have problems working on a project in a group, because their standards are likely to be higher than other members' of the group. In group situations, they may have a "control" problem. The INFP needs to work on balancing their high ideals with the requirements of every day living. Without resolving this conflict, they will never be happy with themselves, and they may become confused and paralyzed about what to do with their lives.

INFPs are usually talented writers. They may be awkward and uncomfortable with expressing themselves verbally, but have a wonderful ability to define and express what they're feeling on paper. INFPs also appear frequently in social service professions, such as counselling or teaching. They are at their best in situations where they're working towards the public good, and in which they don't need to use hard logic.

INFPs who function in their well-developed sides can accomplish great and wonderful things, which they will rarely give themselves credit for. Some of the great, humanistic catalysts in the world have been INFPs.

Jungian functional preference ordering:

Dominant: Introverted Feeling

Auxiliary: Extraverted Intuition

Tertiary: Introverted Sensing

Inferior: Extraverted Thinking

Portrait of an INTJ - Introverted iNtuitive Thinking Judging (Introverted Intuition with Extraverted Thinking)

The Scientist

As an INTJ, your primary mode of living is focused internally, where you take things in primarily via your intuition. Your secondary mode is external, where you deal with things rationally and logically.

INTJs live in the world of ideas and strategic planning. They value intelligence, knowledge, and competence, and typically have high standards in these regards, which they continuously strive to fulfill. To a somewhat lesser extent, they have similar expectations of others.

With Introverted Intuition dominating their personality, INTJs focus their energy on observing the world, and generating ideas and possibilities. Their mind constantly gathers information and makes associations about it. They are tremendously insightful and usually are very quick to understand new ideas. However, their primary interest is not *understanding* a concept, but rather *applying* that concept in a useful way. Unlike the INTP, they do not follow an idea as far as they possibly can, seeking only to understand it fully. INTJs are driven to come to conclusions about ideas. Their need for closure and organization usually requires that they take some action.

INTJ's tremendous value and need for systems and organization, combined with their natural insightfulness, makes them excellent scientists. An INTJ scientist gives a gift to society by putting their ideas into a useful form for others to follow. It is not easy for the INTJ to express their internal images, insights, and abstractions. The internal form of the INTJ's thoughts and concepts is highly individualized, and is not readily translatable into a form that others will understand. However, the INTJ is driven to translate their ideas into a plan or system that is usually readily explainable, rather than to do a direct translation of their thoughts. They usually don't see the value of a direct transaction, and will also have difficulty expressing their ideas, which are non-linear. However, their extreme respect of

knowledge and intelligence will motivate them to explain themselves to another person who they feel is deserving of the effort.

INTJs are natural leaders, although they usually choose to remain in the background until they see a real need to take over the lead. When they are in leadership roles, they are quite effective, because they are able to objectively see the reality of a situation, and are adaptable enough to change things which aren't working well. They are the supreme strategists - always scanning available ideas and concepts and weighing them against their current strategy, to plan for every conceivable contingency.

INTJs spend a lot of time inside their own minds, and may have little interest in the other people's thoughts or feelings. Unless their Feeling side is developed, they may have problems giving other people the level of intimacy that is needed. Unless their Sensing side is developed, they may have a tendency to ignore details which are necessary for implementing their ideas.

The INTJ's interest in dealing with the world is to make decisions, express judgments, and put everything that they encounter into an understandable and rational system. Consequently, they are quick to express judgments. Often they have very evolved intuitions, and are convinced that they are right about things. Unless they complement their intuitive understanding with a well-developed ability to express their insights, they may find themselves frequently misunderstood. In these cases, INTJs tend to blame misunderstandings on the limitations of the other party, rather than on their own difficulty in expressing themselves. This tendency may cause the INTJ to dismiss others input too quickly, and to become generally arrogant and elitist.

INTJs are ambitious, self-confident, deliberate, long-range thinkers. Many INTJs end up in engineering or scientific pursuits, although some find enough challenge within the business world in areas which involve organizing and strategic planning. They dislike messiness and inefficiency, and anything that is muddled or unclear. They value clarity and efficiency, and will put enormous amounts of energy and time into consolidating their insights into structured patterns.

Other people may have a difficult time understanding an INTJ. They may see them as aloof and reserved. Indeed, the INTJ is not overly demonstrative of their affections, and is likely to not give as much praise or positive support as others may need or desire. That doesn't mean that he or she doesn't truly have affection or regard for others, they simply do not typically feel the need to express it. Others may falsely perceive the INTJ as being rigid and set in their ways. Nothing could be further from the truth, because the INTJ is committed to always finding the objective best strategy to implement their ideas. The INTJ is usually quite open to hearing an alternative way of doing something.

When under a great deal of stress, the INTJ may become obsessed with mindless repetitive, Sensate activities, such as over-drinking. They may also tend to become absorbed with minutia and details that they would not normally consider important to their overall goal.

INTJs need to remember to express themselves sufficiently, so as to avoid difficulties with people misunderstandings. In the absence of properly developing their communication abilities, they may become abrupt and short with people, and isolationists.

INTJs have a tremendous amount of ability to accomplish great things. They have insight into the Big Picture, and are driven to synthesize their concepts into solid plans of action. Their reasoning skills gives them the means to accomplish that. INTJs are most always highly competent people, and will not have a problem meeting their career or education goals. They have the capability to make great strides in these arenas. On a personal level, the INTJ who practices tolerances and puts effort into effectively communicating their insights to others has everything in his or her power to lead a rich and rewarding life.

Jungian functional preference ordering:

Dominant: Introverted Intuition

Auxilliary: Extraverted Thinking

Tertiary: Introverted Feeling

Inferior: Extraverted Sensing

Portrait of an INTP - Introverted iNtuitive Thinking Perceiving (Introverted Thinking with Extraverted Intuition)

The Thinker

As an INTP, your primary mode of living is focused internally, where you deal with things rationally and logically. Your secondary mode is external, where you take things in primarily via your intuition.

INTPs live in the world of theoretical possibilities. They see everything in terms of how it could be improved, or what it could be turned into. They live primarily inside their own minds, having the ability to analyze difficult problems, identify patterns, and come up with logical explanations. They seek clarity in everything, and are therefore driven to build knowledge. They are the "absent-minded professors", who highly value intelligence and the ability to apply logic to theories to find solutions. They typically are so strongly driven to turn problems into logical explanations, that they live much of their lives within their own heads, and may not place as much importance or value on the external world. Their natural drive to turn theories into concrete understanding may turn into a feeling of personal responsibility to solve theoretical problems, and help society move towards a higher understanding.

INTPs value knowledge above all else. Their minds are constantly working to generate new theories, or to prove or disprove existing theories. They approach problems and theories with enthusiasm and skepticism, ignoring existing rules and opinions and defining their own approach to the resolution. They seek patterns and logical explanations for anything that interests them. They're usually extremely bright, and able to be objectively critical in their analysis. They love new ideas, and become very excited over abstractions and theories. They love to discuss these concepts with others. They may seem "dreamy" and distant to others, because they spend a lot of time inside their minds musing over theories. They hate to work on routine things - they would much prefer to build complex theoretical solutions, and leave the implementation of the system to others. They are intensely interested in theory, and will

put forth tremendous amounts of time and energy into finding a solution to a problem with has piqued their interest.

INTPs do not like to lead or control people. They're very tolerant and flexible in most situations, unless one of their firmly held beliefs has been violated or challenged, in which case they may take a very rigid stance. The INTP is likely to be very shy when it comes to meeting new people. On the other hand, the INTP is very self-confident and gregarious around people they know well, or when discussing theories which they fully understand.

The INTP has no understanding or value for decisions made on the basis of personal subjectivity or feelings. They strive constantly to achieve logical conclusions to problems, and don't understand the importance or relevance of applying subjective emotional considerations to decisions. For this reason, INTPs are usually not in-tune with how people are feeling, and are not naturally well-equipped to meet the emotional needs of others.

The INTP may have a problem with self-aggrandizement and social rebellion, which will interfere with their creative potential. Since their Feeling side is their least developed trait, the INTP may have difficulty giving the warmth and support that is sometimes necessary in intimate relationships. If the INTP doesn't realize the value of attending to other people's feelings, he or she may become overly critical and sarcastic with others. If the INTP is not able to find a place for themselves which supports the use of their strongest abilities, they may become generally negative and cynical. If the INTP has not developed their Sensing side sufficiently, they may become unaware of their environment, and exhibit weakness in performing maintenance-type tasks, such as bill-paying and dressing appropriately.

For the INTP, it is extremely important that ideas and facts are expressed correctly and succinctly. They are likely to express themselves in what they believe to be absolute truths. Sometimes, their well thought-out understanding of an idea is not easily understandable by others, but the INTP is not naturally likely to tailor the truth so as to explain it in an understandable way to others. The INTP may be prone to abandoning a project once they have figured it out, moving on to the next thing. It's important that the INTP place

importance on expressing their developed theories in understandable ways. In the end, an amazing discovery means nothing if you are the only person who understands it.

The INTP is usually very independent, unconventional, and original. They are not likely to place much value on traditional goals such as popularity and security. They usually have complex characters, and may tend to be restless and temperamental. They are strongly ingenious, and have unconventional thought patterns which allows them to analyze ideas in new ways. Consequently, a lot of scientific breakthroughs in the world have been made by the INTP.

The INTP is at his best when he can work on his theories independently. When given an environment which supports his creative genius and possible eccentricity, the INTP can accomplish truly remarkable things. These are the pioneers of new thoughts in our society.

Jungian functional preference ordering:

Dominant: Introverted Thinking

Auxiliary: Extraverted Intuition

Tertiary: Introverted Sensing

Inferior: Extraverted Feeling

Portrait of an ESTP - Extraverted Sensing Thinking Perceiving (Extraverted Sensing with Introverted Thinking)

The Doer

As an ESTP, your primary mode of living is focused externally, where you take things in via your five senses in a literal, concrete fashion. Your secondary mode is internal, where you deal with things rationally and logically.

ESTPs are outgoing, straight-shooting types. Enthusiastic and excitable, ESTPs are "doers" who live in the world of action. Blunt, straight-forward risk-takers, they are willing to plunge right into things and get their hands dirty. They live in the here-and-now, and place little importance on introspection or theory. They look at the facts of a situation, quickly decide what should be done, execute the action, and move on to the next thing.

ESTPs have an uncanny ability to perceive people's attitudes and motivations. They pick up on little cues which go completely unnoticed by most other types, such as facial expressions and stance. They're typically a couple of steps ahead of the person they're interacting with. ESTPs use this ability to get what they want out of a situation. Rules and laws are seen as guidelines for behavior, rather than mandates. If the ESTP has decided that something needs to be done, then their "do it and get on with it" attitude takes precedence over the rules. However, the ESTP tends to have their own strong belief in what's right and what's wrong, and will doggedly stick to their principles. The Rules of the Establishment may hold little value to the ESTP, but their own integrity mandates that they will not under any circumstances do something which they feel to be wrong.

ESTPs have a strong flair for drama and style. They're fast-moving, fast-talking people who have an appreciation for the finer things in life. They may be gamblers or spendthrifts. They're usually very good at storytelling and improvising. They typically makes things up as they go along, rather than following a plan. They love to have fun, and are fun people to be around. They can sometimes be hurtful to others without being aware of it, as they generally do not know and may not care about the effect their words have on others. It's not that they

don't care about people. It's that their decision-making process does not involve taking people's feelings into account. They make decisions based on facts and logic.

ESTP's least developed area is their intuitive side. They are impatient with theory, and see little use for it in their quest to "get things done". An ESTP will occasionally have strong intuitions which are often way off-base, but sometimes very lucid and positive. The ESTP does not trust their instincts, and is suspicious of other people's intuition as well. The ESTP often has trouble in school, especially higher education which moves into realms where theory is more important. The ESTP gets bored with classes in which they feel they gain no useful material which can be used to get things done. The ESTP may be brilliantly intelligent, but school will be a difficult chore for them.

The ESTP needs to keep moving, and so does well in careers where he or she is not restricted or confined. ESTPs make extremely good salespersons. They will become stifled and unhappy dealing with routine chores. ESTPs have a natural abundance of energy and enthusiasm, which makes them natural entrepreneurs. They get very excited about things, and have the ability to motivate others to excitement and action. They can sell anyone on any idea. They are action-oriented, and make decisions quickly. All-in-all, they have extraordinary talents for getting things started. They are not usually so good at following through, and might leave those tasks to others. Mastering the art of following through is something which ESTPs should pay special attention to. ESTPs are practical, observant, fun-loving, spontaneous risk-takers with an excellent ability to quickly improvise an innovative solution to a problem. They're enthusiastic and fun to be with, and are great motivators. If an ESTP recognizes their real talents and operates within those realms, they can accomplish truly exciting things.

Jungian functional preference ordering:

Dominant: Extraverted Sensing

Auxiliary: Introverted Thinking

Tertiary: Extraverted Feeling

Inferior: Introverted Intuition

Portrait of an ESTJ - Extraverted Sensing Thinking Judging (Extraverted Thinking with Introverted Sensing)

The Guardian

As an ESTJ, your primary mode of living is focused externally, where you deal with things rationally and logically. Your secondary mode is internal, where you take things in via your five senses in a literal, concrete fashion.

ESTJs live in a world of facts and concrete needs. They live in the present, with their eye constantly scanning their personal environment to make sure that everything is running smoothly and systematically. They honor traditions and laws, and have a clear set of standards and beliefs. They expect the same of others, and have no patience or understanding of individuals who do not value these systems. They value competence and efficiency, and like to see quick results for their efforts.

ESTJs are take-charge people. They have such a clear vision of the way that things should be, that they naturally step into leadership roles. They are self-confident and aggressive. They are extremely talented at devising systems and plans for action, and at being able to see what steps need to be taken to complete a specific task. They can sometimes be very demanding and critical, because they have such strongly held beliefs, and are likely to express themselves without reserve if they feel someone isn't meeting their standards. But at least their expressions can be taken at face-value, because the ESTJ is extremely straightforward and honest.

The ESTJ is usually a model citizen, and pillar of the community. He or she takes their commitments seriously, and follows their own standards of "good citizenship" to the letter. ESTJ enjoys interacting with people, and likes to have fun. ESTJs can be very boisterous and fun at social events, especially activities which are focused on the family, community, or work.

The ESTJ needs to watch out for the tendency to be too rigid, and to become overly detail-oriented. Since they put a lot of weight in their own beliefs, it's important that they

remember to value other people's input and opinions. If they neglect their Feeling side, they may have a problem with fulfilling other's needs for intimacy, and may unknowingly hurt people's feelings by applying logic and reason to situations which demand more emotional sensitivity.

When bogged down by stress, an ESTJ often feels isolated from others. They feel as if they are misunderstood and undervalued, and that their efforts are taken for granted. Although normally the ESTJ is very verbal and doesn't have any problem expressing themselves, when under stress they have a hard time putting their feelings into words and communicating them to others.

ESTJs value security and social order above all else, and feel obligated to do all that they can to enhance and promote these goals. They will mow the lawn, vote, join the PTA, attend home owners association meetings, and generally do anything that they can to promote personal and social security.

The ESTJ puts forth a lot of effort in almost everything that they do. They will do everything that they think should be done in their job, marriage, and community with a good amount of energy. He or she is conscientious, practical, realistic, and dependable. While the ESTJ will dutifully do everything that is important to work towards a particular cause or goal, they might not naturally see or value the importance of goals which are outside of their practical scope. However, if the ESTJ is able to see the relevance of such goals to practical concerns, you can bet that they'll put every effort into understanding them and incorporating them into their quest for clarity and security.

Jungian functional preference ordering:

Dominant: Extraverted Thinking

Auxiliary: Introverted Sensing

Tertiary: Extraverted Intuition

Inferior: Introverted Feeling

Portrait of an ESFP - Extraverted Sensing Feeling Perceiving (Extraverted Sensing with Introverted Feeling)

The Performer

As an ESFP, your primary mode of living is focused externally, where you take things in via your five senses in a literal, concrete fashion. Your secondary mode is internal, where you deal with things according to how you feel about them, or how they fit with your personal value system.

ESFPs live in the world of people possibilities. They love people and new experiences. They are lively and fun, and enjoy being the center of attention. They live in the here-and-now, and relish excitement and drama in their lives.

ESFPs have very strong inter-personal skills, and may find themselves in the role of the peacemaker frequently. Since they make decisions by using their personal values, they are usually very sympathetic and concerned for other people's well-being. They're usually quite generous and warm. They are very observant about other people, and seem to sense what is wrong with someone before others might, responding warmly with a solution to a practical need. They might not be the best advice-givers in the world, because they dislike theory and future-planning, but they are great for giving practical care.

ESFP is definitely a spontaneous, optimistic individual. They love to have fun. If the ESFP has not developed their Thinking side by giving consideration to rational thought processing, they tend to become over-indulgent, and place more importance on immediate sensation and gratification than on their duties and obligations. They may also avoid looking at long-term consequences of their actions.

For the ESFP, the entire world is a stage. They love to be the center of attention and perform for people. They're constantly putting on a show for others to entertain them and make them happy. They enjoy stimulating other people's senses, and are extremely good at it. They would love nothing more than for life to be a continual party, in which they play the role of the fun-loving host.

ESFPs love people, and everybody loves an ESFP. One of their greatest gifts is their general acceptance of everyone. They are upbeat and enthusiastic, and genuinely like almost everybody. An ESFP is unfailingly warm and generous with their friends, and they generally treat everyone as a friend. However, once crossed, an ESFP is likely to make a very strong and stubborn judgment against the person who crossed them. They are capable of deep dislike in such a situation.

The ESFP under a great deal of stress gets overwhelmed with negative thoughts and possibilities. As an optimistic individual who lives in the world of possibilities, negative possibilities do not sit well with them. In an effort to combat these thoughts, they're likely to come up with simple, global statements to explain away the problem. These simplistic explanations may or may not truly get to the nature of the issue, but they serve the ESFP well by allowing them to get over it.

ESFPs are likely to be very practical, although they hate structure and routine. They like to "go with the flow", trusting in their ability to improvise in any situation presented to them. They learn best with "hands-on" experience, rather than by studying a book. They're uncomfortable with theory. If an ESFP hasn't developed their intuitive side, they may tend to avoid situations which involve a lot of theoretical thinking, or which are complex and ambiguous. For this reason, an ESFP may have difficulty in school. On the other hand, the ESFP does extremely well in situations where they're allowed to learn by interacting with others, or in which they "learn by doing".

ESFPs have a very well-developed appreciation for aesthetic beauty, and an excellent sense of space and function. If they have the means, they're likely to have many beautiful possessions, and an artfully furnished home. In general, they take great pleasure in objects of aesthetic beauty. They're likely to have a strong appreciation for the finer things in life, such as good food and good wine.

The ESFP is a great team player. He or she is not likely to create any problems or fuss, and is likely to create the most fun environment possible for getting the task done. ESFPs will do best in careers in which they are able to use their excellent people skills, along with their

abilities to meld ideas into structured formats. Since they are fast-paced individuals who like new experiences, they should choose careers which offer or require a lot of diversity, as well as people skills.

ESFPs usually like to feel strongly bonded with other people, and have a connection with animals and small children that is not found in most other types. They're likely to have a strong appreciation for the beauties of nature as well.

The ESFP has a tremendous love for life, and knows how to have fun. They like to bring others along on their fun-rides, and are typically a lot of fun to be with. They're flexible, adaptable, genuinely interested in people, and usually kind-hearted. They have a special ability to get a lot of fun out of life, but they need to watch out for the pitfalls associated with living entirely in the moment.

Jungian functional preference ordering:

Dominant: Extraverted Sensing

Auxiliary: Introverted Feeling

Tertiary: Extraverted Thinking

Inferior: Introverted Intuition

Portrait of an ESFJ - Extraverted Sensing Feeling Judging (Extraverted Feeling with Introverted Sensing)

The Caregiver

As an ESFJ, your primary mode of living is focused externally, where you deal with things according to how you feel about them, or how they fit in with your personal value system. Your secondary mode is internal, where you take things in via your five senses in a literal, concrete fashion.

ESFJs are people persons - they love people. They are warmly interested in others. They use their Sensing and Judging characteristics to gather specific, detailed information about others, and turn this information into supportive judgments. They want to like people, and have a special skill at bringing out the best in others. They are extremely good at reading others, and understanding their point of view. The ESFJ's strong desire to be liked and for everything to be pleasant makes them highly supportive of others. People like to be around ESFJs, because the ESFJ has a special gift of invariably making people feel good about themselves.

The ESFJ takes their responsibilities very seriously, and is very dependable. They value security and stability, and have a strong focus on the details of life. They see before others do what needs to be done, and do whatever it takes to make sure that it gets done. They enjoy these types of tasks, and are extremely good at them.

ESFJs are warm and energetic. They need approval from others to feel good about themselves. They are hurt by indifference and don't understand unkindness. They are very giving people, who get a lot of their personal satisfaction from the happiness of others. They want to be appreciated for who they are, and what they give. They're very sensitive to others, and freely give practical care. ESFJs are such caring individuals, that they sometimes have a hard time seeing or accepting a difficult truth about someone they care about.

With Extraverted Feeling dominating their personality, ESFJs are focused on reading other people. They have a strong need to be liked, and to be in control. They are extremely good at

reading others, and often change their own manner to be more pleasing to whoever they're with at the moment.

The ESFJ's value system is defined externally. They usually have very well-formed ideas about the way things should be, and are not shy about expressing these opinions. However, they weigh their values and morals against the world around them, rather than against an internal value system. They may have a strong moral code, but it is defined by the community that they live in, rather than by any strongly felt internal values.

ESFJs who have had the benefit of being raised and surrounded by a strong value system that is ethical and centered around genuine goodness will most likely be the kindest, most generous souls who will gladly give you the shirt off of their back without a second thought. For these individuals, the selfless quality of their personality type is genuine and pure. ESFJs who have not had the advantage of developing their own values by weighing them against a good external value system may develop very questionable values. In such cases, the ESFJ most often genuinely believes in the integrity of their skewed value system. They have no internal understanding of values to set them straight. In weighing their values against our society, they find plenty of support for whatever moral transgression they wish to justify. This type of ESFJ is a dangerous person indeed. Extraverted Feeling drives them to control and manipulate, and their lack of Intuition prevents them from seeing the big picture. They're usually quite popular and good with people, and good at manipulating them. Unlike their ENFJ cousin, they don't have Intuition to help them understand the real consequences of their actions. They are driven to manipulate other to achieve their own ends, yet they believe that they are following a solid moral code of conduct.

All ESFJs have a natural tendency to want to control their environment. Their dominant function demands structure and organization, and seeks closure. ESFJs are most comfortable with structured environments. They're not likely to enjoy having to do things which involve abstract, theoretical concepts, or impersonal analysis. They do enjoy creating order and structure, and are very good at tasks which require these kinds of skills. ESFJs should be careful about controlling people in their lives who do not wish to be controlled.

ESFJs respect and believe in the laws and rules of authority, and believe that others should do so as well. They're traditional, and prefer to do things in the established way, rather than venturing into uncharted territory. Their need for security drives their ready acceptance and adherence to the policies of the established system. This tendency may cause them to sometimes blindly accept rules without questioning or understanding them.

An ESFJ who has developed in a less than ideal way may be prone to being quite insecure, and focus all of their attention on pleasing others. He or she might also be very controlling, or overly sensitive, imagining bad intentions when there weren't any.

ESFJs incorporate many of the traits that are associated with women in our society. However, male ESFJs will usually not appear feminine at all. On the contrary, ESFJs are typically quite conscious about gender roles and will be most comfortable playing a role that suits their gender in our society. Male ESFJs will be quite masculine (albeit sensitive when you get to know them), and female ESFJs will be very feminine.

ESFJs at their best are warm, sympathetic, helpful, cooperative, tactful, down-to-earth, practical, thorough, consistent, organized, enthusiastic, and energetic. They enjoy tradition and security, and will seek stable lives that are rich in contact with friends and family.

Jungian functional preference ordering:

Dominant: Extraverted Feeling

Auxiliary: Introverted Sensing

Tertiary: Extraverted Intuition

Inferior: Introverted Thinking

Portrait of an ENFP - Extraverted iNtuitive Feeling Perceiving (Extraverted Intuition with Introverted Feeling)

The Inspirer

As an ENFP, your primary mode of living is focused externally, where you take things in primarily via your intuition. Your secondary mode is internal, where you deal with things according to how you feel about them, or how they fit in with your personal value system.

ENFPs are warm, enthusiastic people, typically very bright and full of potential. They live in the world of possibilities, and can become very passionate and excited about things. Their enthusiasm lends them the ability to inspire and motivate others, more so than we see in other types. They can talk their way in or out of anything. They love life, seeing it as a special gift, and strive to make the most out of it.

ENFPs have an unusually broad range of skills and talents. They are good at most things which interest them. Project-oriented, they may go through several different careers during their lifetime. To onlookers, the ENFP may seem directionless and without purpose, but ENFPs are actually quite consistent, in that they have a strong sense of values which they live with throughout their lives. Everything that they do must be in line with their values. An ENFP needs to feel that they are living their lives as their true Self, walking in step with what they believe is right. They see meaning in everything, and are on a continuous quest to adapt their lives and values to achieve inner peace. They're constantly aware and somewhat fearful of losing touch with themselves. Since emotional excitement is usually an important part of the ENFP's life, and because they are focused on keeping "centered", the ENFP is usually an intense individual, with highly evolved values.

An ENFP needs to focus on following through with their projects. This can be a problem area for some of these individuals. Unlike other Extraverted types, ENFPs need time alone to center themselves, and make sure they are moving in a direction which is in sync with their values. ENFPs who remain centered will usually be quite successful at their endeavors. Others may fall into the habit of dropping a project when they become excited about a new

possibility, and thus they never achieve the great accomplishments which they are capable of achieving.

Most ENFPs have great people skills. They are genuinely warm and interested in people, and place great importance on their inter-personal relationships. ENFPs almost always have a strong need to be liked. Sometimes, especially at a younger age, an ENFP will tend to be "gushy" and insincere, and generally "overdo" in an effort to win acceptance. However, once an ENFP has learned to balance their need to be true to themselves with their need for acceptance, they excel at bringing out the best in others, and are typically well-liked. They have an exceptional ability to intuitively understand a person after a very short period of time, and use their intuition and flexibility to relate to others on their own level.

Because ENFPs live in the world of exciting possibilities, the details of everyday life are seen as trivial drudgery. They place no importance on detailed, maintenance-type tasks, and will frequently remain oblivious to these types of concerns. When they do have to perform these tasks, they do not enjoy themselves. This is a challenging area of life for most ENFPs, and can be frustrating for ENFP's family members.

An ENFP who has "gone wrong" may be quite manipulative - and very good at it. The gift of gab which they are blessed with makes it naturally easy for them to get what they want. Most ENFPs will not abuse their abilities, because that would not jive with their value systems.

ENFPs sometimes make serious errors in judgment. They have an amazing ability to intuitively perceive the truth about a person or situation, but when they apply judgment to their perception, they may jump to the wrong conclusions.

ENFPs who have not learned to follow through may have a difficult time remaining happy in marital relationships. Always seeing the possibilities of what could be, they may become bored with what actually is. The strong sense of values will keep many ENFPs dedicated to their relationships. However, ENFPs like a little excitement in their lives, and are best matched with individuals who are comfortable with change and new experiences.

Having an ENFP parent can be a fun-filled experience, but may be stressful at times for children with strong Sensing or Judging tendencies. Such children may see the ENFP parent as inconsistent and difficult to understand, as the children are pulled along in the whirlwind life of the ENFP. Sometimes the ENFP will want to be their child's best friend, and at other times they will play the parental authoritarian. But ENFPs are always consistent in their value systems, which they will impress on their children above all else, along with a basic joy of living.

ENFPs are basically happy people. They may become unhappy when they are confined to strict schedules or mundane tasks. Consequently, ENFPs work best in situations where they have a lot of flexibility, and where they can work with people and ideas. Many go into business for themselves. They have the ability to be quite productive with little supervision, as long as they are excited about what they're doing.

Because they are so alert and sensitive, constantly scanning their environments, ENFPs often suffer from muscle tension. They have a strong need to be independent, and resist being controlled or labeled. They need to maintain control over themselves, but they do not believe in controlling others. Their dislike of dependence and suppression extends to others as well as to themselves.

ENFPs are charming, ingenuous, risk-taking, sensitive, people-oriented individuals with capabilities ranging across a broad spectrum. They have many gifts which they will use to fulfill themselves and those near them, if they are able to remain centered and master the ability of following through.

Jungian functional preference ordering for ENFP:

Dominant: Extraverted Intuition

Auxiliary: Introverted Feeling

Tertiary: Extraverted Thinking

Inferior: Introverted Sensing

Portrait of an ENFJ - Extraverted iNtuitive Feeling Judging (Extraverted Feeling with Introverted Intuition)

The Giver

As an ENFJ, your primary mode of living is focused externally, where you deal with things according to how you feel about them, or how they fit into your personal value system. Your secondary mode is internal, where you take things in primarily via your intuition.

ENFJs are people-focused individuals. They live in the world of people possibilities. More so than any other type, they have excellent people skills. They understand and care about people, and have a special talent for bringing out the best in others. ENFJ's main interest in life is giving love, support, and a good time to other people. They are focused on understanding, supporting, and encouraging others. They make things happen for people, and get their best personal satisfaction from this.

Because ENFJ's people skills are so extraordinary, they have the ability to make people do exactly what they want them to do. They get under people's skins and get the reactions that they are seeking. ENFJ's motives are usually unselfish, but ENFJs who have developed less than ideally have been known to use their power over people to manipulate them.

ENFJs are so externally focused that it's especially important for them to spend time alone. This can be difficult for some ENFJs, because they have the tendency to be hard on themselves and turn to dark thoughts when alone. Consequently, ENFJs might avoid being alone, and fill their lives with activities involving other people. ENFJs tend to define their life's direction and priorities according to other people's needs, and may not be aware of their own needs. It's natural to their personality type that they will tend to place other people's needs above their own, but they need to stay aware of their own needs so that they don't sacrifice themselves in their drive to help others.

ENFJs tend to be more reserved about exposing themselves than other extraverted types. Although they may have strongly-felt beliefs, they're likely to refrain from expressing them

if doing so would interfere with bringing out the best in others. Because their strongest interest lies in being a catalyst of change in other people, they're likely to interact with others on their own level, in a chameleon-like manner, rather than as individuals.

Which is not to say that the ENFJ does not have opinions. ENFJs have definite values and opinions which they're able to express clearly and succinctly. These beliefs will be expressed as long as they're not too personal. ENFJ is in many ways expressive and open, but is more focused on being responsive and supportive of others. When faced with a conflict between a strongly-held value and serving another person's need, they are highly likely to value the other person's needs.

The ENFJ may feel quite lonely even when surrounded by people. This feeling of aloneness may be exacerbated by the tendency to not reveal their true selves.

People love ENFJs. They are fun to be with, and truly understand and love people. They are typically very straight-forward and honest. Usually ENFJs exude a lot of self-confidence, and have a great amount of ability to do many different things. They are generally bright, full of potential, energetic and fast-paced. They are usually good at anything which captures their interest.

ENFJs like for things to be well-organized, and will work hard at maintaining structure and resolving ambiguity. They have a tendency to be fussy, especially with their home environments.

In the work place, ENFJs do well in positions where they deal with people. They are naturals for the social committee. Their uncanny ability to understand people and say just what needs to be said to make them happy makes them naturals for counseling. They enjoy being the center of attention, and do very well in situations where they can inspire and lead others, such as teaching.

ENFJs do not like dealing with impersonal reasoning. They don't understand or appreciate its merit, and will be unhappy in situations where they're forced to deal with logic and facts without any connection to a human element. Living in the world of people possibilities, they

enjoy their plans more than their achievements. They get excited about possibilities for the future, but may become easily bored and restless with the present.

ENFJs have a special gift with people, and are basically happy people when they can use that gift to help others. They get their best satisfaction from serving others. Their genuine interest in Humankind and their exceptional intuitive awareness of people makes them able to draw out even the most reserved individuals.

ENFJs have a strong need for close, intimate relationships, and will put forth a lot of effort in creating and maintaining these relationships. They're very loyal and trustworthy once involved in a relationship. An ENFJ who has not developed their Feeling side may have difficulty making good decisions, and may rely heavily on other people in decision-making processes. If they have not developed their Intuition, they may not be able to see possibilities, and will judge things too quickly based on established value systems or social rules, without really understanding the current situation. An ENFJ who has not found their place in the world is likely to be extremely sensitive to criticism, and to have the tendency to worry excessively and feel guilty. They are also likely to be very manipulative and controlling with others. In general, ENFJs are charming; warm, gracious, creative and diverse individuals with richly developed insights into what makes other people tick. This special ability to see growth potential in others combined with a genuine drive to help people makes the ENFJ a truly valued individual. As giving and caring as the ENFJ is, they need to remember to value their own needs as well as the needs of others.

Jungian functional preference ordering:

Dominant: Extraverted Feeling

Auxiliary: Introverted Intuition

Tertiary: Extraverted Sensing

Inferior: Introverted Thinking

Portrait of an ENTP - Extraverted iNtuitive Thinking Perceiving (Extraverted Intuition with Introverted Thinking)

The Visionary

As an ENTP, your primary mode of living is focused externally, where you take things in primarily via your intuition. Your secondary mode is internal, where you deal with things rationally and logically.

With Extraverted Intuition dominating their personality, the ENTP's primary interest in life is understanding the world that they live in. They are constantly absorbing ideas and images about the situations they are presented in their lives. Using their intuition to process this information, they are usually extremely quick and accurate in their ability to size up a situation. With the exception of their ENFP cousin, the ENTP has a deeper understanding of their environment than any of the other types.

This ability to intuitively understand people and situations puts the ENTP at a distinct advantage in their lives. They generally understand things quickly and with great depth. Accordingly, they are quite flexible and adapt well to a wide range of tasks. They are good at most anything that interests them. As they grow and further develop their intuitive abilities and insights, they become very aware of possibilities, and this makes them quite resourceful when solving problems.

ENTPs are idea people. Their perceptive abilities cause them to see possibilities everywhere. They get excited and enthusiastic about their ideas, and are able to spread their enthusiasm to others. In this way, they get the support that they need to fulfill their visions.

ENTPs are less interested in developing plans of actions or making decisions than they are in generating possibilities and ideas. Following through on the implementation of an idea is usually a chore to the ENTP. For some ENTPs, this results in the habit of never finishing what they start. The ENTP who has not developed their Thinking process will have problems with jumping enthusiastically from idea to idea, without following through on

their plans. The ENTP needs to take care to think through their ideas fully in order to take advantage of them.

The ENTP's auxiliary process of Introverted Thinking drives their decision making process. Although the ENTP is more interested in absorbing information than in making decisions, they are quite rational and logical in reaching conclusions. When they apply Thinking to their Intuitive perceptions, the outcome can be very powerful indeed. A well-developed ENTP is extremely visionary, inventive, and enterprising.

ENTPs are fluent conversationalists, mentally quick, and enjoy verbal sparring with others. They love to debate issues, and may even switch sides sometimes just for the love of the debate. When they express their underlying principles, however, they may feel awkward and speak abruptly and intensely.

The ENTP personality type is sometimes referred to the "Lawyer" type. The ENTP "lawyer" quickly and accurately understands a situation, and objectively and logically acts upon the situation. Their Thinking side makes their actions and decisions based on an objective list of rules or laws. If the ENTP was defending someone who had actually committed a crime, they are likely to take advantage of quirks in the law that will get their client off the hook. If they were to actually win the case, they would see their actions as completely fair and proper to the situation, because their actions were lawful. The guilt or innocence of their client would not be as relevant. If this type of reasoning goes uncompletely unchecked by the ENTP, it could result in a character that is perceived by others as unethical or even dishonest. The ENTP, who does not naturally consider the more personal or human element in decision making, should take care to notice the subjective, personal side of situations. This is a potential problem are for ENTPs. Although their logical abilities lend strength and purpose to the ENTP, they may also isolate them from their feelings and from other people.

The least developed area for the ENTP is the Sensing-Feeling arena. If the Sensing areas are neglected, the ENTP may tend to not take care of details in their life. If the Feeling part of themselves is neglected, the ENTP may not value other people's input enough, or may become overly harsh and aggressive.

Under stress, the ENTP may lose their ability to generate possibilities, and become obsessed with minor details. These details may seem to be extremely important to the ENTP, but in reality are usually not important to the big picture.

In general, ENTPs are upbeat visionaries. They highly value knowledge, and spend much of their lives seeking a higher understanding. They live in the world of possibilities, and become excited about concepts, challenges and difficulties. When presented with a problem, they're good at improvising and quickly come up with a creative solution. Creative, clever, curious, and theoretical, ENTPs have a broad range of possibilities in their lives.

Jungian functional preference ordering for ENTP:

Dominant: Extraverted Intuition

Auxiliary: Introverted Thinking

Tertiary: Extraverted Feeling

Inferior: Introverted Sensing

Portrait of an ENTJ - Extraverted iNtuitive Thinking Judging (Extraverted Thinking with Introverted Intuition)

The Executive

As an ENTJ, your primary mode of living is focused externally, where you deal with things rationally and logically. Your secondary mode is internal, where you take things in primarily via your intuition.

ENTJs are natural born leaders. They live in a world of possibilities where they see all sorts of challenges to be surmounted, and they want to be the ones responsible for surmounting them. They have a drive for leadership, which is well-served by their quickness to grasp complexities, their ability to absorb a large amount of impersonal information, and their quick and decisive judgments. They are "take charge" people.

ENTJs are very career-focused, and fit into the corporate world quite naturally. They are constantly scanning their environment for potential problems which they can turn into solutions. They generally see things from a long-range perspective, and are usually successful at identifying plans to turn problems around - especially problems of a corporate nature. ENTJs are usually successful in the business world, because they are so driven to leadership. They're tireless in their efforts on the job, and driven to visualize where an organization is headed. For these reasons, they are natural corporate leaders.

There is not much room for error in the world of the ENTJ. They dislike to see mistakes repeated, and have no patience with inefficiency. They may become quite harsh when their patience is tried in these respects, because they are not naturally tuned in to people's feelings, and more than likely don't believe that they should tailor their judgments in consideration for people's feelings. ENTJs, like many types, have difficulty seeing things from outside their own perspective. Unlike other types, ENTJs naturally have little patience with people who do not see things the same way as the ENTJ. The ENTJ needs to consciously work on recognizing the value of other people's opinions, as well as the value of being sensitive towards people's feelings. In the absence of this awareness, the ENTJ will be

a forceful, intimidating and overbearing individual. This may be a real problem for the ENTJ, who may be deprived of important information and collaboration from others. In their personal world, it can make some ENTJs overbearing as spouses or parents.

The ENTJ has a tremendous amount of personal power and presence which will work for them as a force towards achieving their goals. However, this personal power is also an agent of alienation and self-aggrandizement, which the ENTJ would do well to avoid.

ENTJs are very forceful, decisive individuals. They make decisions quickly, and are quick to verbalize their opinions and decisions to the rest of the world. The ENTJ who has not developed their Intuition will make decisions too hastily, without understanding all of the issues and possible solutions. On the other hand, an ENTJ who has not developed their Thinking side will have difficulty applying logic to their insights, and will often make poor decisions. In that case, they may have brilliant ideas and insight into situations, but they may have little skill at determining how to act upon their understanding, or their actions may be inconsistent. An ENTJ who has developed in a generally less than ideal way may become dictatorial and abrasive - intrusively giving orders and direction without a sound reason for doing so, and without consideration for the people involved.

Although ENTJs are not naturally tuned into other people's feelings, these individuals frequently have very strong sentimental streaks. Often these sentiments are very powerful to the ENTJ, although they will likely hide it from general knowledge, believing the feelings to be a weakness. Because the world of feelings and values is not where the ENTJ naturally functions, they may sometimes make value judgments and hold onto submerged emotions which are ill-founded and inappropriate, and will cause them problems - sometimes rather serious problems.

ENTJs love to interact with people. As Extroverts, they're energized and stimulated primarily externally. There's nothing more enjoyable and satisfying to the ENTJ than having a lively, challenging conversation. They especially respect people who are able to stand up to the ENTJ, and argue persuasively for their point of view. There aren't too many people who will do so, however, because the ENTJ is a very forceful and dynamic presence who

has a tremendous amount of self-confidence and excellent verbal communication skills. Even the most confident individuals may experience moments of self-doubt when debating a point with an ENTJ.

ENTJs want their home to be beautiful, well-furnished, and efficiently run. They're likely to place much emphasis on their children being well-educated and structured, to desire a congenial and devoted relationship with their spouse. At home, the ENTJ needs to be in charge as much as he or she does in their career. The ENTJ is likely best paired with someone who has a strong self-image, who is also a Thinking type. Because the ENTJ is primarily focused on their careers, some ENTJs have a problem with being constantly absent from home, physically or mentally.

The ENTJ has many gifts which make it possible for them to have a great deal of personal power, if they don't forget to remain balanced in their lives. They are assertive, innovative, long-range thinkers with an excellent ability to translate theories and possibilities into solid plans of action. They are usually tremendously forceful personalities, and have the tools to accomplish whatever goals they set out for.

Jungian functional preference ordering:

Dominant: Extraverted Thinking

Auxiliary: Introverted Intuition

Tertiary: Extraverted Sensing

Inferior: Introverted Feeling

Chapter 3

Introduction to Lao PDR and Thailand

Chapter Three Outline

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Lao - Country Profile

Lao Peoples Democratic Republic (Lao PDR) is located in the heart of the Indochina Peninsula in Southeast Asia. It shares a border of 505 km long with China to the north, 435 km long with Cambodia to the south, 2,069 km long with Vietnam to the east, 1,835 long with Thailand to the west, and 236 km long with Myanmar to the northwest. The country stretches for 1,700 km north to south, with an east-west width of over 500 km at its widest and only 140km at the narrowest point. Lao PDR has a land area of 236,800 square kilometers, three-quarters of which is covered by mountains and plateau. It is a tropical country, with its weather being influenced by the monsoons which result in a rainy season from approximately May to October.



Figure 1.14: Map of Laos

Lao PDR was established in 1975, after the fall of the Kingdom of Laos, following decades of war. The Constitution of Lao PDR, which was promulgated in 1991, recognizes the Lao People's Revolutionary Party (LPRP) as the leading nucleus of the political system.

The Government of Lao PDR is taking a development approach that guarantees the rights of all citizens, while at the same time promoting national unity. The Government's long-term overarching goal is to exit the group of Least Developed Countries (LDCs) by 2020 through sustained equitable economic growth and social development, while safeguarding the country's social, cultural, economic and political identity.

Lao PDR is administratively structured into four levels: central, *provincial*, district and village levels. At the provincial and capital level the administration is run by a governor, the district by a chief administrator and the village by a village chief. Currently there are 16 provinces and 1 Capital City, 142 districts, 10,500 villages and 953,000 households. The state is secular, but the population is predominantly Buddhist.

Population

The 2005 census reported the population at 5.6 million, up 23 percent from the 1995 census, showing an average annual growth rate of 2.08 percent. Fertility rates by place of residence are shown in Table A. If the population were to continue to grow at the same rate, it would double in approximately 34 years.

Table A: Total Fertility rates by location

Place of Residence	Fertility Rate
Urban	2.04
Rural, on road	3.70
Rural, off road	4.74

Lao PDR has a relatively young population, with 39 percent of the population under 15 years of age. One of the most prominent cultural features is ethno-linguistic diversity. The 2005 census identified 49 distinct ethnic groups, categorized in four main ethno-linguistic groups : the Lao-Tai, the MonKhmer, the Sino-Tibetan family and the Hmong-Iu Mien.

According to the 2005 census, the Tai-Kadai group, also referred to as the ‘Lao-Tai’ ethno-linguistic group, accounts for 64.9 percent of the nation’s total population. Because of differential population growth rates, however, among children between the ages of 0 and 16, the Lao-Tai represent only 59.8 percent . Hence, *the non Lao-Tai population is growing more rapidly than the Lao-Tai population.*

One of the most significant demographic changes can be seen in the ethnic composition of primary school enrollments. In the school year 1999/2000, Lao-Tai constituted over 73 percent of primary school enrollment, but this figure had fallen to under 63 percent by 2005/2006. By contrast, Mon-Khmer had risen from just under 18 percent to over 24 percent and the Hmong-Iu Mien and Sino-Tibetan rose from under 9 percent to 13 percent. The fertility rates given in Table 4 above make it quite clear that these demographic trends, which drive enrollments, will continue at least some decades into the future. The average current household size is 5.9 persons (5.7 persons for urban households, 5.9 persons for households in rural areas with roads, and 6.1 persons in rural areas without roads). Almost 73 percent of the population lives in the rural areas.

Table B : Population by Ethnicity, Total and Age 0-16 Cobort

Ethno Linguistic Group	Number of Ethnic Groups	Percent in Total population	Percent in population Age 0.16 years.
Lao-Tai	8	64.9	59.8
Mon-Khmer	32	22.6	25.1
Sino-Tibetan	7	2.8	3.0
Hmong-lu Mien	2	8.5	10.7
Other/No answer		1.2	1.5

Economy

Economic Growth - Lao PDR is predominantly a rural society with an agriculture-based economic structure. Improvement in social conditions and the creation of income, especially in rural areas are top government priorities. The integration of rural areas in to the national market economy is central to eliminating widespread poverty. Thus, rural development, both its social and physical dimensions, is considered key to the eradication of mass poverty and sustainable improvement in social well-being.

Since 1999 the economic growth (GDP per capita) has been moderately strong (average annual growth of 5 percent), following several years of decline associated with the Asian economic crisis of 1997.

From the mid 1980s, with introduction of the New Economic Mechanism (NEM) in 1986, the Gross Domestic Product (GDP) displayed relatively steady growth until the 1998/1999 fiscal year as a result of the Asian Economic Crisis. The Lao economy recovered the following year and has shown consistent growth since 1999 as well as a rise in GDP er

capita of over 50 percent from 2000 to 2005 (US Dollar value). According to the human development index in 2005, Lao PDR was ranked 133 among 177 countries, up from the 141 of the 173 countries in 1993.

Changing Structure of the Economy – Since the introduction of the New Economic Mechanism (NEM) in 1986, the industrial and service sectors have experienced high rates of growth, while the agricultural sector has shown a rapid decline. Still, as of 2005 agriculture contributed the largest share of the national economy, accounting for more than 44 percent of the GDP, Agriculture accounts for 70 percent of all hours worked and 80 percent of the labor force.

Labor Force - The economically active population comprises 67 percent of the population aged 10 years and older (58 percent in urban areas, 69 percent in rural areas with roads and 73 percent without roads). By far the largest categories of employment are ‘unpaid family workers’ (46 percent) and “own account workers” (self-employed, 42 percent).

Further detail on the population by economic activity is shown in Figure 5 below. In the past decade there has been relatively low internal migration, except for a substantial migration into Vientiane Capital City, coupled with the impact of Village Consolidation Schemes in the Focal Site Development Programme.

Overall internal migration recorded in 2005 was the same as in 1995. There is a small net emigration (estimated at approximately 0.1 percent), mostly people from rural to urban areas in the southern provinces. The movement of people from rural areas in the South across borders to urban areas has been encouraged by “the opening of borders, impact of globalization, labor market demand and widening economic differentials within and between countries” Many diverse factors, including natural disasters (mainly floods and droughts), unbalanced population growth (mainly high population growth in more remote areas with low economic growth) and strains on education and employment opportunities, have increased internal migration and both legal and illegal external migration.

Only 1.4 percent of the economically active population is counted as “unemployed”. This can be attributed to the nature of the labor market: (a) There is little in the way of unemployment “benefits”; (b) There is a large informal labor market; and (c) For many people, it is possible quite literally to live for some time off the “fruits of the land”.

National Development

In 1996, the 6th Lao People’s Revolutionary Party Congress called for the Country’s national long-term development goal: To graduate from the ranks of the LDCs by the year 2020 through sustainable economic growth and equitable social development, while at the same time safeguarding the country’s social, cultural, economic and political identity. Foundations have been laid for the building of the country to:

- Move consistently towards a market-oriented economy;
- Build up needed infrastructure throughout the country; and
- Improve the well-being of the people through greater food security, extension of social services, environmental conservation, and enhancement of the multi-ethnic population’s spiritual and cultural life.

National development efforts have taken place in three stages. These stages are closely interlinked and need to be developed simultaneously to ensure the progressive transition from an isolated, subsistence-based rural economy to a production and services economy that can coherently achieve the 2020 goal.

The *first stage* was the establishment and implementation of the NEM, which was launched by the Government in 1986 in order to gradually transform the economy from a centrally-planned to market-oriented model. The *Second stage* involved the structural transformation and capacity-building of the economy, with a focus on developing transport and communications networks, promoting national and regional integration, and moving towards becoming a full economic partner among countries in the region. The *third stage* involves “people-centered and sustainable development” which includes the achievement of basic food security, the preservation of natural resources and decentralization of

development responsibilities to enable greater public participation. The immediate aim is to enhance conditions everywhere in the country, enabling the multi-ethnic population to have access to what are considered the basics of sustainable development; food security, market opportunities, education and health.

Poverty and Social Development

Poverty is multidimensional and manifests itself in different forms. It is more than a problem of inadequate income. In 2001, the Lao Government defined poverty as follows:

“Poverty means the lack of essential needs of daily lives such as the lack of foods (possession of foods that are less than 2100 calories/head/day), the lack of clothing, the non-possession of permanent accommodations, unaffordable fees of medical treatments in case of illness, unaffordable payments for self education as well as that of members of the family and unavailable conditions for convenient communications.”

Quantitative data on the incidence of expenditure, consumption or income poverty (henceforth referred to as *income poverty*) in the Lao PDR are compiled through the Lao Expenditure and Consumption Surveys (LECS) conducted in 1992/1993 (LECS 1), 1997/1998 (LECS 2) and 2002/2003 (LECS 3). The incidence of income poverty (headcount index) declined from 46 percent in 1992/1993 to 39 percent in 1997/1998 and to 34 percent in 2002/2003. This impressive declining trend in poverty incidence, if continued, would enable the country to achieve the Millennium Development Goal 1 of reducing the proportion of people below the poverty line by half by 2015 (as compared to 1990). Some basic indicators on poverty and poor district classification based on this definition are shown in Table C below:

Table C: Poverty and Poor District Classification

Indicators (in %)	Type of District			
	47 Poorest Districts	25 Poor Districts	70 Non-Poor Districts	Total 142 Districts
Average Poverty Incidence (proportion of poor households)	64	38	23	39
Average population share (district population/total populations)	0.5	0.5	0.9	0.7
Average poor population share (district poor/total poor population)	2.1	0.6	0.6	0.7
Percentage of district to total population	24.3	13.5	61.4	NA
Percentage of poor to total poor population	46.9	15.3	37.8	NA
Percentage of poor	NA	50.6	18.9	NA

Source: Skills Development for Disadvantaged Groups – Review, Issues and Prospects, Lao PDR, UNESCO 2005.

Like income, other dimensions of poverty have shown considerable improvements in the past decade. Life expectancy now exceeds 60 years, as compared to 50 years in 1990. During the same period infant mortality declined from 120 per 1,000 live births in 1990 to 82. Under-five mortality declined from 163 per 100,000 live births in 1990 to 115, and

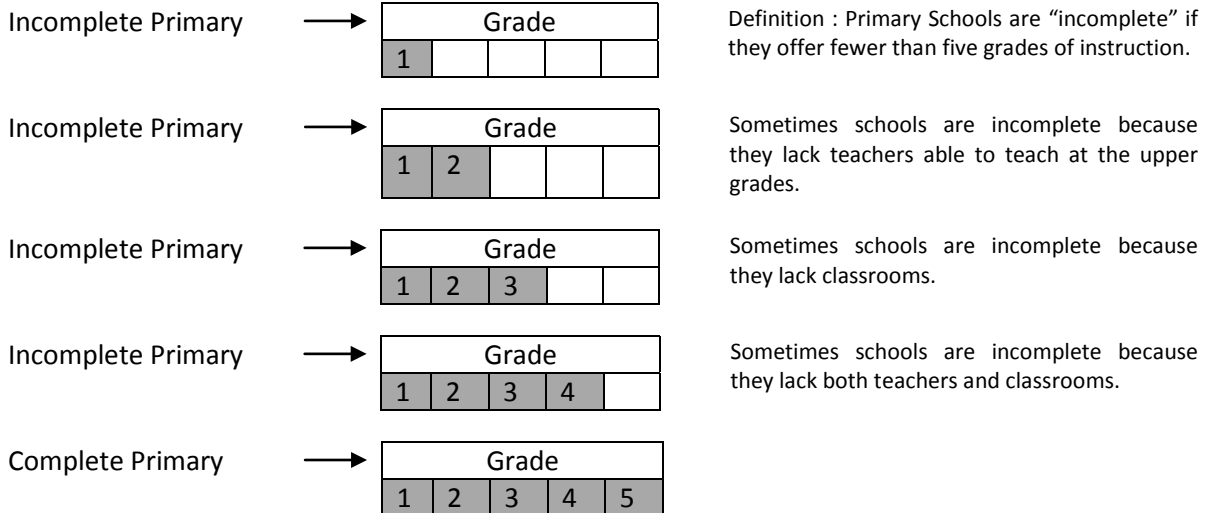
maternal mortality declined from 650 to 350. Adult literacy rose from 43 percent to 53 percent, with both men and women sharing in the improvement. The net enrollment in primary education has increased from 61 percent to 85 percent in 2004/2005.

Access to health services, safe water and roads has improved modestly during the past fifteen years. In terms of the MDGs, Lao PDR seems to be on track to achieve the target on under-five mortality, but may have difficulty in meeting the target maternal mortality if the past trend continues. The effects of poverty on poor families are degrading. The consequences of poverty are also detrimental to economic advancement, social harmony and political stability. The development of the productive potentials of the poor, women and other vulnerable groups, would contribute to rapid economic growth and sustainable development. It would reduce negative externalities such as crime, the spread of diseases and environmental degradation. Poverty reduction is to be addressed through policies and programs that help redistribute the growing opportunities, incomes, services and choices to the poor in the multi-ethnic population of the Lao PDR. Therefore, poverty reduction is seen to be economically sound, socially just and politically worthy.

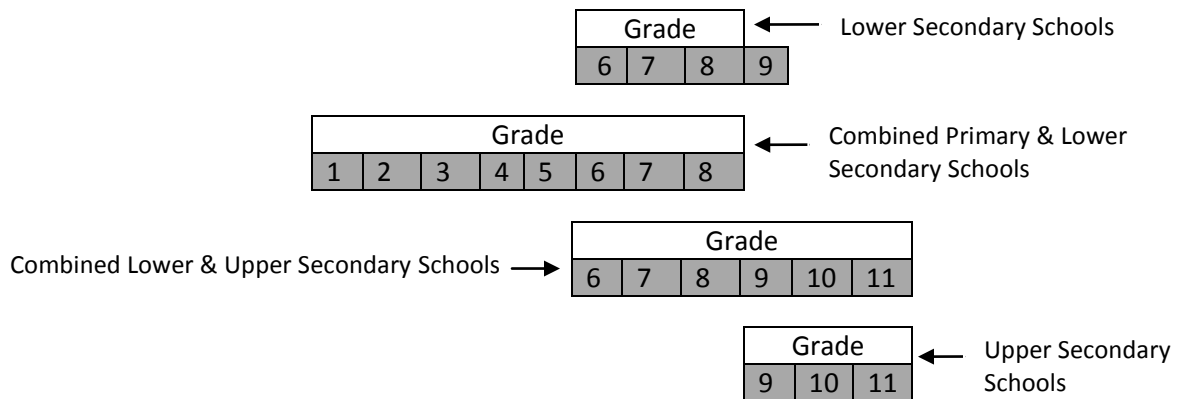
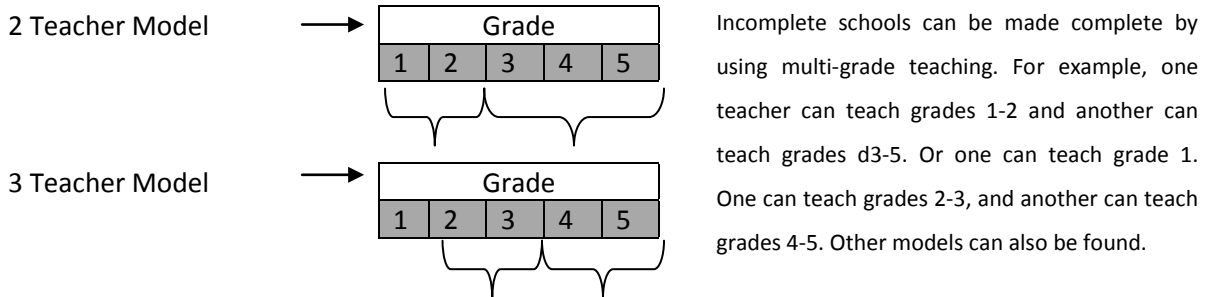
The Education Sector of Lao - Description of the Education Sector and Structure of the Education System - Figure 1.15 Primary and Secondary School Forms

Normal Age Cohort																						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

Single Grade Schools



Multi-grade Complete Schools



Following the conventions of the International Standard Classification for Education (ISCED), it comprises:

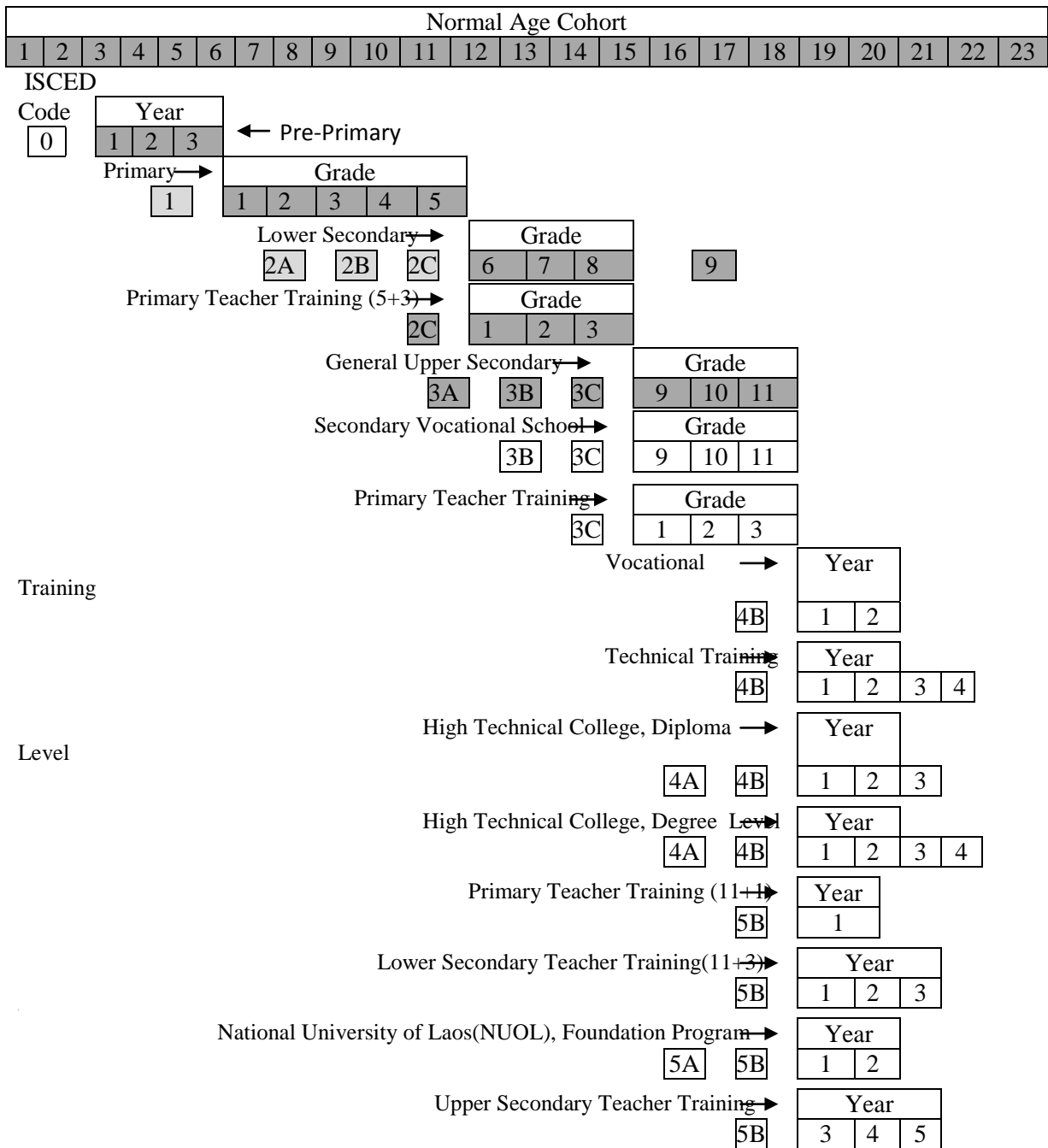
- 0 – Pre-primary education;
- 1 – Primary education;
- 2 – Lower secondary education;
- 3 – Upper secondary education;\
- 4 – Post secondary non-tertiary education
- 5 – First stage tertiary education (bachelor lever); and
- 6 – Second stage of tertiary, leading to advanced research qualification (MA, PhD)

Levels 2 – 5 are sub-divided into forms A, B and C where A leads to several further levels of education, B leads to a “terminal” program C, which does not give access to further education and is expected to lead directly to the labor market.

Pre-primary education consists of crèches and kindergarten schools for three to five year olds, as well as primary schools that provide pre-primary classes. All aim to support the development of children and allow for a smooth transition into primary education.

Primary education consists of five years and is compulsory. Lower secondary education consists of three years, as does upper secondary education. By 2010, the present 5+3+3 system (shown in Figure 1.16 below), with 8 years of basic education, will evolve to the international standard of 9 years of basic schooling through a 5+4+3 structure (shown by the addition of Grade 9 in the red box below).

Figure 1.16 : Structure of the formal education system.



Post-secondary education in technical schools of one to two years, and three to seven years of tertiary education are offered by technical and teacher training colleges and the National University of Laos (NUOL). Even more than is the case of pre-primary schools, the private

sector has contributed to the rapid growth of in private post-secondary fee-paying colleges mainly offering programs in business, computing, tourism or English language. In addition to the formal education programs there are non-formal education (NFE) program being offered to out of school youth and adults. The programs include basic literacy and numeracy training and a wide range of other vocational and skills based programs.

Management of the Education System

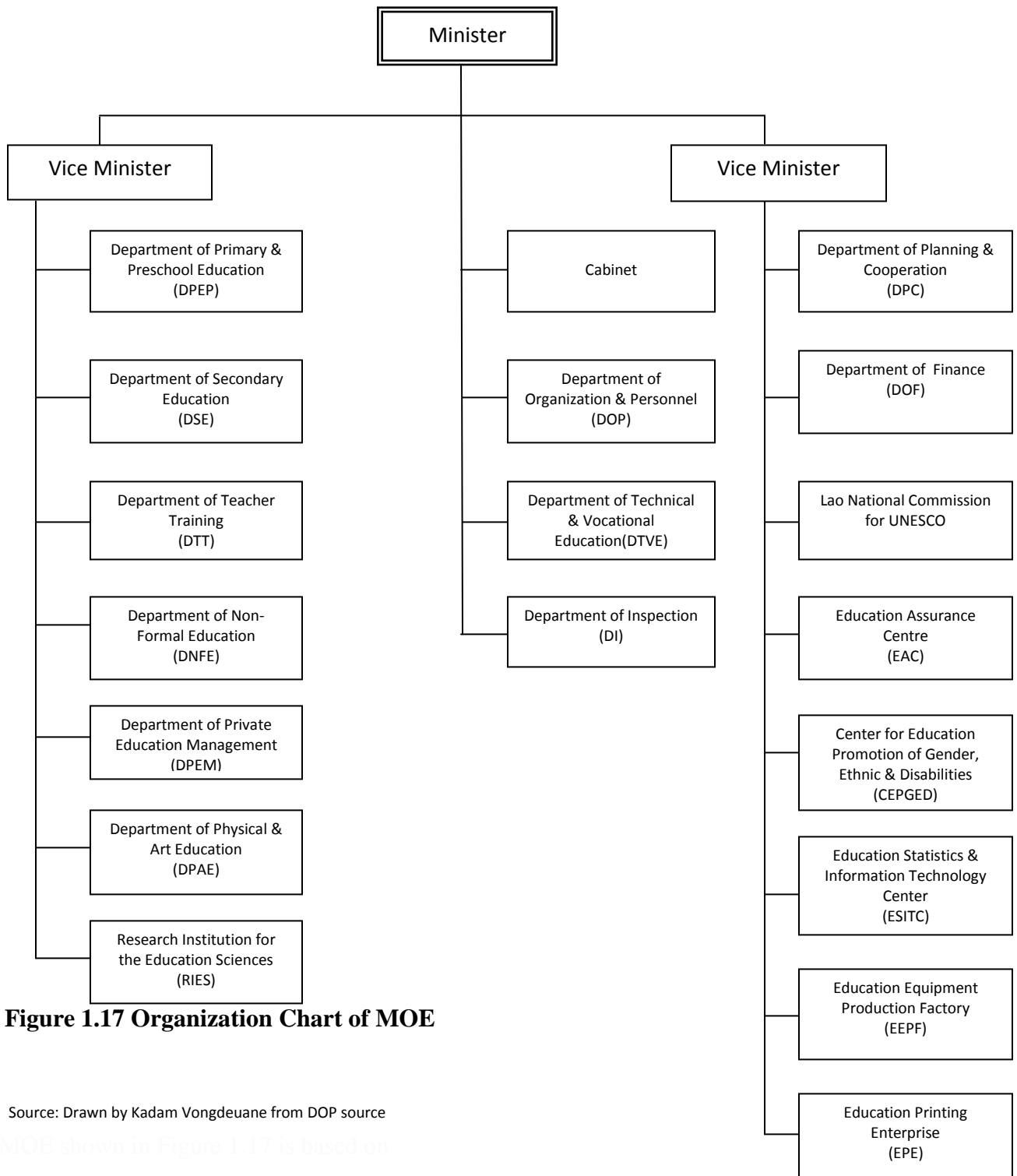


Figure 1.17 Organization Chart of MOE

Source: Drawn by Kadam Vongdeuane from DOP source

MOE shown in Figure 1.17 is based on

MOE therefore is responsible for formal and non-formal education at all levels, for both public and private education. However under the Government's de-concentration process, initiated in 2000, MOE shares responsibilities with the Provincial Education Services (PES) and the District Education Bureau (DEB) as stated Article 62 of the new Education Law 2007.

Private Sector - The private sector is encouraged to participate and invest in education which is stated in Article 60 and 61 of the new education law.

Article 60 : Investment Policy

The Government authorizes individuals, cooperation, and internal and external private organizations to invest in education by establishing schools, learning centers and education institutions; opening teaching-learning in accordance with the national education system and conform to the curriculum approved by the Ministry of Education, in order to provide services to society and get appropriate payment of fees from learners. The investment shall be in different ways in accordance with the Law of enterprises.

Article 61 : Management principles

The Government has the responsibilities to define regulations, principles and privileges concerning the organization, the running and the management of private schools, learning centers and education institutions.

Financing Education

Organization and Sources of Public Financing of Education

In Lao PDR the fiscal year (FY) commences on 1st October and ends on 30th September the following year. Based on instructions from the Office of the Prime Minister and the budget planning system, the Ministry of Planning and Investment (MPI) and the Ministry of Finance (MOF) prepare detailed guidelines and send them to the line ministries and

provinces. The line ministries and provinces are responsible for budget preparations at Central and provincial level. This process is shown in Figure 9 below:

MOE is responsible for primary, secondary, tertiary and non-formal education. Based on its annual budget request, a number of quota (civil servant) teachers and education administration are allocated for the education sector. MOE is the largest of fourteen ministries. According to the Revised Education Law 2007, educational administration and management organization composed of: three levels (1) Ministry level; (2) Provincial Educational Services (PES) and (3) District Education Bureau (DEB). There are over 15 departments in MOE (see Figure 8). Each department has its own responsibility, administrative arrangements and relationship to the provincial and district services.

The 1991 Constitution laid the foundation for a national budget based on the concept of a unified, decentralized state. Provinces and districts formulate budgets. The budget, authorized by the National Assembly; defines revenue targets and allocates expenditures for the center and for the provinces. In 2000, the “deconcentration decree” extended this framework by granting provinces wide responsibilities for fiscal management. This decree established “provinces as the strategic unit, districts as the planning unit and villages as the implementing unit.”

The decentralized fiscal structure is based on an “upward revenue sharing” system in which most revenue is collected by the provinces. “Surplus” provinces are to transfer surplus revenues to the center to fund both central government expenditures and transfers to the “deficit” provinces. Provincial governors play a very important role in public financial management. Inter-sectoral budget resource flows are horizontal instead of vertical. The provincial and district governments administer a large proportion of the central assigned taxes.

Budgeting and Planning

At the provincial level, the budget amounts spent on each sector (or as a share of total budget expenditure) vary widely across provinces and districts. Such variations have

implications for education expenditure and development. Simplification of the decision-making processes that control the flow of funds from the central level to the school level (via the provincial and district levels) is required along with capacity development.

The PES plans must be approved by the governor's office, as well as the provincial MOF and the MPI. The PES communication lines with those provincial services are much stronger than with MOE; hence the execution of national policies is highly dependent on governors' priorities.

Three critical issues remain:

- The development of outcome-oriented budgeting;
- A review of the Deconcentration Decree so as to enhance its authority to ensure (i) equity of resources across provinces and (ii) implementation of national policies in the education sector; and
- A review of resource redistribution mechanisms across provinces.

The procedures of annual budgeting and planning preparation for education in Lao PDR consists of 14 actions that follow a "top-down" process, followed by a "bottom-up", process, which is finalized with a second "top-down" process. All phases of the educational planning and budgeting process (preparation and adoption) are indicated.

After the National Assembly approves the budget plan, MOF and MPI announce the provincial recurrent and capital budget allocation amounts to all line ministries and provinces. Then the Provincial Finance Services (PFS) and Provincial Planning Services (PPS), in turn, announce the recurrent and investment budget to the PES. Arrangements for the PESs to report to the MOE, Department of Finance (DOF) and the Department of Planning and Co-operations (DPC) are incomplete making the monitoring and tracking of the budget very difficult.

In practice, at the provincial level, the governor has the authority for the allocation, authorization and revision of both recurrent and capital implementations. The implementation education budget is dependent on the governor, as well on the provincial

financial situation; those provinces that have sufficient revenue can implement more easily and effectively.

Education Finance

Education is financed out of public resources, with four notable exceptions. First, there is the private sector which has grown very quickly from 2000/2001 to 2004/2005 including school, primary, secondary, technical colleges and universities (as shown in Table D below)

Table D Growth of private educational institutions

Institution	2000/2001		2004/2005	
	Schools	Students	Schools	Students
Pre-School	111	6,350	136	11,820
Primary	83	15,202	105	21,020
Secondary	19	2,704	34	6,198
TVET centre	42	6,021	63	7,369
Technical (mid-level)	2	199	11	2,633
Technical (high level)	0	0	31	14,317
College	7	4,187	15(2002/03)	4,745
University	0	0	7	3,893

Source : Department of Private Education, MOE

While demand for private, primary and secondary education is fostered by the search for better quality, motivated teachers and discipline, the demand for post-secondary education is motivated by the acquisition of skills in high demand on the labor market (e.g. business management, information technology and English), especially in the fast growing service

sector. Second, in vocational and technical education, teacher training, and higher education, two parallel programs are offered: (a) Daytime, “regular” courses, followed by quota students, admitted in limited numbers based on their scores and benefiting from a scholarship and competition students admitted on the basis of a competitive exam, but not receiving a scholarship; and (b) Evening “special” courses, accessible to all students who have graduated from the relevant level of education (as shown in Table E below).

Table E: Vocational Technical and Higher Education Students by Program and Education Level (2004/2005)

Program	Quota	Competition	Special Courses
Vocational education (MOE)	1,214	1,153	754
Vocational education (other ministries)	165	74	165
Technical education (MOE)	921	1684	6,414
Technical education (other ministries)	1,695	1,133	990
NUOL (bachelor program)	3,283	2,823	3,107
Champasack (bachelor program)	1,023	487	572
Souphanuvong (bachelor program)	666	227	96
NUOL (higher diploma)	206	468	2,157
Champasack (higher diploma)	196	294	0
MOE (higher diploma)	42	160	151
Total	9,411	8,503	14,406

Table F below shows that all students, including quota students pay registration fees, in addition students in special courses have to pay fees.

Table F : Fees by Program and Education Level, 2005/06 (Kip 1000)

Program	Quota & Competition		Special Course	
	Minimum fee	Maximum fee	Minimum fee	Maximum fee
Vocational education (8+3)	NA	822	2,047	2,049
Technical education (11+2 & 11+3)	NA	822	2,047	2,049
University (higher diploma)	542	622	1,227	1,307
University (bachelor program)	496	576	1,176	2,096

Source : MOE/ESITC

Fees are budgeted and used to pay allowances to teachers and non-teaching staff, operation maintenance (O&M) and minor repairs. They represent a significant share of recurrent expenses at those levels.

Third, although primary education is compulsory by law, for both primary and secondary education, parents pay minor registration, graduation and other fees, as do communities, generally in kind (see Section 2.5 Household Financing of Education)

Fourth, multi-lateral and bilateral agencies and non-governmental organizations (NGOs) fund a very high share of the investment budget, as shown in Table 13 in Section 2.4.3 below. External funding is allocated mainly to development projects focusing on primary

education, especially in the poorest districts, but also to vocational, technical and higher education. Considering the contribution of students to the recurrent budget, and the role of external funding in the investment budget, the actual share of public resources going to the education budget is limited. The integration of non-public resources in the public budget tends to overestimate the contribution of public resources to education.

Structure of Public expenditure on Education

Development of the Education Budget

Public expenditure on education has almost recovered from the financial crisis of the late 1990s. After improving substantially during the first part of the 1990s, overall public expenditure virtually collapsed with the onset on macro-economic difficulties and was worsened by the Asian financial crisis of 1997 to 1998. Recovery took place during the first half of the decade beginning 2000, and by 2006 and 2007 public educational expenditure has almost recovered its level of 1995, both in relation to GDP and as a proportion of total public spending as shown in Table J below:

Table G : Lao PDR Public Expenditure on Education 1990/91 to 2006/07 %

Indicator	90/91	94/95	99/00	04/05	05/06	06/07
Education budget as % of GDP	1.9	3.6	1.4	2.3	3.2	3.2
Education as % total GOL	7.2	13.9	7.2	11.0	14.0	15.0

Sources : Data for 2005-2006 and 2006-07 have been provided by the Moe/DPC. Data for 2004 to 2005 are estimates by MOE reported in UNESCO and ADB 2005b. Data for earlier years are from R. Noonan, *Education Financing in Lao PDR, Part I: Patterns of Expenditure in a Turbulent Decade of Transition (1990-2000)*, SIDA/World Bank 2001.

However, this recovery derives from a strong increase in the investment budget and does not imply any improvement in the share of domestic funding or in the ratio of recurrent in investment budget, rather the opposite, as shown in Table J .

Recurrent versus Investment Budget

The dominant features of recent public expenditure are the high proportion of capital spending and the high percentage of donor-financed spending. At the beginning of the 1990s, capital spending amounted to less than 5 percent of total public expenditure, with no foreign finding. Since 2004/2005, foreign funds account for over 90 percent of educational investment. As a consequence, 57.8 percent of the total education budget was externally funded in 2005/2006.

It might be observed that the recurrent to investment ratio is declining, as can be seen in Table J in Section 2.4.3 below. If recurrent spending is too low relative to investment, schools will be built in which successful teaching cannot take place due to the lack of operating funds to pay teachers, buy text books, or carry out essential maintenance. However, less than 20 percent of ODA in education consists presently of “classic” infrastructure activity. Most ODA is capacity building or training.

Structure of the Recurrent Budget

The recurrent budget essentially pays salaries and benefits, scholarships and O&M expenses for MOE, PEs, DEBs, teacher education institutions (TEIs), vocational and technical institutions (VTIs) and universities. The share of salaries in the recurrent budget has improved recently as a consequence of the increase of salaries. (as shown in figure H)

Table H: Salary and Scholarship increase

Category	1995-96	1999-00	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Salaries	82.2	67.4	75.4	77.6	82.9	78.4	86.0	80.8
Scholarships	NA	NA	8.3	7.4	6.2	15.9	4.9	7.4
O&M	NA	NA	16.3	15.0	10.9	5.7	9.1	11.8
TOTAL	NA	NA	100.0	100.0	100.0	100.0	100.0	100.0

Source :Calculated from MOE data. The rise in salary levels is confirmed by studies including a direct assessment of individual salaries. Average staff salaries are shown in Table I below :

Table I : Average staff salaries by sub-sector (million Kip)

Institution	Institution			
	Salaries	N° Staff	Average staff Salary (ASS)	Ass in GDP/Cap
Preschool	11,187.0	2,014	5.555	1.047
Primary	154,395.7	27,755	5.563	1.048
Secondary	91,669.5	15,953	5.746	1.483
Vocational	8,245.7	1,048	7,868	1.483
Teacher training	5,827.9	679	8.583	1.617
Higher education	28,894.8	1,560	18.522	3.490

Administration	27,916.0	4,371	6.387	1.203
Total	328,136.6	53,380	6.147	1.158

Source: Calculated from MOE data.

Table J: Recurrent and Investment Budget (Billion Kip, 2001/02 to 2006/07)

Item	01/02	02/03	03/04	04/05	05/06	06/07
Education Budget	386.1	451.9	457.5	658.1	1,033.4	1,189.9
Recurrent	184.7	185.8	246.6	304.7	383.1	430.5
Capital	201.5	266.1	210.9	353.4	650.3	759.4
Recurrent as % of education	47.8	41.1	53.9	46.3	37.1	36.2
Investment as % of education	52.2	58.9	46.1	53.7	62.9	63.8
% domestically financed	40.8	23.9	18.1	7.8	8.2	4.4
% foreign financed	59.2	76.1	81.9	92.2	91.8	95.6
Education budget as % of GDP	2.30	2.35	2.45	2.49	3.19	3.20
Recurrent as % of GDP	1.0	1.0	1.0	1.1	1.18	1.16
Investment as % of GDP	1.3	1.4	1.5	1.4	2.01	2.04
% foreign financed	30.9	44.8	37.8	49.5	57.8	61.0
Education budget as % GOL budget	10.1	10.8	10.8	11.0	14.0	15.0
Recurrent as % GOL recurrent budget	10.0	10.4	8.7	8.7	10.2	9.4
Investment as % GOL capital budget	10.2	11.0	12.6	14.2	17.8	22.6

Notes :

1. The education budget is calculated as a percentage of total public expenditure, recurrent and investment.
2. Recurrent is calculated as a percentage of total public recurrent expenditure.
3. Capital is calculated as a percentage of total capital expenditure.
4. Figures for 2006/2007 are preliminary estimates.

The number of scholarships has increased recently, which explains why their share in the budget has remained more or less constant around 7 percent in spite of the increase of salaries.

Distribution of the Recurrent Budget by Sub-sector

The share of the recurrent budget allocated to each sub-sector is shown in Table K. Since the beginning of the decade, the shares of the total expenditure allocated to primary and lower secondary education has shown a slight decline and the shares allocated upper secondary and higher education have increased.

As a consequence of the expansion of primary and lower secondary education enrolments as upper secondary, technical and vocational, teacher training and higher education have recently increased. Future budgets will encompass this change whilst continuing to respond to the policy focus on basic education and the achievement of EFA. Through public expenditure management reforms (such as per capita budget allocations for basic education) and improvements in management information systems it should be possible to ensure that, by 2009, Nam Theun II revenues are properly directed to basic social services, including primary and lower secondary education for disadvantaged populations.

Sub-sector	94/95	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07
ECCD	3.3	3.6	3.1	2.6	2.4	2.1	2.5	3.1	3.1
Primary	45.9	48.7	44.0	39.5	41.9	36.2	42.8	42.2	42.9
Lower secondary	16.9	16.7	16.6	16.6	14.9	13.5	12.7	12.4	12.7
Upper secondary	7.1	8.3	10.8	13.3	13.4	12.7	15.7	14.3	14.3
TVET	6.5	2.6	4.4	6.2	6.0	7.8	3.2	3.5	3.3
Teacher education	4.8	2.7	4.9	7.2	7.2	9.1	4.2	4.0	3.8
Higher education	8.4	6.8	6.8	6.8	6.5	9.9	10.9	11.8	11.6
NFE	Na	Na	0.9	1.9	1.5	2.5	0.4	0.5	0.4
Admin. & man.	7.2	11.1	8.5	6.0	6.3	6.1	7.7	8.3	8.0
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table K Source : Estimates based on data from MOE/DOF; figures for 2000/01 are interpolations between 1999/2000 and 2001/02, figures for 2006/2007 are preliminary projections.

Unit Costs

Unit costs values of primary education in Lao PDR is 3.2 percent of the GDP per capita, as shown in Table L below. This indicates that the international norms are not being met. The

international developing country ratio for the unit cost of primary education as a proportion of GDP per capita varies from 7 to 14 percent. The ratio for lower secondary for Lao PDR is 3.4 percent compared to a range of 20-24 percent typical of other Asian developing countries. These low unit costs are reflected in the short supplies of teaching and learning resources. Each higher education student costs the equivalent of 8 primary students. While there was a major rationalization of teacher colleges in the late 1990s it is apparent that the cost structure of teacher education needs further attention. Its unit costs substantially exceed any other sub-sector of education, due in part to the high proportion of student-teachers getting a scholarship (quota students).

Table L: GDP per capita

Unit Cost	Primary	Lower secondary	Upper secondary	TVET	Teacher education	Higher
US\$	17.7	18.6	35.2	103.6	131.3	127.3
As % of GDP/Capita	3.2	3.4	6.4	19.0	24.0	23.3

Brief History of Laos as a Country

Laos traces its history to the Kingdom which existed from the 14th to the 18th century when it split into three separate kingdoms. In 1893, it became a French protectorate, with the three kingdoms, Kingdom of Luang Phrabang, Kingdom of Vientiane and Kingdom of Champasak, uniting to form what is now known as Laos. It briefly gained independence in 1945 after Japanese occupation, but returned to French rule until it was granted autonomy in 1949. Laos became independent in 1954, with a constitutional monarchy under Sisavang Vong. Shortly after independence, a long civil war ended the monarchy, when the Communist Pathet Lao movement came to power in 1975.

Laos is a single-party socialist republic. The capital city is Vientiane. Other large cities include Luang Prabang, Savannakhet and Pakse. The official language is Lao. Most people are Lao with a significant proportion of indigenous religion as well. It is a rising power in electricity to neighboring countries such as Thailand, China and Vietnam and the economy is accelerating rapidly with the demands of its metals. It is a member of the Asia Pacific Trade Agreement (APTA), Association of Southeast Asian Nations (ASEAN), East Asia Summit and La Francophonie. Laos applied for membership of the World Trade Organization (WTO) in 1997.

Geography

Laos is a landlocked country in Southeast Asia, lying mostly between latitudes 14° and 23°N (a small area is south of 14°), and longitudes 100° and 108°E. Its thickly forested landscape consists mostly of rugged mountains, the highest of which is Phou Bia at 2,818 metres (9,245 ft), with some plains and plateaus. The Mekong River forms a large part of the western boundary with Thailand, whereas the mountains of the Annamite Chain form most of the eastern border with Vietnam. The climate is tropical and monsoon.

There is a distinct rainy season from May to November, followed by a dry season from December to April. Local tradition holds that there are three seasons (rainy, cold and hot) as

the latter two months of the climatologically defined dry season are noticeably hotter than the earlier four months. The capital and largest city of Laos is Vientiane and other major cities include Luang Prabang, Savannakhet and Pakse.

In 1993, the Laos government set aside 21% of the nation's land area for Habitat conservation preservation.^[15] The country is one of four in the opium poppy growing region known as the "Golden Triangle". According to the October 2007 UNODC fact book "Opium Poppy Cultivation in South East Asia," the poppy cultivation area was 15 square kilometres (5.8 sq mi), down from 18 square kilometres (6.9 sq mi) in 2006.

Laos can be considered to consist of three geographical areas, North, Central and South.

Administrative divisions

Laos is divided into 16 provinces (qvang) and one prefecture (Nakhonluang ViengChan) which includes Vientiane Capital (Na Kone Luang Vientiane). Provinces are further divided into districts (muang) and then villages (baan). An 'urban' village is essentially a town.



Figure 1.18: Province map of Laos

Number	State	Capital	Area (km ²)	Population
1	Attapeu	Attapeu	10,320	114,300
2	Bokeo	Ban Houayxay	6,196	149,700
3	Bolikhamtai	Paksan	14,863	214,900
4	Champasak	Pakse	15,415	575,600
5	Hua Phan	Xam Neua	16,500	322,200
6	Khammouane	Thakhek	16,315	358,800
7	Luang Namtha	Luang Namtha	9,325	150,100
8	Luang Phrabang	Luang Phrabang	16,875	408,800
9	Oudomxay	Muang Xay	15,370	275,300
10	Phongsali	Phongsali	16,270	199,900
11	Sainyabuli	Sainyabuli	16,389	382,200
12	Salavan	Salavan	10,691	336,600
13	Savannakhet	Savannakhet	21,774	721,500
14	Sekong	Sekong	7,665	83,600
15	Vientiane Prefecture	Vientiane	3,920	726,000
16	Vientiane Province	Muang Phon-Hong	15,927	373,700
17	Xieng Khaung	Phonsavan	15,880	37,507

Government and politics

Laos is a communist single-party socialist republic. The only legal political party is the Lao People's Revolutionary Party (LPRP). The head of state is President Choummaly Sayasone, who is also the General Secretary of the Lao People's Revolutionary Party. The head of government is Prime Minister Thongsing Thammavong. Government policies are determined by the party through the all-powerful nine-member Politburo and the 49-member Central Committee. Important government decisions are vetted by the Council of Ministers.

Human rights in Laos

The Constitution that was promulgated in 1991 and amended in 2003 contains most key safeguards for human rights. For example, in Article 8 it makes it clear that Laos is a multiethnic state and is committed to equality between ethnic groups. The Constitution also has provisions for gender equality and freedom of religion, for freedom of speech, press and assembly. On 25 September 2009, Laos ratified the International Covenant on Civil and Political Rights, nine years after signing the treaty. The policy objectives of both the Lao government and international donors remain focused toward achieving sustainable economic growth and poverty reduction.

However, Amnesty International has raised concerns about the ratification record of the Laos Government on human rights standards and its lack of cooperation with the UN human rights mechanisms and legislative measures which impact negatively on human rights. It has also raised concerns in relation to freedom of expression, poor prison conditions, restrictions on freedom of religions, protection of refugees and asylum-seekers and the death penalty.

In October 1999, 30 young people were arrested for attempting to display posters calling for peaceful economic, political and social change in Laos. Five of them were arrested and subsequently sentenced to up to 10 years imprisonment on charges of treason. One has since died due to his treatment by prison guards, while one has been released. The surviving three men should have been released by October 2009, but their whereabouts remains unknown.

Tourism

The tourism sector has grown rapidly, from 80,000 international visitors in 1990, to 1.876 million in 2010. Tourism is expected to contribute US\$679.1 million to gross national product in 2010, rising to US\$1,585.7 million by 2020. In 2010, one in every 10.9 jobs was in the tourism sector. Export earnings from international visitors and tourism goods are expected to generate 15.5% of total exports or US\$270.3 million in 2010, growing in nominal terms to US\$484.2 million (12.5% of total) in 2020.

Recently, Laos has become popular with tourists for its relaxed style of living and reputation for having elements of the "original Asia" lost elsewhere. The official tourism slogan is "Simply Beautiful". The main attractions for tourists include Buddhist culture and colonial architecture in Luang Prabang; gastronomy and ancient temples in the capital of Vientiane; backpacking in Muang Ngoi Neua and Vang Vieng; ancient and modern culture and history in The Plain of Jars region (main article: Phonsavan); trekking and visiting hill tribes in a number of areas including Phongsaly and Luang Namtha; caves and waterfalls near Thakhek; relaxation, the Irrawaddy dolphin and Khone Phapheng Falls at Si Phan Don or as they are known in English, the Four Thousand Islands; Wat Phu, an ancient Khmer temple complex; and the Bolaven Plateau for waterfalls and coffee.

Luang Prabang and Wat Phu are both UNESCO World Heritage sites, with the Plain of Jars expected to join them once more work to clear UXO has been completed. Major festivals include Laos New Year which is celebrated around April 13–15 and involves a Water Festival similar but more subdued than that of Thailand and other South-East Asian countries.

The Lao National Tourism Administration, related government agencies and the private sector are working together to realise the vision put forth in the country's National Ecotourism Strategy and Action Plan. This includes decreasing the environmental and cultural impact of tourism; increasing awareness in the importance of ethnic groups and biological diversity; providing a source of income to conserve, sustain and manage the Lao

protected area network and cultural heritage sites; and emphasizing the need for tourism zoning and management plans for sites that will be developed as ecotourism destinations.

Laos is known for its silk and local handicraft products - both of which are on display in Luang Prabang's night market, among other places. Another specialty is mulberry tea.

Demographics

The term "Laotian" does not necessarily refer to the Lao language, ethnic Lao people, language or customs, but is a political term that also includes the non-ethnic Lao groups within Laos and identifies them as "Laotian" because of their political citizenship. Laos has the youngest population of any country in Asia with a median age of 19.3 years.

Laos' population was estimated at 6.8 million in early 2009, dispersed unevenly across the country. Most people live in valleys of the Mekong River and its tributaries. Vientiane prefecture, the capital and largest city, had about 740,010 residents in 2008. The country's population density was 27/km².

Languages

The official and dominant language is Lao, a tonal language of the Tai linguistic group. However only slightly more than half of the population can speak Lao, the remainder speaking various ethnic minority languages, particularly in rural areas. The written language is based on Khmer writing script. Midland and highland Lao speak an assortment of tribal languages. French, still common in government and commerce, is studied by many, while English, the language of the Association of Southeast Asian Nations (ASEAN), has become increasingly studied in recent years.

Health

Male life expectancy at birth was at 63.2 and female life expectancy was at 65.9 in 2007. Healthy life expectancy was at 54 in 2006. In 2006, two fifths of the population were not

using an improved water resource. Government expenditure on health is at about 4 % of the GDP. Its amount was at US\$ 18 (PPP) in 2006.

Religion

Of the people of Laos 67% are Theravada Buddhist, 1.5% are Christian, and 31.5% are other or unspecified according to the 2005 census. Buddhism has long been one of the most important social forces in Laos.

Theravada Buddhism along with the common animism practiced among the mountain tribes, coexists peacefully with spirit worship. Christians are mostly restricted to the Vientiane area, and Muslims to the Myanmar border region. Christian missionary work is regulated by the government.

Thailand – Country Profile

Thailand - Officially the Kingdom of Thailand and formerly known as Siam, is a country located at the center of Southeast Asia. It is bordered to the north by Burma and Laos, to the east by Laos and Cambodia, to the south by the Gulf of Thailand and Malaysia, and to the west by the Andaman Sea and the southern extremity of Burma. Its maritime boundaries include Vietnam in the Gulf of Thailand to the southeast and Indonesia and India in the Andaman Sea to the southwest.

The country is a kingdom, with most recorded reigns in the world; a constitutional monarchy with King Bhumibol Adulyadej, the ninth king of the House of Chakri, who has reigned since 1946, making him the world's longest-serving current head of state and the longest-reigning monarch in Thai history. The king is officially titled Head of State, the Head of the Armed Forces, an Upholder of the Buddhist religion, and the Defender of all Faiths.

Thailand is the world's 50th largest country in terms of total area (slightly smaller than Yemen and slightly larger than Spain), with a surface area of approximately 513,000 km² (198,000 sq mi), and the 21st most-populous country, with approximately 64 million people. The largest city is Bangkok, the capital, which is also the country's center of political, commercial, industrial and cultural activities. About 75% of the population is ethnically Thai, 14% is of Chinese origin, and 3% is ethnically Malay; the rest belong to minority groups including Mons, Khmers and various hill tribes. The country's official language is Thai. The primary religion is Buddhism, which is practiced by around 95% of all Thais.

Thailand experienced rapid economic growth between 1985 and 1995 and is a newly industrialized country with tourism, due to well-known tourist destinations such as Ayutthaya, Pattaya, Bangkok, Phuket, Krabi, Chiang Mai, and Ko Samui, and exports contributing significantly to the economy. There are approximately 2.2 million legal and illegal migrants in Thailand. Thailand has also attracted a number of expatriates from developed countries.



Figure 1.19 Map of Thailand

History

The region known as Thailand has been inhabited by humans at least since the Paleolithic period, about 40,000 years ago. Similar to other regions in Southeast Asia, it was heavily influenced by the culture and religions of India, starting with the kingdom of Funan around the 1st century CE.

After the fall of the Khmer Empire in the 13th century, various states thrived there, such as the various Tai, Mon, Khmer and Malay kingdoms, as seen through the numerous archaeological sites and artifacts that are scattered throughout the Siamese landscape. Prior to the 12th century however, the first Thai or Siamese state is traditionally considered to be the Buddhist kingdom of Sukhothai, which was founded in 1238.

Following the decline and fall of the Khmer empire in the 13th–14th century, the Buddhist Tai kingdoms of Sukhothai, Lanna and Lan Xang (now Laos) were on the ascension. However, a century later, the power of Sukhothai was overshadowed by the new kingdom of Ayutthaya, established in the mid-14th century in the lower Chao Phraya River or Menam area.

Ayutthaya's expansion centered along the Menam while in the northern valley the Lanna Kingdom and other small Tai city-states ruled the area. In 1431, the Khmer abandoned Angkor after the Ayutthaya forces invaded the city. Thailand retained a tradition of trade with its neighbouring states, from China to India, Persia and Arab lands. Ayutthaya became one of the most vibrant trading centres in Asia. European traders arrived in the 16th century, beginning with the Portuguese, followed by the French, Dutch and English.

After the fall of Ayutthaya in 1767 to the Burmese, King Taksin the Great moved the capital of Thailand to Thonburi for approximately 15 years. The current Rattanakosin era of Thai history began in 1782, following the establishment of Bangkok as capital of the Chakri dynasty under King Rama I the Great. According to *Encyclopædia Britannica*, "A quarter to

a third of the population of some areas of Thailand and Burma were slaves in the 17th through the 19th centuries."

Despite European pressure, Thailand is the only Southeast Asian nation that has never been colonized. This has been ascribed to the long succession of able rulers in the past four centuries who exploited the rivalry and tension between French Indochina and the British Empire. As a result, the country remained a buffer state between parts of Southeast Asia that were colonized by the two colonizing powers, Great Britain and France.

Western influence nevertheless led to many reforms in the 19th century and major concessions, most notably being the loss of a large territory on the east side of the Mekong to the French and the step-by-step absorption by Britain of the Malay Peninsula.

20th century

The losses initially included Penang and eventually culminated in the loss of four predominantly ethnic-Malay southern provinces, which later became Malaysia's four northern states, under the Anglo-Siamese Treaty of 1909.

In 1932, a bloodless revolution carried out by the Khana Ratsadon group of military and civilian officials resulted in a transition of power, when King Prajadhipok was forced to grant the people of Siam their first constitution, thereby ending centuries of absolute monarchy.

During World War II, the Empire of Japan demanded the right to move troops across Thailand to the Malayan frontier. Japan invaded the country and engaged the Thai Army for six to eight hours before Plaek Pibulsonggram ordered an armistice. Shortly thereafter Japan was granted free passage, and on December 21, 1941, Thailand and Japan signed a military alliance with a secret protocol wherein Tokyo agreed to help Thailand regain territories lost to the British and French. Subsequently, Thailand undertook to 'assist' Japan in its war against the Allies, while at the same time maintaining an active anti-Japanese resistance

movement known as the Seri Thai. Approximately 200,000 Asian labourers (mainly romusha) and 60,000 Allied POWs worked on the Thailand–Burma Death Railway.

After the war, Thailand emerged as an ally of the United States. As with many of the developing nations during the Cold War, Thailand then went through decades of political instability characterised by coups d'état as one military regime replaced another, but eventually progressed towards a stable prosperity and democracy in the 1980s.

Politics and government

The politics of Thailand are currently conducted within the framework of a constitutional monarchy, whereby the Prime Minister is the head of government and a hereditary monarch is head of state. The judiciary is independent of the executive and the legislative branches.

Administrative divisions

Thailand is divided into 76 provinces, which are gathered into 5 groups of provinces by location. There are also 2 special governed districts: the capital Bangkok (Krung Thep Maha Nakhon) and Pattaya, of which Bangkok is at provincial level and thus often counted as a province.

Each province is divided into districts and the districts are further divided into sub-districts (tambons). As of 2006 there are 877 districts and the 50 districts of Bangkok (khet). Some parts of the provinces bordering Bangkok are also referred to as Greater Bangkok (pari monthon). These provinces include Nonthaburi, Pathum Thani, Samut Prakan, Nakhon Pathom and Samut Sakhon. The name of each province's capital city (mueang) is the same as that of the province. For example, the capital of Chiang Mai province (*Changwat Chiang Mai*) is *Mueang Chiang Mai* or *Chiang Mai*. The 76 provinces are as follows:



Figure 1.20 Provinces of Thailand

Central

1. Ang Thong
2. Bangkok (Krung Thep Maha Nakhon), Special Governed District of
3. Chai Nat
4. Kamphaeng Phet
5. Lopburi
6. Nakhon Nayok
7. Nakhon Pathom
8. Nakhon Sawan
9. Nonthaburi

10. Pathum Thani
11. Phetchabun
12. Phichit
13. Phitsanulok
14. Phra Nakhon Si Ayutthaya
15. Samut Prakan
16. Samut Sakhon
17. Samut Songkhram
18. Saraburi
19. Sing Buri
20. Sukhothai
21. Suphan Buri
22. Uthai Thani

East

1. Chachoengsao
2. Chanthaburi
3. Chonburi
4. Prachinburi
5. Rayong
6. Sa Kaeo
7. Trat

West

1. Kanchanaburi
2. Prachuap Khiri Khan
3. Phetchaburi
4. Ratchaburi
5. Tak

North

1. Chiang Mai
2. Chiang Rai
3. Lampang
4. Lamphun
5. Mae Hong Son
6. Nan
7. Phayao
8. Phrae
9. Uttaradit

Northeast (Isan)

1. Amnat Charoen
2. Buri Ram
3. Bueng Kan
4. Chaiyaphum
5. Kalasin
6. Khon Kaen
7. Loei
8. Maha Sarakham
9. Mukdahan
10. Nakhon Phanom
11. Nakhon Ratchasima
12. Nong Bua Lamphu
13. Nong Khai
14. Roi Et
15. Sakon Nakhon
16. Si Sa Ket
17. Surin

18. Ubon Ratchathani
19. Udon Thani
20. Yasothon

South

1. Chumphon
2. Krabi
3. Nakhon Si Thammarat
4. Narathiwat
5. Pattani
6. Phang Nga
7. Phatthalung
8. Phuket
9. Ranong
10. Satun
11. Songkhla
12. Surat Thani
13. Trang
14. Yala

Education

Thailand enjoys a high level of literacy, and education is provided by a well-organized school system of kindergartens, primary, lower secondary and upper secondary schools, numerous vocational colleges, and universities. The private sector of education is well developed and significantly contributes to the overall provision of education which the government would not be able to meet through the public establishments. Education is compulsory up to and including age group 14, and the government provides free education through to age group 17.

Thailand has never been colonized, and its teaching relies heavily on rote rather than on student-centered methodology. Education in a modern sense is therefore relatively recent and still needs to overcome some major cultural hurdles to ensure further development and improvement to its standards.

The establishment of reliable and coherent curricula for its primary and secondary schools is subject to such rapid changes that schools and their teachers are not always sure what they are supposed to be teaching, and authors and publishers of textbooks are unable to write and print new editions quickly enough to keep up with the volatile situation.

The issue concerning university entrance has therefore also been in constant upheaval for a number of years. Nevertheless, education has seen its greatest progress in the years since 2001. Most of the present generation of students is computer literate, and knowledge of English is on the increase at least in quantity if not in quality.

There has been concern in recent years regarding the low IQ scores of many Thai youth. A study in the Nation newspaper reported that the "Department of Health and the Department of Mental Health will (make) an effort to combat low intelligence, after it found the average IQ level among many youths was lower than 80. In 2006, the Vice Minister for Education Watchara Phanchet reported that "the average intelligence quotient (IQ) of Thai children, somewhere between 87 and 88 points, remains in the "low average" category when ranked internationally. Further, with the exception of the well-educated wealthy class, the level of English speaking remains quite low.

Language

The official language of Thailand is Thai, a Kradai language closely related to Lao, Shan in Burma, and numerous smaller languages spoken in an arc from Hainan and Yunnan south to the Chinese border. It is the principal language of education and government and spoken throughout the country. The standard is based on the dialect of the central Thai people, and it is written in the Thai alphabet, an abugida script that evolved from the Khmer script.

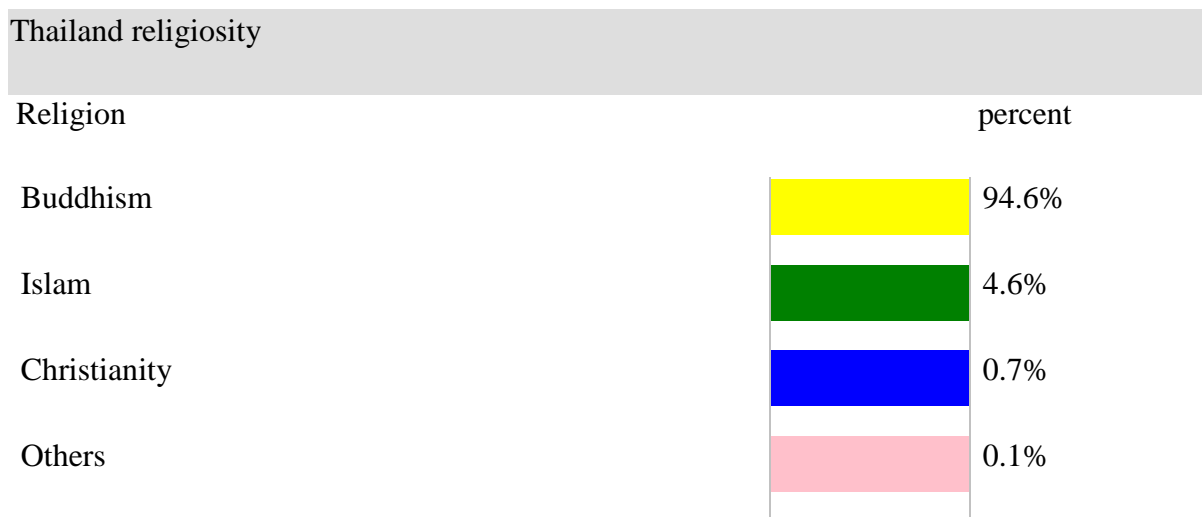
Several other dialects exist, and coincide with the regional designations. Southern Thai is spoken in the southern provinces, and Northern Thai is spoken in the provinces that were formally part of the independent kingdom of Lannathai.

Thailand is also host to several other minority languages, the largest of which is the Lao dialect of Isan spoken in the northeastern provinces. Although sometimes considered a Thai dialect, it is a Lao dialect, and the region in where it is traditionally spoken was historically part of the Lao kingdom of Lan Xang. In the far south, Yawi, a dialect of Malay, is the primary language of the Malay Muslims. Chinese dialects are also spoken by the large Chinese population, Teochew being the dialect best represented.

Numerous tribal languages are also spoken, including those belonging to the Mon-Khmer family, such as Mon, Khmer, Viet, Mlabri; Austronesian family, such as Cham, Moken, and Orang Asli, Sino-Tibetan family such as Lawa, Akhan, and Karen; and other Tai languages such as Nyaw, Phu Thai, and Saek. Hmong is a member of the Hmong-Mien languages, which is now regarded as a language family of its own.

English is a mandatory school subject, but the number of fluent speakers remains very low, especially outside the cities.

Religion



Thailand has a prevalence of Buddhism that ranks among the highest in the world. The national religion is Theravada Buddhism. According to the last census (2000) 94.6% of the total population are Buddhists of the Theravada tradition. Muslims are the second largest religious group in Thailand at 4.6%. Thailand's southernmost provinces – Pattani, Yala, Narathiwat and part of Songkhla Chumphon have dominant Muslim populations, consisting of both ethnic Thai and Malay. The southern tip of Thailand is mostly ethnically Malay, and most Malays are Sunni Muslims. Christians represent 0.5% of the population. A tiny but influential community of Sikhs in Thailand and some Hindus also live in the country's cities, and are heavily engaged in retail commerce. There is also a small Jewish community in Thailand, dating back to the 17th century.

Culture

Thai culture has been shaped by many influences, including Indian, Lao, Burmese, Cambodian, and Chinese.

Its traditions incorporate a great deal of influence from India, China, Cambodia, and the rest of Southeast Asia. Thailand's national religion Theravada Buddhism is important to modern Thai identity. Thai Buddhism has evolved over time to include many regional beliefs originating from Hinduism, animism as well as ancestor worship. The official calendar in Thailand is based on the Eastern version of the Buddhist Era, which is 543 years ahead of the Gregorian (western) calendar. For example, the year AD 2011 is 2554 BE in Thailand.

Several different ethnic groups, many of which are marginalized, populate Thailand. Some of these groups overlap into Burma, Laos, Cambodia, and Malaysia and have mediated change between their traditional local culture, national Thai and global cultural influences. Overseas Chinese also form a significant part of Thai society, particularly in and around Bangkok. Their successful integration into Thai society has allowed for this group to hold positions of economic and political power.

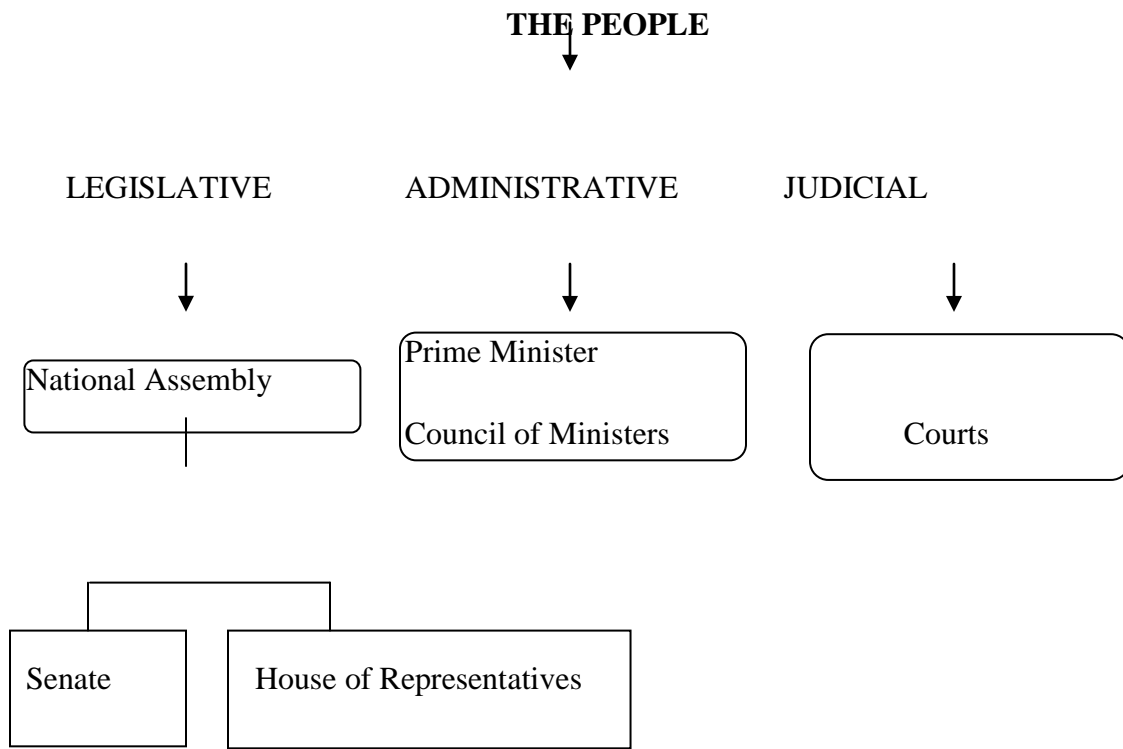
Government and Administrative Structure

The provisions relating to constitutional government and monarchy laid down in the 2007 Constitution specified three basic concepts regarding the governmental structure of Thailand.

- First, the monarch is regarded as Head of State, Head of the Royal Armed Forces and is a Buddhist but upholder of all religions.
- Second, a bicameral National Assembly, which is comprised of Members of the Council of Ministers and Members of the Senate, administers the legislative branch.
- Third, the Prime Minister, as head of the government and chief executive, oversees the executive branch, including the Council of Ministers, which is responsible for the administration of 19 ministries and the Office of the Prime Minister.

Figure 1.21 presents the organizational structure of the Royal Thai Government following reform of the bureaucratic system in 2002.

Figure 1.21 Organization of the Thai Government



Within the Ministry of Education, three following departments previously under its supervision prior to the bureaucratic reform are now under the supervision of other ministries. The Department of Physical Education was moved to the Ministry of Tourism and Sports. The former Office of the National Cultural Commission has been upgraded to the Ministry of Culture. At present, religious affairs are under the auspices of two agencies, the Department of Religious Affairs under the *aegis* of the Ministry of Culture, and the Office of National Buddhism, an independent public agency directly under the Prime Minister.

The Royal Thai Government attaches great importance to educational provision and promotion. It is hoped that an increasing educational access and quality will enable Thai people to pursue lifelong learning as well as to think critically, make rational judgments and live in harmony with other members of society.

Educational System, Standards and Quality Assurance

Under the present education system, various types and methods of learning are offered to learners regardless of their economic, social and cultural backgrounds. Education approaches are classified as formal, non-formal, and informal. All types of education can be provided by educational institutions as well as learning centers organized by individuals, families, communities, community or private groups, local administration organizations, professional bodies, religious institutions, welfare institutes; and other social institutions.

Formal Education

Formal education specifies the aims, methods, curricula, duration, assessment, and evaluation conditional to its completion. Through both public and private bodies, formal education services are mainly provided to those within the school system, at both basic and higher education levels, and in both general and vocational streams.

Formal education services in Thailand are provided in various formats for several target groups including: (1) mainstream education, in both general and vocational streams, provided for general students in regular schools; (2) basic education for children with special educational needs including special education for gifted and talented students; special education for students with disabilities provided by special schools, special centres and inclusive schools; and welfare education for disadvantaged students provided by Welfare Schools and Border Patrol Police Schools; (3) education for ecclesiastics and educational provision by several religious institutions; (4) specialized education provided by specific agencies other than the Ministry of Education; and (5) international education provided by using languages other than Thai (generally English) as a medium of instruction.

Figure 1.22 Education system

Aprox. age	Aprox. grade	Education Level		Degree
24	19+	Doctoral degree study		Ph.D. or advanced professional degree
23	18	Master's degree study		Master's degree
22	17			
21	16	Undergraduate program	Higher vocational education	Bachelor's degree
20	15			Diploma
19	14			
18	13			
17	12	Upper secondary education	Vocational secondary school	
16	11			
15	10			
14	9	Lower secondary education		
13	8			
12	7			
11	6	Primary education		
10	5			
9	4			
8	3			
7	2			
6	1			
5		Pre-primary education		
4				
3				

Mainstream Education

Mainstream education is provided for general students in regular schools in both general and vocational streams. Formal general education is provided at all levels, from pre-primary to higher education while the formal vocational education is provided only at some levels, from upper secondary education to higher education. In the academic year 2006, there are approximately 14 million students in formal schooling at all levels of education.

At present, the teaching-learning activities of basic education in the general stream follows the 2001 Curriculum for Basic Education (Grades 1-12); and the 2003 Curriculum for Pre-primary Education while the teaching-learning activities of basic education in the vocational stream follows the 2002 Curriculum for Vocational Education.

Organized for the 3-5 age group, the 2003 Curriculum for Pre-primary Education focuses on preparing children in terms of their physical, intellectual, emotional/mental and social readiness.

The 2001 Curriculum for Basic Education covers 12 years of basic education (Grades 1-12), and is divided into four three-year stages, consisting of 1,000-2,000 hours per year. In this curriculum, the knowledge and skills specified in Section 23 of the National Education Act have been grouped into eight subject areas: Thai Language; Mathematics; Science; Social Studies; Religion and Culture; Health and Physical Education; Art; Career/Technology-Related Education; and Foreign Languages. Activities that focus on responding to the learner's specific interests are also included.

In the general stream of basic education, career and technology-related education is offered to school children at both the primary and secondary levels to provide them with work experience and basic knowledge for career preparation and technological applications.

Starting at the upper secondary level, Technical and Vocational Education and Training (TVET) in Thailand follows the 2002 Curriculum for Vocational Education (at the lower certificate and associate degree levels). Both levels focus on competency and specify the standards of knowledge, skills, attitudes, and personal attributes required by students in their future careers.

The standards in the mentioned Curriculum cover nine fields, comprising trade and industry, commerce, arts and crafts, home economics, agriculture, fisheries, business and tourism, textiles, and ICT. Students studying in these fields will have an opportunity to take part in hands-on training in cooperating factories or companies for at least one semester. To expand opportunities for students, a number of entrepreneurs and educational institutions are

offering a dual education programme, where students engage in on-the-job training for half of their total study period.

Formal technical and vocational education and training is conducted at three levels; upper secondary, leading to the lower certificate of vocational education; post-secondary, leading to a diploma or the associate's degree in vocational education; and at university level, leading to a degree.

According to the 1999 National Education Act, technical and vocational education and training are provided in educational institutions belonging to both the public and private sectors, enterprises, or those organized through co-operation of educational institutions and enterprises.

In summary, vocational education is provided through the normal programme, the dual-vocational training (DVT) programme, and the credit accumulative programme.

In addition, special vocational education is offered in Sports Schools under the supervision of the Ministry of Tourism and Sports, and in Dynamic Arts and Fine Arts Colleges under the supervision of the Ministry of Culture.

Basic Education for Children with Special Educational Needs

Since promulgation of the 1999 National Education Act, greater attention has been focused on children having special educational needs, with efforts given to the development of education for the gifted, the disadvantaged and the disabled.

The Ministry of Education has announced criteria and procedures for providing facilities, media, services and other forms of educational aid, as well as for budget allocations in these areas.

- ***Special Education for Gifted and Talented Students***

If full and appropriate support is given, gifted and talented persons will become invaluable national resources generating tremendous benefit to the country. Thailand attaches great importance to diversified and commensurate development of these persons.

The 1999 National Education Act specifies that education for specially gifted persons will be provided in appropriate forms in accord with their competencies. The Act also states the significance of providing suitable curricula and distributing budgetary allocations in line with the requirements for such education.

Support given to gifted and talented persons in Thailand may be divided into the eight following categories:

1) Establishment of Special Schools for Gifted Persons: Among 26 Special Schools for Gifted Persons that were set up, the number of schools specially arranged for sciences and mathematics, sports and music is 13, 11 and 2 respectively.

2) Provision of a school within the School Programme: Regular schools are required to set up special classes, develop specific curricula, and revise the teaching-learning process and assessment for gifted persons in various fields, including language, science and mathematics. At present, around 150 of both public and private schools provide such a programme.

3) Provision of special activities, tuition sessions and competitions: Several public and private agencies, including 1) the Promotion of Academic Olympiads and Development of Science Education Foundation under the Patronage of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra; 2) the Institute for the Promotion of Teaching Science and Technology (IPST); and 3) the National Science and Technology Development Agency (NSTDA), organize special activities, tuition sessions and competitions for gifted persons, such as the Academic Olympiad Camps, science camps, exploring centers and competitions in science or mathematics.

4) Provision of Advanced Placement Programme: This programme is based upon the cooperation between secondary schools and universities that allow secondary students to take courses organized for the first-year university students and receive credits which can be accumulate when they further their study at the bachelor degree level.

5) Provision of Specific Curricula: Some universities provide specific curricula which focus on research studies in specific areas or an Honors programme.

6) Research Studies and Development of the Body of Knowledge: The Office of the Education Council has conducted several projects on research and development aimed at developing curricula for gifted and talented children in the School within the School Programme. The findings from the research studies as well as the body of knowledge were integrated into the strategic proposal to develop the gifted and talented children (2008-2012) to be proposed to the Council of Ministers in the very near future.

7) Establishment of Centers and Institutes for Research and Development of Gifted Persons : Such Centers and Institutes were established by several agencies such as the Faculty of Education of Chulalongkorn University, and the Faculty of Education of Srinakharinwirot University.

8) Provision of Scholarships in Thailand and in Foreign Countries: The scholarships offered include the 'Development and Promotion of the Scientific and Technologically Talented' Project; the National Science and Technology Development Agency (NSTDA) Project; the Academic Olympiads Project; and other scholarships offered by several public and private agencies.

In 2004, the Royal Thai Government established the National Centre for the Gifted and Talented under the Office of Knowledge Management and Development, a public organization under the aegis of the Office of the Prime Minister.

The Centre was later amalgamated with the National Institute for Brain-Based Learning and renamed as the Institute for Gifted and Innovative Learning (IGIL). The Institute sets up development standards and models to develop, promote and support the potential of gifted persons.

In line with Section 32 of the 2003 Ministry of Education Bureaucratic Administration Act, a Ministerial Rule was issued. Under the Ministerial Rule, a Board chaired by the Minister

of Education and joined by concerned agencies was appointed to be responsible for the promotion of education for gifted persons.

It is expected that the Board, together with the Institute for Gifted and Innovative Learning will be able to formulate policies, deal with administrative work, provide financial support and coordinate between the agencies concerned, to develop the gifted persons, which in turn will be beneficial to the country in the long run.

Special Education for Disadvantaged Students

Several agencies are attempting to provide education for those who are socially and/or culturally disadvantaged. These include the Ministry of Education, the Border Patrol Police Bureau and the Department of Social Development and Public Welfare (previously known as the Department of Public Welfare). In addition, non-governmental organizations such as Suan Kaew Monastery Foundation, the Foundation for Children and the Rajpraachasamasai Foundation also play a very important role in educational provision for the disadvantaged students.

Most disadvantaged students study in a number of public regular schools, called *Inclusive Schools* while the rest study in *Welfare Schools and Border Patrol Police Schools*.

The Welfare schools offer education for disadvantaged students who are deprived of the opportunity to attend regular schools. Free education, food, clothing, equipment, textbooks and other necessities are provided, and in most cases accommodation is also provided. Special vocational training relevant to future employment in the locality of a particular school is usually included.

The Border Patrol Police Schools are under the supervision of the Border Patrol Police Bureau, Royal Thai Police. So far, the Border Patrol Police Bureau has established 714 Border Patrol Police Schools. Normally, a Border Patrol Police School will be transferred to the Ministry of Education on the condition that there are permanent school buildings, a sufficient number of students and a better quality of life of people in the nearby area. Out of

714 Border Patrol Police Schools, 473 schools were transferred to the Ministry of Education, and 52 schools were abolished.

As for the disadvantaged students in Inclusive Schools and Welfare Schools under the supervision of the Office of the Basic Education Commission, they are divided into 10 types comprising (1) children forced to enter the labour market, (2) children who are sex workers; (3) deserted children; (4) children in the Observation and Protection Centres; (5) street children; (6) children affected by HIV/AIDs; (7) children of minorities; (8) physically abused children; (9) impoverished children; and (10) children affected by narcotic drugs.

Special Education for Students and Disabilities

The budget for students with disabilities was allocated by the Office of the Basic Education Commission from two main sources: the regular budget and the Educational Fund for Students with Disabilities. Formal education for students with disabilities is provided in Inclusive Schools as well as Special Schools.

In accordance with 1999 National Education Act, people with disabilities are entitled to receive all levels of education. The Bureau of Special Education Administration classified children with disabilities into 9 types in accordance with their disabilities. These include: (1) hearing impairments, (2) mental impairments, (3) visual impairments, (4) physical impairments or health-related impairments (5) learning disabilities (LD), (6) autism, (7) emotional and behavioral disorders, (8) speech and language disorders and (9) multiple disabilities.

Inclusive Schools

Inclusive Schools are regular schools that are willing to accept children with disabilities. There are currently 18,618 Inclusive Schools. In providing education for the disabled, these schools are also assisted by the Special Centres and Special Schools in terms of teachers, training, materials and facilities and coordination with concerned agencies such as the National Electronics and Computer Technology Centre, the Ministry of Interior and the Ministry of Social Development and Human Security.

Special Schools

Special Schools are specially arranged for students with disabilities. There are currently 43 special schools which are classified into four types of disabilities as follows: (1) Special Schools for those with Mental Impairments, (2) Special Schools for those with Hearing Impairments; (3) Special Schools for those with Visual Impairments and (4) Special Schools for those with Physical Impairments. In practice, however, children with all types of disabilities will be accepted in these schools. Special schools are essential for students with disabilities who need accommodations.

Non-Formal Education

Non-formal education services are provided by both public and private bodies. Under the supervision of the Ministry of Education, the Office of the Non-formal and Informal Education is the main agency in charge of non-formal and informal education. This office offers services to various target groups through traditional methods and through e-Book, e-Library and e-Learning.

Primarily, the services provided by the Office of the Non-formal and Informal Education target primarily those outside the school system, i.e. infants and pre-school children, the school-age population who have missed out on formal schooling, and the over-school-age population. Currently, such services have been expanded to cover specific target groups, including prison inmates, the labour force, the disabled, conscripts, agriculturists, the aged, Hill Tribes people, local leaders, slum dwellers, Thai Muslims, religious practitioners, those having no opportunity to further their studies in formal schooling after compulsory education, Thai people in foreign countries, and other special groups, as well as students in the formal school system.

The Office of the Non-formal and Informal Education offers three main types of non-formal technical and vocational training programmes:

1) Non-Formal Programme for Certificate in Vocational Education: Non-formal education activities leading to the Certificate in Vocational Education are provided through

distance learning to lower secondary school graduates, both the unemployed and those working in public organizations and private enterprises. This programme requires at least three years of study, except when there is a transfer of academic performance or experience;

2) Short-Course Vocational Training programme: Short-course vocational training is provided in many areas by both public and private institutions and agencies. These courses are offered from three hours to one year and are designed to serve the needs for self employment and to articulate with formal programmes in order to serve lifelong learning; and

3) Interest Group Programme: Teaching and learning activities are organized according to the individual needs and interests of the general public. Those having the same interests can form a group of five to Fifteen persons and receive training of upto 30 hours.

Generally, the following non-formal educational services are provided by the Office of the Non-formal and Informal Education: Provision of Non-Formal Education for Pre-School Children; Provision of Fundamental Education for Literacy; General Non-Formal Education; and the Non-Formal Technical and Vocational Education and Training Programme. In addition, several agencies responsible for education services, welfare and public services also provide vocational training activities concerned with quality of life improvement.

The Bureau of Special Education Administration under the supervision of the Office of the Basic Education Commission, the Ministry of Education is responsible for 76 Special Centers in 76 provinces. The Special Centers render services at the centers; in Inclusive Schools; at home; and in hospitals. They also organize meetings/seminars to provide knowledge for parents of the disabled and relevant agencies; and conduct research and formulate the curriculum for short-term training for the disabled.

As mentioned above, non-formal education is also specially arranged for children with disabilities. Apart from the Ministry of Education, special education for the disabled students is provided by several other agencies including the Department of Social Development and Public Welfare under the supervision of the Ministry of Social

Development and Human Security, as well as by some demonstrations schools, municipal schools and private foundations. Moreover, some hospitals also organize classes for children with disabilities resulting from chronic conditions.

Informal Education

Informal education enables learners to learn by themselves according to their interests, potential, readiness and the opportunities available from individuals, society, environment, media or other sources of knowledge as follows:

- Informal education programmes provided by libraries, museums and science/technology centers, etc. as well as by mass media (radio, television, newspapers and magazines, etc).

- Informal education programmes of community learning networks i.e. community learning centers, village reading centers, sub-district health offices, sub-district agricultural offices, as well as natural learning sources in each community.

- Learning from various sources as follows: 1) local wisdom which includes culture and the body of knowledge in each community; 2) local media which plays an important role in passing on knowledge and social values through several kinds of performance; 3) families which are learning sources from birth for all people; and 4) networking through cooperative activities.

- Several ministries are involved in providing informal education to promote lifelong learning, through information dissemination, educational activities or academic and professional programmes for different target groups relating to the responsibilities of each organization.

- New lifelong learning sources have been established, while existing ones have been improved and developed in accordance with Section 25 of the National Education Act, which requires the State to promote the running and establishment, in sufficient number and with efficient functioning, of all types of lifelong learning sources.

According to the Bureau of Educational Standards and Learning Development, there are approximately 3,200 learning sources in Thailand, comprising public libraries (864), museums (293), art galleries (21), zoological gardens (45), public parks (1,260), botanical gardens (70), science and technology parks, sports and recreation centres (91), national parks (95), and more than 450 other sources of learning. Efforts have been made to enable individuals to learn at all times and in all places through several sources.

Included among the new lifelong learning sources are

1. The Office of Knowledge Management and Development, a public organization under the aegis of the Office of the Prime Minister. At present, it comprises six separate entities namely 1) Institute for Gifted and Innovative Learning (IGIL); 2) Thailand Knowledge Park; 3) National Discovery Museum Institute; 4) Thailand Creative and Design Centre; 5) Thailand Centre of Excellence for Life Science; and 6) Centre for the Promotion of National Strength of Morals, Ethics, and Values: This centre has been established to promote morals and ethics through the interaction of public and private sectors throughout the country.

2. The National Science Museum Organization, a state enterprise under the supervision of the Ministry of Science and Technology, operates the four following museums: 1) The Science Museum; 2) The Information Technology and Telecommunications Museum; 3) The Natural History Museum; and 4) The Environment and Ecology Museum.

3. The Bangkok Children's Discovery Museum, established by the Bangkok Metropolitan Administration in 2001 to help children develop their ideas and gain experience in adapting to an urban environment and the country's economic and social development.

Several new public libraries have also been established, and services in all libraries have been improved. For example, free internet service is provided in all libraries

Chalermrachakumari libraries and other public libraries, while many higher education institutions are also developing e-libraries and living libraries.

Through the initiation of HRH Princess Maha Chakri Sirindhorn, several botanical gardens have been established to protect, explore, collect, plant, preserve, conserve and utilize local botanical species.

Supported by the Plant Genetic Conservation Project Office under the Royal Chitralada Palace, this activity involves the original natural forest and distributes plants throughout the country in all floristic regions outside the responsibility of the Royal Forest department. Plants are distributed to government agencies, research centres, experiment stations, academy institutes, schools, temples or other areas where people come together to protect plant genetic.

Several other types of lifelong learning sources have also been renovated and improved, including museums and historical parks under the supervision of the Department of Fine Arts, arts and cultural centers, sports and recreation centers, as well as museums of Natural Science.

Linkage among Three Types of Education

The 1999 National Education Act acknowledges the importance of all types of education. Relevant agencies and educational institutions are therefore working to create links between formal, non-formal, and informal education systems, Credit accumulated by learners will be transferable within the same or between different types of education, regardless of whether the credits have been accumulated from the same or different educational institutions, including learning from non-formal or informal education, vocational training and work experience.

It is expected that access to education will be increased from the transfer of learning outcomes to and from all types of education. In so doing, credits can be accumulated and transferred within the same type or between different types of educational approaches and learning.

A more flexible educational system, with the ability to transfer learning outcomes and validate experience, will help increase access to and create links between all types of education. This will learning but also eventually lead to a learning and knowledge based society. The reform of non-formal and informal education is necessary to cultivate the culture of lifelong learning and create a learning society.

Levels of Education

Basic Education

In 2002, in accordance with the National Education Act, 12 years of free basic education was made available to students throughout the country for the first time.

Basic education covers pre-primary education, six years of primary, three years of lower secondary, and three years of upper secondary education. The current compulsory education requirement covers six years of primary and three years of lower secondary education. Children are expected to be enrolled in basic education institutions from age seven through the age of 16, except for those who have already completed Grade Nine. Basic education is provided before higher education by the following institutions:

- Early childhood development institutions i.e. childcare centers, child development centers, initial care centers for disabled children or those with special needs and early childhood development centers operated by religious institutions or by other agencies.
- Schools such as state schools, private schools and those under the jurisdiction of Buddhist or other religious institutions; and
- Learning centers i.e. those organized by non-formal educational agencies, individuals, families, communities, community organizations, local administration organizations, private organizations, professional bodies, religious institutions, enterprises, hospitals, medical institutions, welfare institutes and other social institutions.

Higher Education

Higher Education at the diploma, associate, and degree levels is provided in universities, educational institutions, colleges, community colleges, community colleges, and other types of institutions.

A) Associate Degree or Diploma Level

Higher education at the associate degree or diploma level requires two years of study and is offered by Rajabhat Universities, the Rajamangala University of Technology, state and private vocational colleges, as well as colleges of physical education, dramatic arts and fine arts. The majority of courses offered are related to vocational and teacher education.

B) Degree Level

Programmes leading to a degree require two years of study beyond the diploma level, and four to six years of study for those completing upper secondary education or the equivalent.

- The first professional qualification is the baccalaureate, normally attained after four years of study. Five years of study are required in the fields of architecture, painting, sculpture, graphic arts, and pharmacy, with six years required for medicine, dentistry, and veterinary science. In some of these fields, additional study is required to allow for a *practicum* before professional qualifications are awarded.
- Advanced study of at least one but generally two years, combined with a thesis, leads to the award of a master's degree.
- A doctorate, requiring an additional three years of study following the master's degree, is awarded in some fields, while an advanced diploma or certificate, designed for students already possessing a degree or professional qualification, may be obtained after one or two years of course work.

Since the establishment in 1917 of Chulalongkorn University, Thailand's first tertiary institution, the number of higher education institutions has increased substantially, particularly within the past decade. There are currently 151 higher education institutions under the supervision of the Office of the Higher Education Commission and 94 specialized institutions under the charge of other ministries and agencies.

In addition, 18 community colleges were set up in accord with a government policy prescribed in 2001. The mentioned policy supported the establishment of community colleges in provinces where other opportunities for higher education were not available, to offer the education and training necessary for economic and social development in those communities. Community colleges offer 2-year associate degree programmes suitable for professional development in areas relevant to local economic and social development needs. Several curricula are currently offered in associate degree programmes from community colleges.

Educational Standards and Quality Assurance

The purpose of establishing educational standards is to specify certain qualities in the provision of education, such as desired learner attributes, curriculum, and teaching-learning processes.

So as to ensure quality, institutions are expected to develop excellence within the domain of their regular activities and administrative tasks, whereby it is anticipated that educational quality will flourish. Improvement of quality will be beneficial to direct recipients of the service, including students and parents, as well as indirect recipients, such as employers, individuals, and society as a whole. To ensure improvement in the quality of education at all levels and all types, two major tasks that need to be accomplished are the development of educational standards and the development of a quality assurance system.

There are currently three types of standards: national education standards, and standards of internal quality assurance and for external quality assessment.

National Education Standards

As specified in the 1999 National Education Act, the Office of the Education Council is responsible for proposing national education standards. Consequently, sets of standards were formulated by the Office in cooperation with the offices responsible for basic, vocational and higher education as well as the Office for National Educations Standards and Quality Assessment. With approval from the Council of Ministers on October 26, 2004, agencies

providing education at all levels are expected to abide by the national education standards, which are comprised of three categories:

I. Desirable characteristics of the Thai people, as both citizens of the country and members of the world community, consist of five indicators: 1) sound physical and mental health; 2) required knowledge and skills sufficient for leading a meaningful life and social development; 3) skills in learning and self-adjustment; 4) social skills; and 5) righteousness, public-mindedness, and consciousness of their citizenship of Thailand and the world.

II. Guidelines for educational provision consist of three indicators: 1) development of a diversified curricula and ambiance enabling learners to develop themselves in line with their natural inclinations and to the best of their potential; 2) systematic and effective development of administrators, teachers, faculty staff and educational personnel; and 3) practice of school-based management.

III. Guidelines for creating a learning society/knowledge society consist of three indicators: 1) provision of academic services and establishment of cooperation between educational institutions and community so as to transform educational institutions into a learning society/knowledge society; 2) research and study, promotion of and support for learning sources and mechanisms; and 3) generation and management of knowledge for the benefit of all levels and components of the society.

The national education standards also serve as the basis for setting assessment standards of internal and external quality assurance mechanisms. At the moment, all agencies concerned have developed relevant educational standards.

Internal Quality Assurance

In 2003, the Ministry of Education announced relevant ministerial regulations for the system, criteria, and methods for internal quality assurance of basic and higher education institutions.

To serve as a basis for external quality assessment, all educational institutions follow guidelines for internal quality assurance standards developed by their supervising agency. Educational institutions are also required to implement an internal quality assurance system comprised of control, audit, and assessment.

In support of this effort, a number of activities have been carried out, including: developing personnel; implementing pilot projects; providing financial support; conducting, monitoring, and advisory tasks; and disseminating documents, media and equipment.

External Quality Assessment

External quality assessment of all educational institutions is conducted at least once every five years, with outcomes submitted to the relevant agency and made available to the general public. In conducting these assessments, the “Amicable Assessment Model” was employed by trained external assessors selected from qualified persons from private, professional or academic organizations.

The Office for National Education Standards and Quality Assessment (ONESQA) oversees external quality assessments of both basic and higher education institutions following standards relating to educational achievement (output/outcome); input/process; and efficiency in administration and leadership. Different sets of standards for external quality assessment are used at the basic and higher education levels.

Within the first round of external quality assessment (2001-2005) around 30,000 basic education institutions, 670 vocational education institutions and 300 higher education institutions were assessed. The second round of external quality assessment (2006-2010) has been carried out.

An effective educational system should prepare Thai people with necessary knowledge and skills so that they are able to pursue promising careers and thrive in the knowledge-based society. It is essential that further support and benefits be given to those providing education and improving educational standards and quality of educational institutions at all levels of all types.

Plans and Strategies and Higher Education

The Framework of the Second 15-Year Plan for Higher Education of Thailand covers the period between 2008 and 2022. The goal of the Plan is to raise the quality of the Thai higher education system through several mechanisms and measures.

Highlights of the Second 15- Year Plan include: good governance, financial planning, development of higher education standards and university networking, fostering diversity within a unified system, and supporting university academic freedom.

It is expected that the Framework will lead to the production and development of graduates with the knowledge and skills critical to global competitiveness and sustainable development. The Framework comprises two major parts as follows:

1) The first part covers the local/global socio-economic environment affecting Thai society and higher education system, including: demography; energy and the environment; employment; violence and conflict management; decentralization; students and youth in the post industrialized world (work-based education, community-based education, internship/apprenticeship within the social and real sectors, co-operative education and engineering practice); Sufficiency Economy; And

2) The second part covers nine aspects of the Thai higher education system, including articulation with secondary and vocational education; proliferation of higher education institutions; university governance and management; national competitiveness; financing higher education systems; staff and personnel development; university networks; programmes for Southern Thailand; and learning infrastructure.

The Key factors for success of education at all levels and of all types are supportive government policies and strategies; concrete operational plans; sufficient budget allocations on a continual basis; and support from the several public and private agencies involved. With these factors, it is expected that educational policies of the Ministry of Education will contribute to human resource development and the increased competitiveness of Thailand.

Thai Education and Motivation

Education plays a significant role in Thai nation's development since early days, formal and religious education was imparted through "wat" (Thai temples). Thai education system and philosophy portray a great impact of Monarchy and Buddhism. As a result it has affected student's learning styles and motivation. In Thai society The King, the Religion and the Nation are proposed as three important pillars for Thai nationals. As quoted by Sabai, (2009, IV) "Thais are raised from the cradle to respect the trilogy: King, Buddha, and Country". Therefore, there is no place in Thailand where one can escape a giant portrait of the king, a Thai flag, or a statue of the Buddha". National religion of Thailand is Buddhism where 95% of the population follows Buddhism. Basic principles of Buddhism emphasises on tolerance towards others, respect for age, seniority, and hierarchy. Therefore, pomposity, arrogance, conflicts and social display of emotions is highly discouraged in a Thai Buddhist society. A teacher's position is highly respected and considered as being authoritative and knowledgeable (Nguyen, 2005). Thai students are taught to uphold their teachers as demi-gods. Hence, it is evident that the core of Thai education is strongly rooted in its traditional Buddhist faith, utmost respect for the King, family and teachers. That also represents an ideal form of collectivist society as proposed by cross cultural relativist (Triandis, 1995, Markus & Kitayama, 1991; 2003).

It is considered that culture plays an important role in the development of the individual's orientation towards learning (Smith, 1990). Thai culture and its traditions has undoubtedly molded Thai student's attitude towards teachers and learning to be respectful, polite, but dependent. Dr. Adith Cheosokul, a professor from Chulalongkorn University, Thailand, on September 1, 2002, commented on Thai culture's effect on student's behavior by saying that "Thai kids have no courage to question their teachers... the Thais are usually silent in class. I think it's the culture". Such assumptions has lead local and foreign educator in comparing characteristics of Thai students with western students. Nguyen (2005) describes rote memorization as a common and salient learning style among most Thai students. She also claims that Thai students prefer more structured lessons; discussion and question sessions are discouraged during teaching since Thai students feel uncomfortable in voicing opinion

out of respect, as compared to their western counterparts. Pennington (1999), states that the problem that persist in Thai education system is teaching methodology, which is obsolete and mainly based on rote memorization. Such practice only cultivates obedience among learners rather than stimulating independent thinking process. A series of studies conducted by office of the National Education Commission (ONEC) also identify Thai class rooms as static and lack student's involvement in learning, as a result lowering Thai student's academic competitiveness in the region (Fry, 2002; Wiratchai, 2002; Atagi 2002).

Chapter 4

Hypothesis

Chapter Four Outline

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Hypothesis – Lao PDR

Hospitality and Tourism Management is a newly accepted academic field in Lao PDR and there has been no research conducted that investigates the distribution of learning styles and personality types of students in Lao PDR in hospitality and tourism management programs. Therefore, the objective of this study was to investigate the distribution of learning styles and personality types of the hospitality and tourism management students at undergraduate level from National University of Laos.

Research into learning styles shows that students learn better when new material is presented in a way that is compatible with their learning style (Dunn, 1986, 2000). Instructors, as professionals, need to teach in all four learning styles both to accommodate the learners and to stretch them to expand their repertoire of learning skills (Mourtos, 1996). Despite the many different types of learning styles model available, there are some general conclusions that appear to be true (O'Connor, 1997).

- Students will learn better when using preferences in which they're successful.
- Students will be better learners when they can expand their preferences.
- When teaching accommodates various preferences, more students are successful.
- Teachers can construct activities that specific (and multiply) learning preferences.
- This can be done by adding alternatives or, completing learning cycles that incorporate all styles or, by utilizing holistic, complex tasks.

Research Questions

The specific objectives of this study were to:

1. Identify learning styles and personality types of Lao students studying hospitality and tourism management at undergraduate level
2. Compare learning styles and personality types of Lao students studying hospitality and tourism management at undergraduate level based on Gender, Age and work status.

Hypotheses

- Hypothesis I : There were no differences in learning styles of Lao hospitality and tourism undergraduate students based on gender, age, and work status.
- Hypothesis II : There were no differences in personality type of Lao hospitality and tourism undergraduate students based on gender, age, and work status.
- Hypothesis III : There were no differences in learning styles of Lao hospitality and tourism undergraduate students based on four Personality Dimensions (Extroversion/Introversion (E-I) dimension, Sensing/intuition (S-N) dimension, Thinking/Feeling (T-F) dimension, and Judging/Perceiving (J-P) dimension) and 16 Personality Types.

Hypothesis for Thailand

Thai education system has consistently evolved since early 1900, the era of King Chulalongkorn (Rama V) and is continued in present times to keep abreast with the requirement of modern times and the challenges of globalization and internalization (Wongsari, Cantwell & Archer, 2002). Lately, analysis of Thai education has raised concerns for the present education system that does not facilitates the development of individual learner as an independent and creative learner (Office of the National Education Commission, 1999). A need for reform in Thai education system is seriously called for by parents, teachers and educators. Therefore, under present education reforms, one of the objectives of Thai tertiary planning is to encourage learners to become independent learners and implement strategies that encourage independent learning (Povatong, 1999). Moreover, the Buddhist philosophy of education calls for inquiry based learning and education that can teach mental freedom and produce self – respecting people who are able to believe in their potential and reasoning powers (Wisadavet, 2003).

Hospitality and Tourism Management education is not a very new concept to education system of Thailand. However there has been no research conducted that investigates the distribution of learning styles and personality types of students from Thailand studying hospitality and tourism management programs.

In Asia and United Kingdom (U.K), several studies, using different learning style instruments, have attempted to identify the learning preferences of hospitality students (Lashley, 1999; Honey & Mumford, 2000; Wong et al., 2000). These studies imply that the majority of students who are interested in hospitality programs in the UK prefer practical activity as their learning style; they are less contented with theorizing and reflection. As such, these students display learning preferences for activist learning, which is similar to Kolb's active experimentation learning mode (Lashley, 1999).

Other researchers have found that hospitality students attending colleges and universities in several countries in Asia already display preferences for reflective learning styles, which are similar to the reflective observation learning mode (Wong et al., 2000). However, there have

been no studies concerning Thai hospitality and tourism management undergraduate students' learning styles' distribution in the general educational system in Thailand. In addition, there have been no studies performed to see whether hospitality undergraduate students learn in Thailand any differently by gender, academic classification, and work status. Therefore, this study attempted to identify the learning styles of hospitality undergraduate students in Thailand using Kolb's Learning Style Inventory (LSI) and this research also

Research Questions

The specific objectives of this study were to:

1. Identify learning styles and personality types of Thai students studying hospitality and tourism management at undergraduate level.
2. Compare learning styles and personality types of Thai students studying hospitality and tourism management at undergraduate level based on Gender, Age and work status.

Hypotheses

Hypothesis I : There were no differences in learning styles of Thai hospitality and tourism undergraduate students based on gender, age, and work status.

Hypothesis II : There were no differences in personality types of Thai hospitality and tourism undergraduate students based on gender, age, and work status.

Hypothesis III : There were no differences in learning styles of Thai hospitality and tourism undergraduate students based on four Personality Dimensions (Extroversion/Introversion (E-I) dimension, Sensing/intuition (S-N) dimension, Thinking/Feeling (T-F)

dimension, and Judging/Perceiving (J-P) dimension) and 16 Personality Types.

Comparison between Lao PDR and Thailand:

The hypotheses of this study were:

Hypothesis I : There were no significant differences between Lao and the Thailand's' Hospitality undergraduate students when compared using the following demographic variables:

- A. Gender,
- B. Age,
- C. Work Status.

Hypothesis II : There were no significant differences between Lao and the Thailand's' Hospitality undergraduate students when compared using the following Learning Stage, Learning dimension and Learning style variables:

- A. Four Learning Stages and Two Learning Dimensions,
- B. Learning Styles.

Hypothesis III : There were no significant differences between Lao and the Thailand's' Hospitality undergraduate students when compared using the following Personality types' variables:

- A. Mean of Four Personality Dimensions,
- B. Extroversion/Introversion (E-I) Dimension,
Sensing/iNtuition (S-N) dimension, Thinking/Feeling (T-F)
Dimension, and Judging/Perceiving (J-P) Dimension,
- C. Personality Types.

Significance of the Study for Lao PDR

Hospitality and Tourism management education is new to the education system of Lao PDR. This study majorly focused on Identifying learning styles of students from Lao PDR at undergraduate level studying Hospitality and tourism Management. This study also lead to relate learning styles and personality types of Lao students at undergraduate level studying hospitality and tourism management considering criteria like Gender , Age and Work Status.

This study is was a significant contribution the educational organization of Lao PDR because there was no study done before to investigate, identify and understand learning styles and personality types of Lao PDR undergraduate students studying Hospitality and Tourism Management. It is very difficult for students to understand their own learning style or even personality types and it is an opportunity and responsibility for the educators to identify and understand specific learning styles and personality types of specific group of students to tailor make the teaching style for them. It will also beneficial for the entire education fraternity to see the results of this study because this could work as guidelines for the educators around the world teaching Lao students. The results can aid hospitality educators in improving their teaching based on a clearer understanding their students.

The findings of the study might be beneficial to both students and educators. For the students, knowing their learning styles and personality types could encourage them to develop learning strategies that could take advantage of their strengths and compensate for their weaknesses. For hospitality educators, knowing their students' learning styles and personality types might stimulate them to refine teaching plans and instructional styles to maximize learning potential of all students.

This study also creates a thread of co relation between learning styles and personality types of students from Lao PDR which will also help educator to design, update, prepare, implement and teach different hospitality courses.

Significance of the Study for Thailand

This study majorly focused on Identifying learning styles of students from Thailand at undergraduate level studying Hospitality and tourism Management. This study also lead to relate learning styles and personality types of Lao students at undergraduate level studying hospitality and tourism management considering criteria like Gender , Age and Work Status.

This study is was a significant contribution the educational organization of Thailand because there was no study done before to investigate, identify and understand learning styles and personality types of Thai undergraduate students studying Hospitality and Tourism Management. It is very difficult for students to understand their own learning style or even personality types and it is an opportunity and responsibility for the educators to identify and understand specific learning styles and personality types of specific group of students to tailor make the teaching style for them. It will also beneficial for the entire education fraternity to see the results of this study because this could work as guidelines for the educators around the world teaching Lao students. The results can aid hospitality educators in improving their teaching based on a clearer understanding their students.

The findings of the study might be beneficial to both students and educators. For the students, knowing their learning styles and personality types could encourage them to develop learning strategies that could take advantage of their strengths and compensate for their weaknesses. For hospitality educators, knowing their students' learning styles and personality types might stimulate them to refine teaching plans and instructional styles to maximize learning potential of all students.

This study also creates a thread of co relation between learning styles and personality types of students from Thailand which will also help educator to design, update, prepare, implement and teach different hospitality courses.

Assumptions and Limitations

The following limitations were recognized:

1. The study considered only the experimental learning theory and the Jung/Myers personality theories. There are other theories that could impact the findings.
2. To be solicited as a possible subject for the study, a student must have been enrolled in National University of Laos (n = 440) in Lao PDR and in Sripatum University, Thailand (n = 380). It is not appropriate to generalize the result to other colleges and universities that were not included in the study.
3. In consideration of time and cost, Personal Style Inventory (PSI) was substituted for the Myers-Briggs Type Indicator (MBTI) as the personality instrument. The use of the PSI may have affected the accuracy and reliability of the study.
4. Sample was selected from the students enrolled for 1st and 2nd year of the undergraduate program.
5. The study used a non-probability sampling method to select subjects. According to Harris (1998), Keppel (1991), and Siegel and Castellan (1991), the limitations of non-probability sampling are that the samples contain unknown quantities of errors. Availability samples may not represent the population and therefore have no external validity; convenience samples are only for exploratory research or for quick, non-generalizable information relevant to a specific research need. Since the purpose of this study was to explore learning styles and personality types information, non-probability sampling was appropriate.

Chapter 5

Methodology

Chapter Five Outline

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Methodology

Primary Data

The population for Lao PDR consisted students enrolled in hospitality and tourism management program in National University of Lao (n = 440) , Lao PDR. The sample was comprised of undergraduate students who enrolled in hospitality and tourism management program at National University of Laos, Lao PDR. Participation was voluntary. A copy of the letter accepting participation in this study can be found in Appendix A. Both the questionnaires (LSI as well as PSI) were given to students on site during the sessions and were collected back on the very same day.

The population for Thailand consisted students enrolled in hospitality and tourism management program in Sripatum University, Thailand (n = 380). The sample was comprised of undergraduate students who enrolled in hospitality and tourism management program at Sripatum University, Thailand. Participation was voluntary. A copy of the letter accepting participation in this study can be found in Appendix B. Both the questionnaires (LSI as well as PSI) were given to students on site during the sessions and were collected back on the very same day.

The study used a non-probability sampling method to select subjects. According to Harris (1998), Keppel (1991), and Siegel and Castellan (1991), the limitations of non-probability sampling are that the samples contain unknown quantities of errors. Availability samples may not represent the population, and therefore have no external validity, and convenience samples are only for exploratory research or for quick, non-generalizable information relevant to a specific research need. Because the purpose of this study was to explore learning styles and personality types' information, non-probability sampling was appropriate (Harris, 1998; Keppel, 1991; Siegel & Castellan, 1991).

Secondary Data

Secondary data was collected by refereeing to 118 International research papers regarding Learning styles and Personality Types, 4 National reports from Thailand and Lao PDR published by Ministry of Education, Thailand and Ministry of Education Lao PDR respectively. Kolb's Learning Style Inventory journals, manuals and several books on Jung's Personality Types were referred to collect the historical data.

The Instrument

The instruments used for the study included three parts: demographic background, Kolb's Learning Style Inventory (LSI-II) (Kolb, 1993), and the Personal Style Inventory (PSI) (Hogan & Champagne, 1979). For using LSI, a special permission was taken from Hays Group USA. All questions were printed in traditional Thai language along with English. A copy of the instruments (Kolb LSI and Jung's PSI) can be found in Appendix G, D1, D2 and F . In additional, a copy of request for permission to use the instruments and the approval letter can be found in Appendix H. Scoring sheets for Kolb's Learning Style Inventory can be found as Appendix G and scoring sheets for the personal style inventory can be found in Appendix E.

Kolb Learning Style Inventory

As described by Kolb (1993), 12 sentence stems comprise the LSI. There are four endings per sentence. Each ending corresponds to one of the learning stages in Kolb's experiential learning model: Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). Respondents are asked to rank the endings from 1 through 4 in order that best describes the way they like to learn. Responses are totaled to provide four learning stage scores; each ranging from 12-48. The total of the four learning stage scores should be 120. The learning stage scores measured the emphasis of a respondent's places on each stage of Kolb's learning cycle. The four scores were then plotted onto a grid to create a learning profile for the individual.

In addition, the four learning stage scores were combined to create two learning dimension scores. The first learning dimension, AC-CE score, was obtained by subtracting the CE score from the AC score, indicating one's learning style preference in the concrete-abstract dimension. The second dimension, AE-RO score, was obtained by subtracting the RO from the AE score; indicating one's learning style preference in active-reflective dimension. The learning dimension scores range from +48 to -48 (Kolb, 1993). Each dimension score was plotted onto the intersecting Learning Style Type Grid in which AC-CE is the vertical and the AE-RO is the horizontal axes. These two axes represent the required learning skills that are play opposites (Kolb, 1993).

The reported reliabilities for LSI individual scales, such as Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE), ranged from 0.73 to 0.83 (Kolb, 1985).

Personality Style Inventory

According to Hogan and Champagne (1979), the Personal Style Inventory provides a means of characterizing one's preferred style with respect to four dimensions. Each dimension is presented through bi-polar scales in all learners: Extroversion (E) – Introversion (I), Sensing (S) – intuition (N), Thinking (T) - Feeling (F), and Judging (J)- Perceiving (P) (Hogan & Champagne, 1979). Additionally, the inventory is designed to determine if individuals demonstrate a balance among the four dimensions (indices), E-I, S-N, T-F, and J-P, or if they have slight, definite or considerable strengths and weaknesses in the Personal Styles.

The PSI is a 20 two-stem form questionnaire (Jewler & Gardner, 1993). Each question has two stems. The respondents were asked to allocate a total of 5 points between two stems based on their personal preferences from zero (0, least likely to be the way one likes to do) to five (5, most likely to be the way one likes to do). However, the total scores of the two stems could not exceed five.

The responding scores obtained from the PSI are added to construct four dimension (index, 5 questions each) scores. Each dimension (index) includes two components (columns),

which are constructed by one of the two preference stems; the scores of each component (column) ranged between 0 and 25 (see Appendix G for scoring sheets for the Personal Style Inventory). The total scores in each column indicate relative strengths and balances in the four dimensions (for example, E and I is one dimension), where:

- Column scores of 12 or 13 suggest a balance in the two components of the dimension.
- Column scores of 14 or 15 suggest slight imbalance; the dimension component with the higher score is slightly stronger than the other component.
- Column scores between 16 and 19 suggest a definite imbalance; the dimension component with the higher score is definitely stronger than the other component.
- Column scores between 20 and 25 suggest a considerable imbalance; the dimension component with the higher score is considerably stronger than the other component.

An individual's personality style type is identified by combining the four columns with scores of 14 or greater. Column scores of 12 or 13 reflect a balance between the two characteristics (Jewler & Gardner, 1993, p.54).

The PSI is a simplified variation of the MBTI that describes personality types. No reports on reliability and validity were located. However, the split-half reliabilities of the MBTI for four scores are in the .70s and .80s (Myers & McCaulley, 1985a). The reliability MBTI coefficient alpha is .91 for the E-I and T-F scales and .92 for the S-N and J-P scales (Myers et al., 1998).

Validity studies correlated the LSI with a number of personality tests, which included the Myers-Briggs Type Indicator (MBTI). Kolb's studies (1976, 1986) indicated the strongest and most consistent relationships were between concrete/abstract on the LSI and feeling/thinking on the MBTI and between active/reflective on the LSI and extrovert/introvert on the MBTI.

Data Analysis Techniques

Demographic differences

Students' demographic proportion differences were analyzed by chi-squares analysis (Levine, Berenson. & Stephan, 1999, p. 692).

Reliability coefficient alpha

The reliability coefficient alphas of each of the dominate learning style constructs, which included Divergers (CE/RO), Assimilators (RO/AC), Convergents (AC/AE), and Accommodators (AE/CE), and the dynamic personality dimensions, which include, E-I, S-N, T-F, and J-P scales, were measured through the Reliability Analysis procedure (George & Mallery, 2001).

Kolb Learning Styles and Personality Types

Students' learning styles were determined by using scoring procedures described by the LSI-II (Kolb, 1993). In addition, the personality types were determined using scoring procedures described by PSI (Hogan & Champagne, 1979). Although the respondents replied to the question stems in numerical rankings, the learning style and personality type outcomes were categorical variables.

Learning stages and Personality dimensions

The differences in students' learning stages (CE. RO. AC and AE) and learning dimensions (AC-CE and AE-RO) among demographic categories were determined by Analysis of Variances.

The personal dimension (E-I, S-N, T-F, and J-P dimensions) differences were analyzed by Analysis of Variances and the means were separated by the Tukey-Kramer procedure (Levine, Berenson, & Stephan, 1999, p. 616).

Chi-squares Analyses

After students' learning styles and personality types were identified, contingency tables were constructed to analyze the frequency and proportion distributions of learning styles and personality types among demographic variables (Levine, Berenson, & Stephan, 1999, p. 692). If the degrees of freedom of the contingency table analyses were greater than one, z-tests for the difference between two proportions were conducted to locate the exact differences (Levine, Berenson, & Stephan, 1999, p. 670).

To test Hypothesis I for Lao PDR, chi-square analyses were utilized to compare Kolb's Learning Styles of hospitality and tourism management undergraduate students with students' gender and two types of work status (working and non-working).

To test Hypothesis II for Lao PDR, chi-square analyses were utilized to compare four Personality dimensions of hospitality and tourism management undergraduate students with students' gender and two types of work status (working and non-working).

To test Hypothesis III for Lao PDR, chi-square analyses were utilized to compare Kolb's Learning Styles of hospitality and tourism management undergraduate students with students' Personality Dimensions, which included Extroversion-Introversion dimension, Sensing-Intuition Dimension, Thinking-Feeling dimension, and Judging-Perceiving dimension, and 16 personality types.

To test Hypothesis I for Thailand, chi-square analyses were utilized to compare Kolb's Learning Styles of hospitality and tourism management undergraduate students with students' gender and two types of work status (working and non-working).

To test Hypothesis II for Thailand, chi-square analyses were utilized to compare four Personality dimensions of hospitality and tourism management undergraduate students with students' gender and two types of work status (working and non-working).

To test Hypothesis III for Thailand, chi-square analyses were utilized to compare Kolb's Learning Styles of hospitality and tourism management undergraduate students with students' Personality Dimensions, which included Extroversion-Introversion dimension, Sensing-iNtuition Dimension, Thinking-Feeling dimension, and Judging-Perceiving dimension, and 16 personality types.

To test Hypothesis I for comparison between Lao PDR and Thailand, chi-square analyses were utilized to compare Kolb's Learning Styles of hospitality and tourism management undergraduate students with students' gender and two types of work status (working and non-working).

To test Hypothesis II for comparison between Lao PDR and Thailand, chi-square analyses were utilized to compare four Personality dimensions of hospitality and tourism management undergraduate students with students' gender and two types of work status (working and non-working).

To test Hypothesis III for comparison between Lao PDR and Thailand, chi-square analyses were utilized to compare Kolb's Learning Styles of hospitality and tourism management undergraduate students with students' Personality Dimensions, which included Extroversion-Introversion dimension, Sensing-iNtuition Dimension, Thinking-Feeling dimension, and Judging-Perceiving dimension, and 16 personality types.

Chapter 6

Data Analysis and Findings

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Data Analysis (Graphs) for Lao PDR	250
Data Analysis (Tables) for Thailand	281
Data Analysis (Graphs) for Thailand	307
Data Analysis (Tables) – Comparison between Lao PDR and Thailand	338
Data Analysis (Graphs) – Comparison between Lao PDR and Thailand	350

Data Analysis for Lao PDR

Reliability of the Instrument

As shown in Table 2.1, the estimated reliability coefficients (alpha) of the LSI for individual scales, such as Abstract Conceptualization (AC), Reflective Observation (RO), Concrete Experience (CE) and Active Experimentation (AE), ranged from 0.70 to 0.73. As shown in Table 2.2, the estimated reliability coefficients of the PSI for individual dimension scale. Extroversion-Introversion (E-I), Sensing-iNtuition (S-N), Thinking- Feeling (T-F) and Judging-Perceiving (J-P), ranged from 0.69 to 0.73.

Table 2.1(a): The Reliability Coefficients of Learning Mode for Kolb's Learning Style Inventory for Lao students.

Learning Mode	Concrete Experience (CE)	Abstract Conceptualization (AC)	Active Experimentation (AE)	Reflective Observation (RO)
Cronbach's Alpha	0.73	0.70	0.71	0.72

Table 2.2(a): The Reliability Coefficients of Personality Dimension for Personality Style Inventory for Lao students.

Personality Dimension	Extroversion-Introversion (E+I)	Sensing-iNtuition (S+N)	Thinking-Feeling (T+F)	Judging-Perceiving (P+J)
Cronbach's Alpha	0.70	0.69	0.71	0.72

Note below - Cronbach alpha was calculated by using SPSS and MINITAB software.

The Cronbach's α can also be defined as

$$\alpha = \frac{K\bar{c}}{(\bar{v} + (K - 1)\bar{c})}$$

Where K : no of components,

\bar{v} : Average variance, and

\bar{c} : the average of all covariance between the components across the current sample of persons.

Demographic Information for Lao PDR

Students were asked to provide demographic information related to their Gender, Age and work status (working, non-working). Table 2.3(a) presented the summary of the demographic information about Gender of the students from Lao PDR.

From table 2.3(a), we observe that among the 440 students 31.36% were females (n = 138) and 68.64% were males (n = 302).

Table 2.3(a): Gender wise sample Description for Lao students.

Gender	N	%
Male	302	68.64
Female	138	31.36
Total	440	100

Table 2.4(a) shows that, out of 302 male students 132(43.71%) were working and 170 (56.29%) were non-working. Similarly, out of 138 female students 63(45.65%) were working and 75 (54.35%) were non-working.

Table 2.4(a): Sample Description with Work Status and Gender of Lao students.

Work Status	Working	%	Non-working	%	Total
Gender					
Male	132	43.71	170	56.29	302
Female	63	45.65	75	54.35	138
Total	195	44.32	245	55.68	440

$$\chi^2=0.145, DF = 1, P\text{-Value} = 0.703(\text{ns})$$

Table 2.5 (a) shows the work status (n = 440) of the students i.e. 44.32% (n=195) were working students; however 55.68% (n = 245) of them reported non-working.

Table 2.5(a): Sample Description with Work Status for Lao students.

Work Status	N	%
Working	195	44.32
Non-working	245	55.68
Total	440	100

Table 2.6(a) indicates students ranged from 18-32 years of age with an average age of 21.17 years (SD = 1.99). 82 % of the respondents were between 18 and 23 years of age.

Table 2.6(a): Sample Description Age wise for Lao students.

Age	*Frequency(n)	%
18	54	12.27
19	66	15
20	38	8.64
21	79	17.95
22	77	17.5
23	47	10.68
24+	79	17.95
Overall	440	100

Note: Frequency is the number of students of the particular age. Example, if 54 was the frequency of age 18; it means that there were 54 students of age 18.

Table 2.7(a) shows percentage of male students and female students of corresponding age. Example, Out of 54 students, there were 46 (85.16%) male students and 8 (14.81%) female students of age 18.

Table 2.7(a): Gender wise age Distribution of Lao students.

Age	Male	%	Female	%	Total
18	46	85.16	8	14.81	54
19	42	63.64	24	36.36	66
20	22	57.89	16	42.12	38
21	49	62.03	30	37.97	79
22	51	67.12	25	32.88	76

23	33	70.21	14	29.77	47
24 and above	59	73.75	21	26.25	80
Total	302	68.64	138	31.36	440

$$\chi^2=12.386, DF = 6, P\text{-Value} = 0.054(\text{ns})$$

Table 2.8(a) shows percentage of working and non-working students of corresponding age. Example, Out of 54 students, there were 12 (22.22%) working and 42 (77.78%) non-working students of age 18.

Table 2.8(a): Work Status wise age Distribution of Lao students.

Age	Working	%	Non-working	%	Total
18	12	22.22	42	77.78	54
19	12	18.18	54	81.82	66
20	5	13.16	33	86.84	38
21	24	30.38	55	69.62	79
22	40	52.63	36	47.37	76
23	38	80.85	9	19.15	47
24 and above	64	80	16	20	80
Total	195	44.32	245	55.68	440

$$\chi^2=118.94, DF = 6, P\text{-Value} = 0.000$$

Learning Style

Completion of Kolb's Learning Style Inventory (LSI) generated six scores: four Learning stage scores and two learning dimension scores. Each respondent was identified as preferring one of the four learning styles (Converger ,Diverger, Assimilator or Accommodator) according to the respondent's scores on Kolb's learning Style Inventory (LSI).

Table 2.9(a) presented gender and the learning stage and learning dimension mean scores for all the respondents. The learning stages are Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE).

Table 2.9(a): Learning Stage and Learning Dimension Mean scores and Gender of Lao students.

Gender	n	AC ¹	CE ²	AE ³	RO ⁴	AC-CE ⁵	AE-RO ⁶
Male	302	25.73 ^a	34.24 ^a	32.93 ^a	27.09 ^a	-8.51 ^a	5.83 ^a
		1.68 ^b	3.33 ^b	3.67 ^b	0.73 ^b	3.94 ^b	3.96 ^b
Female	138	26.72 ^a	33.83 ^a	31.45 ^a	28 ^a	-7.11 ^a	3.45 ^a
		0.45 ^b	1.34 ^b	0.89 ^b	0 ^b	1.79 ^b	0.89 ^b
Overall	440	26.04 ^a	34.11 ^a	32.47 ^a	27.38 ^a	-8.07 ^a	5.83 ^a
		1.49 ^b	2.86 ^b	3.16 ^b	0.73 ^b	3.47	3.96 ^b

a=mean

b=Standard Deviation (SD)

1= Abstract Conceptualization, Thinking

2= Concrete Experience, Feeling

3= Active Experimentation, Doing

4= Reflective Observation, Watching

5= Abstract Conceptualization/ Concrete Experience

6= Active Experimentation/ Reflective Observation

Example, From above table (Table 2.9(a)) we observed that 25.73 is mean score of male students (SD=1.68); 26.72 is mean score of female students (SD=0.45) and 26.04 is mean score of all students (SD=1.49) for Abstract Conceptualization (AC).

The learning stage mean scores by work status (working, non-working) were presented in Table 2.10(a). The possible scoring range was 12 to 48 for each learning stage and -36 to +36 for each learning dimension. The learning dimension preferences of all students were presented in Table 2.9(a) and Table 2.10(a). The dimension Abstract Conceptualization (AC) minus Concrete Experience (CE) represents the AC-CE score; the dimension Active Experimentation (AE) minus Reflective Observation (RO) represented the AE-RO score.

Table 2.10(a): Learning Stage, Learning Dimension Mean scores and Work Status of Lao students.

Gender	n	AC ¹	CE ²	AE ³	RO ⁴	AC-CE ⁵	AE-RO ⁶
Working	195	26.06 ^a	35.73 ^a	30.43 ^a	27.77 ^a	-9.68 ^a	2.66 ^a
		1.26 ^b	2.56 ^b	1.78 ^b	0.49 ^b	3.51 ^b	1.66 ^b
Non-working	245	26.03 ^a	32.81 ^a	34.09 ^a	27.07 ^a	-6.78 ^a	7.02 ^a
		1.65 ^b	2.37	3.07 ^b	0.75 ^b	2.83 ^b	3.37 ^b
Overall	440	26.04 ^a	34.11 ^a	32.47 ^a	27.38 ^a	-8.07 ^a	5.83 ^a
		1.49 ^b	2.86 ^b	3.16 ^b	0.73 ^b	3.47 ^b	3.96 ^b

a=mean

b=Standard Deviation (SD)

1= Abstract Conceptualization, Thinking

2= Concrete Experience, Feeling

3= Active Experimentation, Doing

4= Reflective Observation, Watching

5= Abstract Conceptualization/ Concrete Experience

6= Active Experimentation/ Reflective Observation

Example, From above table (Table 2.10(a)) we can observed that 26.06 is mean score of working students (SD=1.26); 26.03 is mean score of non-working students (SD=1.65) and 26.04 is mean score of all students (SD=1.49) for Abstract Conceptualization (AC).

Zero percent (0.00%) of the respondents were identified as Assimilators, followed by zero Convergents (0.00%), Divergers (0.91%), and Accommodators (99.09) as observed in Table 2.11(a).

Table 2.11(a): Frequency Distribution and Chi-square between Gender and Learning Styles of Lao students.

Gender	Accommodator		Assimilator		Converger		Diverger		Total
	n	%	N	%	N	%	N	%	n
Male	298	98.66	0	0	0	0	4	1.33	302
Female	138	100	0	0	0	0	0	0	138
Overall	436	99.09	0	0	0	0	4	0.91	440

$\chi^2=1.845$, DF = 1, P-Value = 0.174(ns)

As P-value is not significant (ns) for rejecting hypothesis I of no difference, between gender and learning styles of the students, we conclude that no differences were detected on learning styles proportion distribution based on the gender of the students.

Note: Under the null hypothesis of no association (or independence), expected frequencies for each (i, j) cell of the r x c table are:

$E_{ij} = [(total\ of\ row\ i) * (total\ of\ column\ j)] / total\ number\ of\ observations$

The total χ^2 is calculated by:

$$\sum \sum [(O_{ij} - E_{ij})^2 / E_{ij}]$$

Where O_{ij} = observed frequency in cell (i, j)

E_{ij} = expected frequency for cell (i, j) and

Σ represents summation.

The degrees of freedom (DF) associated with a contingency table possessing r rows and c columns equals (r - 1) (c - 1).]

Table 2.12(a): Frequency Distribution and Chi-square between Work Status and Learning Styles of Lao students.

Work Status	Accommodator		Assimilator		Converger		Diverger		Overall
	n	%	n	%	N	%	N	%	n
Working	191	97.95	0	0	0	0	4	2.05	195
Non-working	245	100	0	0	0	0	0	0	245
Overall	436	99.09	0	0	0	0	4	0.91	440

$\chi^2=5.072, DF = 1, P-Value = 0.024$

Table 2.12(a) shows that all 245 non-working students were identified as Accommodator, followed by 4 (2.05%) Diverger and 191(97.95%) Accommodator out of 195 working students.

As P-value is significant for rejecting hypothesis I of no difference, between work status and learning styles of the students, we conclude that differences were detected on learning styles proportion distribution based on the work status of the students.

Table 2.12(a)*: Frequency Distribution and Chi-square between Age and Learning Styles of Lao students.

Age	Accommodator		Assimilator		Converger		Diverger		Overall
	n	%	n	%	n	%	n	%	n
18	54	100	0	0	0	0	0	0	54
19	66	100	0	0	0	0	0	0	66
20	37	97.37	0	0	0	0	1	2.63	38
21	79	100	0	0	0	0	0	0	79
22	75	98.68	0	0	0	0	1	1.32	76
23	45	95.74	0	0	0	0	2	4.26	47
24+	80	100	0	0	0	0	0	0	80
Total	436	99.09	0	0	0	0	4	0.91	440

$\chi^2=0.975$, DF = 2, P-Value = 0.614(ns)

As P-value is not significant for rejecting hypothesis I of no difference, between age and learning styles of the students, we conclude that no differences were detected on learning styles proportion distribution based on the age of the students in Lao.

Personality Type

The Personal Style Inventory (PSI) generated 8 scores: Extroversion, Introversion, Sensing, iNtuition, Thinking, Feeling, Judging, and Perceiving, which characterize one's preferences when paired into four dimensions (indices) (Hogan & Champagne, 1979). Each dimension had two types: Extroversion-Introversion, Sensing-iNtuition, Thinking- Feeling, and Judging-Perceiving. Each subject was classified as one of 16 possible personality types, according to the respondent's tendency toward each personality trait on the Personal Style Inventory (PSI). The combined score of each dimension should be 25. The possible scoring range of each component of the dimension should be between 0 and 25.

After completion of the Personal Style Inventory (PSI), each respondent was classified as either an Extroversion (E) type or an Introversion (I) type, depending upon the respondent's score of tendency on the E-I dimension; a Sensing (S) type or an iNtuition (N) type, depending upon the subject's score of tendency on the S-N dimension; a Thinking (T) type or a Feeling (F) type, depending upon the subject's score of tendency on the T-F dimension; and a Judging (J) type or a Perceiving (P) type, depending upon the subject's score of tendency on the J-P dimension. The personality type was determined by combining the four dominant tendencies.

Table 2.13(a): Personality Dimension Mean Scores of Personality Type by Gender of Lao students.

Gender	n	E ¹	I ²	S ³	N ⁴	T ⁵	F ⁶	P ⁷	J ⁸
Male	302	18.07 ^a	6.937 ^a	17.39 ^a	7.62 ^a	7.92 ^a	17 ^a	7.05 ^a	17.9 ^a
		3.29 ^b	3.29 ^b	3.92 ^b	3.92 ^b	3.76 ^b	3.76 ^b	3.35 ^b	3.34 ^b
Female	138	17.38 ^a	7.65 ^a	16.55 ^a	8.44 ^a	8.67 ^a	16.3 ^a	8.41 ^a	16.6 ^a
		3.24 ^b	3.283 ^b	4.31 ^b	4.31 ^b	4.33 ^b	4.33 ^b	3.7 ^b	3.69 ^b
Overall	440	17.85 ^a	7.164 ^a	17.13 ^a	7.88 ^a	8.15 ^a	16.8 ^a	7.48 ^a	17.5 ^a
		3.29 ^b	3.307 ^b	4.06 ^b	4.07 ^b	3.95 ^b	3.96 ^b	3.51 ^b	3.51 ^b

a=mean

b=Standard Deviation (SD)

1= Extroversion (Range 9 - 25)

2= Introversiion (Range 0-16)

3= Sensing (Range 4 - 25)

4= iNtuitiion (Range 0 - 25)

5= Thinking (Range 0 - 24)

6= Feeling (Range 6 - 24)

7=Perceiving (Range 0 - 24)

8=Judging (Range 2 - 25)

Table 2.13(a) presented mean scores and their standard deviation for eight personality types (E, I, N, S, T, F, P and J) classified by gender of the student. For example, 18.07 is the mean score male student (SD=3.29); 17.38 is mean score of female student (SD=3.24) and 17.85 is mean score of all students (SD=3.29) for Personality Type E. All respondents showed stronger tendencies on Extroversion (E), Sensing (S), Feeling (F) and Judging (J) scores

with respect to their corresponding personality types. **By this we can conclude that overall personality type of Lao students is ESFJ.**

Table 2.14(a): Personality Dimension Mean Scores of Personality Type by Work Status of Lao students.

Gender	n	E ¹	I ²	S ³	N ⁴	T ⁵	F ⁶	P ⁷	J ⁸
working	195	18.16 ^a	6.84 ^a	16.91 ^a	8.09 ^a	7.94 ^a	17 ^a	7.61 ^a	17.4 ^a
		3.38 ^b	3.38 ^b	4.17 ^b	4.17 ^b	4.10 ^b	4.11 ^b	3.66 ^b	3.63 ^b
Non-working	245	17.60 ^a	7.42 ^a	17.3 ^a	7.71 ^a	8.32 ^a	16.6 ^a	7.37 ^a	17.6 ^a
		3.21 ^b	3.24 ^b	3.94 ^b	3.96 ^b	3.83 ^b	3.83 ^b	3.36 ^b	3.36 ^b
Overall	440	17.85 ^a	7.16 ^a	17.13 ^a	7.87 ^a	8.15 ^a	16.8 ^a	7.48 ^a	17.5 ^a
		3.29 ^b	3.31 ^b	4.05 ^b	4.07 ^b	3.95 ^b	3.96 ^b	3.51 ^b	3.51 ^b

a=mean

b=Standard Deviation (SD)

1= Extroversion (Range 9 - 25)

2= Introversion (Range 0-16)

3= Sensing (Range 4 - 25)

4= iNtuition (Range 0 - 25)

5= Thinking (Range 0 - 24)

6= Feeling (Range 6 - 24)

7=Perceiving (Range 0 - 24)

8=Judging (Range 2 - 25)

Table 2.14(a) presented mean scores and their standard deviation for eight personality types (E, I, N, S, T, F, P and J) classified by work status of the student. For example, 18.16 is the mean score working student (SD=3.38); 17.60 is mean score of non-working student (SD=3.21) and 17.85 is mean score of all students (SD=3.29) for Personality Type E. All students showed stronger tendencies on Extroversion (E), Sensing (S), Feeling (F) and Judging (J) scores with respect to their corresponding personality types. **By this we can conclude that overall personality type of Lao students is ESFJ.**

Table 2.15(a) presented the proportional distributions of the four personality dimensions: Extroversion-Introversion, Sensing-iNtuition, Thinking-Feeling, and Judging-Perceiving. The Chi-square analysis indicated that there were no statistically significant differences regarding personality dimension on the E-I Index between male and female students ($\chi^2 = 2.286, p = 0.131$) and p-value is not significant.

Furthermore, each subject was classified as either a Sensing (S) type or an iNtuition (N) type, depending upon the subject's score on the S-N Index. The chi-square analysis indicated that there were no statistically significant differences regarding personality type on the S-N Index between male and female students ($\chi^2 = 0.368, p = 0.544$) and p-value is also not significant .

Also, each subject was classified as either a Thinking (T) type or a Feeling (F) type, depending upon the subject's score on the T-F Index. The chi-square analysis indicated that there were significant differences regarding personality type on the T-F Index between male and female students ($\chi^2 = 10.312, p = 0.001$) and p-value is significant .

Finally, each subject was classified as either a Judging (J) type or a Perceiving (P) type, depending upon the subject's score on the J-P Index. The chi-square analysis indicated that there were no significant differences regarding personality type on the J-P Index between male and female hospitality undergraduate students ($\chi^2 = 0.151, p = 0.698$) and p-value is also not significant.

Table 2.15(a): Frequency Distribution and Chi-square between Personality Dimension and Gender of Lao students.

	Male (n=302)		Female (n=138)		Total (n=440)	Chi-square	P- value
	n	%	n	%	n		
Extroversion-Introversion Dimension						2.286	0.131 (ns)
E	287	65.22	126	28.64	413		
I	15	3.41	12	2.73	27		
Sensing-iNtuition Dimension						0.368	0.544 (ns)
S	263	59.78	123	27.95	386		
N	39	8.86	15	3.41	54		
Thinking-Feeling Dimension						10.312	0.001
T	25	5.68	26	5.91	51		
F	277	62.95	112	25.45	389		
Judging-Perceiving Dimension						0.151	0.698 (ns)
J	279	63.41	126	28.64	405		
P	23	5.23	12	2.73	35		
Overall	302	68.64	138	31.36	440		

Note: ns=not significant

Table 2.16 (a) presented the proportional distributions of the four personality dimensions: Extroversion-Introversion, Sensing-iNtuition, Thinking-Feeling, and Judging-Perceiving. The Chi-square analysis indicated that there were no statistically significant differences regarding personality type on the E-I Index between working and non-working students ($\chi^2 = 0.662, p = 0.416$) and p-value is not significant. Furthermore, each subject was classified as either a Sensing (S) type or an iNtuition (N) type, depending upon the subject's score on the S-N Index. The chi-square analysis indicated that there were no statistically significant differences regarding personality type on the S-N Index between working and non-working students ($\chi^2 = 2.197, p = 0.138$) and p-value is not significant.

Also, each subject was classified as either a Thinking (T) type or a Feeling (F) type, depending upon the subject's score on the T-F Index. The chi-square analysis indicated that there were no statistically significant differences regarding personality type on the T-F Index between working and non-working students ($\chi^2 = 3.679$, $p = 0.055$) and p-value is significant. Finally, each subject was classified as either a Judging (J) type or a Perceiving (P) type, depending upon the subject's score on the J-P Index. The chi-square analysis indicated that there were no significant differences regarding personality type on the J-P Index between working and non-working hospitality undergraduate students ($\chi^2 = 1.531$, $p = 0.216$) and p-value is not significant.

Table 2.16(a): Frequency Distribution and Chi-square between Personality Dimension and Gender of Lao students.

	Working (n=195)		Non- working (n=245)		Total (n=440)	Chi- square	P-value
	n	%	n	%	n		
Extroversion-Introversion Dimension						0.662	0.416 (ns)
E	181	41.14	232	52.73	413		
I	14	3.18	13	2.95	27		
Sensing-iNtuition Dimension						2.197	0.138 (ns)
S	166	37.73	220	50	386		
N	29	6.59	25	5.68	54		
Thinking-Feeling Dimension						3.679	0.055
T	29	6.59	22	5	51		
F	166	37.73	223	50.68	389		
Judging-Perceiving Dimension						1.531	0.216 (ns)
J	176	40	229	52.05	405		
P	19	4.32	16	3.64	35		
Overall	195	44.32	245	55.68	440		

Note: ns=not significant

Table 2.17(a): Lao student's Personality Type Distribution (n=440).

ESTJ 40 (9.09%)	ESTP 5 (1.14%)	ESFJ 299 (67.95%)	ESFP 24 (5.45%)
ENTJ 6 (1.36%)	ENTP 0 (0.00%)	ENFJ 39 (8.86%)	ENFP 2 (0.45%)
ISTJ 0 (0.00%)	ISTP 1 (0.23%)	ISFJ 17 (3.86%)	ISFP 1 (0.23%)
INFJ 4 (0.91%)	INFP 0 (0.00%)	INTJ 2 (0.45%)	INTP 0 (0.00%)

E=Extroversion

I=Introversion

S=Sensing

N=iNtuition

T=Thinking

F=Feeling

P=Perceiving

J=Judging

The Personality Type of ESFJ (n=299,67.95%), ESTJ (n=40,9.09%) and ENFJ (n=39,8.86%) were the majority Personality Types of hospitality students as shown in Table 2.17(a), followed closely by the personality types of ESFP (n=24,5.45%), ESTP(n=5,1.14%), ENTJ (n=6,1.36%), ENFP(n=2,0.45%),ISTP(n=1,0.23%), ISFP(n=1,0.23%), ISFJ (n=17,3.86%) , INFJ(n=4, 0.91%) and INTJ(n=2,0.45%). All the remaining Personality Types were zero.

Table2.18 (a): Frequency Distribution between Student’s Gender and Personality Type of Lao students.

Personality Type	Male		Female		Overall		z-score	p <
	n	%	N	%	n	%		
ESTJ	19	4.32	21	4.77	40	9.09	0.39	0.34
ESTP	3	0.68	2	0.45	5	1.14	-0.096	0.53
ESFJ	214	48.64	85	19.32	299	67.95	0.956	0.16
ESFP	17	3.86	7	1.59	24	5.45	0.148	0.44
ENTJ	4	0.91	2	0.45	6	1.36	-0.368	0.64
ENTP	0	0	0	0	0	0	-0.377	0.64
ENFJ	28	6.36	11	2.5	39	8.86	0.344	0.36
ENFP	2	0.45	0	0	2	0.45	-0.135	0.55
ISTJ	0	0	0	0	0	0	0.121	0.45
ISTP	0	0	1	0.23	1	0.23	-0.359	0.64
ISFJ	11	2.5	6	1.36	17	3.86	0.378	0.35
ISFP	0	0	1	0.23	1	0.23	-0.094	0.53
INFJ	3	0.68	1	0.23	4	0.91	0.083	0.46
INFP	0	0	0	0	0	0	-0.406	0.65
INTJ	1	0.23	1	0.23	2	0.45	-0.1635	0.56
INTP	0	0	0	0	0	0	-0.979	0.83
Overall	302	68.64	138	31.36	440	100	-0.013	0.51

$$\chi^2 = 10.299, DF = 6, P\text{-Value} = 0.113$$

Considering gender as a parameter (Table 2.18(a)), the majority distributions of both male students' and female students' personality types were close to the distribution of the samples. The first three major personality types for female students were ESFJ (n=85, 19.32%), ESTJ (n=21, 4.77%) and ENFJ (n=11, 2.5%). The three major personality types for male students were ESFJ (n=214, 48.64%), ENFJ (n=28, 6.36%) and ESTJ (n=19, 4.32%). Thus, there were no statistically significant differences ($\chi^2 = 10.299$, $p = 0.113$) regarding personality types on the PSI between male and female students.

As P-value is not significant (ns) for rejecting hypothesis II of no difference, between Gender and Personality Types of the students, we conclude that no differences were detected on Personality Types based on the Gender of the students.

Table 2.19 (a): Frequency Distribution between Work Status and Personality Type of Lao students.

Personality Type	Working		Non-working		Overall		z-score	p <
	n	%	N	%	n	%		
ESTJ	20	4.55	20	4.54	40	9.09	0.084	0.466
ESTP	4	0.91	1	0.23	5	1.14	-0.0046	0.501
ESFJ	125	28.41	172	39.09	299	67.95	0.074	0.47
ESFP	10	2.27	13	2.95	24	5.45	0.136	0.445
ENTJ	3	0.68	3	0.68	6	1.36	0.051	0.479
ENTP	0	0	0	0	0	0	-0.136	0.554
ENFJ	17	3.86	25	5.68	39	8.86	-0.189	0.574
ENFP	2	0.45	0	0	2	0.45	-0.253	0.599
ISTJ	0	0	0	0	0	0	0.2629	0.396
ISTP	1	0.23	0	0	1	0.23	0.201	0.420
ISFJ	9	2.05	8	1.82	17	3.86	0.152	0.439
ISFP	0	0	1	0.23	1	0.23	0.062	0.475
INFJ	4	0.91	0	0	4	0.91	0.015	0.494
INFP	0	0	0	0	0	0	0.073	0.470
INTJ	0	0	2	0.46	2	0.455	0.147	0.441
INTP	0	0	0	0	0	0	0.0905	0.463
Overall	302	68.64	138	31.36	440	100	-0.01	0.503

$$\chi^2 = 6.615, DF = 7, P\text{-Value} = 0.47$$

Table 2.19(a) shows the distributions of Personality Types of students by work status. 195 Lao students of the overall sample (n = 440) were working and remaining 245 were non-working. The Personality Type distributions of students who work were ESFJ (n = 125, 28.41%), ESTJ (n = 20, 4.55%), ENFJ (n = 17, 3.86%), and ISFJ (n = 9, 2.05%); while students who did not work had almost same distributions, ESFJ (n = 172, 39.09%), ESTJ (n = 20, 4.55%), ENFJ (n = 25, 5.68%), and ISFJ (n = 8, 1.82%) from the ones who work.

Here also, we conclude that there were no statistically significant differences ($\chi^2 = 6.615$, $p = 0.047$) regarding personality types on the PSI between working and non-working students. **As P-value is not significant (ns) for rejecting hypothesis II of no difference, between Work Status and Personality Types of the students, we conclude that no differences were detected on Personality Types based on the Work Status of the students.**

Table 2.19(a)*: Age-wise Personality Types of Lao students.

Age								Total
Personality Type	18	19	20	21	22	23	24+	
ESTJ	5	5	3	9	2	3	13	40
ESTP	1	0	2	1	0	0	1	5
ESFJ	40	43	24	54	59	32	47	299
ESFP	4	6	1	4	5	2	2	24
ENTJ	0	2	1	0	0	3	0	6
ENTP	0	0	0	0	0	0	0	0
ENFJ	4	6	4	9	4	4	8	39
ENFP	0	0	0	0	1	0	1	2
ISTJ	0	0	0	0	0	0	0	0
ISTP	0	0	0	0	1	0	0	1
ISFJ	0	2	3	2	5	1	4	17
ISFP	0	1	0	0	0	0	0	1
INFJ	0	0	0	0	0	1	3	4
INFP	0	0	0	0	0	0	0	0
INTJ	0	1	0	0	0	1	0	2
INTP	0	0	0	0	0	0	0	0
Total	54	66	38	79	77	47	79	440

$$\chi^2=23.069, DF = 24, P\text{-Value} = 0.516(\text{ns})$$

Table 2.19(a)* gives the age-wise distribution of 16 Personality Types which shows that ESFJ is highest among all Personality Type and is highest for age 22.

In this case also p-value is not significant in rejecting hypothesis of no-difference, we conclude that no differences on 16 personality Types were detected based on age of student in Lao PDR.

As P-value is not significant (ns) for rejecting hypothesis II of no difference, between Age and Personality Types of the students, we conclude that no differences were detected on 16 Personality Types based on the Age of the students.

Learning Style and Personality Type

There were no statistically significant differences ($\chi^2 = 1.818$, $p = 0.177$) on Kolb's learning styles among students' personality types (Table 2.20(a)). However, for the purpose of further analysis, each subject was re-classified according to the subject's scores on each of the PSI four dimensions.

Table 2.20 (a): Chi-square Comparison of Learning Style by Personality Type of Lao students.

Personality Type	N	Learning Style			
		Accommodator	Assimilator	Converger	Diverger
ESTJ	40	0	0	0	0
ESTP	5	0	0	0	0
ESFJ	299	296	0	0	3
ESFP	24	23	0	0	1
ENTJ	6	0	0	0	0
ENTP	0	0	0	0	0
ENFJ	39	0	0	0	0
ENFP	2	0	0	0	0
ISTJ	0	0	0	0	0
ISTP	1	0	0	0	0
ISFJ	17	0	0	0	0
ISFP	1	0	0	0	0
INFJ	4	0	0	0	0
INFP	0	0	0	0	0
INTJ	2	0	0	0	0
INTP	0	0	0	0	0
Overall n	440	319	0	0	4
%	100.0	72.5	0	0	0.91

$\chi^2 = 1.818$, DF = 1, P-Value = 0.1775(ns)

As shown in Tables 2.21(a), 2.22(a), 2.23(a), and 2.24(a), there were no statistically significant differences in students' four learning styles based on Extroversion-Introversion dimension ($\chi^2 = 0.254$, $p = 0.614$), Sensing –iNtuitiion Dimension ($\chi^2 = 0.553$, $p = 0.457$) Thinking-Feeling dimension ($\chi^2 = 0.529$, $p = 0.467$) and Judging-Perceiving dimension ($\chi^2 = 1.602$, $p = 0.206$) of personality types since P value is not significant for rejecting the hypothesis III of no difference between personality types and learning styles.

Table 2.21(a): Extroversion-Introversion Dimension Personality Types and Learning Styles Frequency Distribution of Lao students.

Learning Style	Extroversion-Introversion Dimension						
	Extroversion		Introversion		Total	z-score	p <
	N	%	N	%	n		
Accommodator	410	94.04	26	5.96	436	54.7	0.00
Assimilator	0	0	0	0	0	-	-
Converger	0	0	0	0	0	-	-
Diverger	4	100	0	0	4	-60	1.00
Total	414	94.09	26	5.91	440	1.752	0.039

$$\chi^2=0.254, DF= 1, P-Value = 0.614$$

Table 2.22(a): Sensing-iNtuition Dimension Personality Types and Learning Styles Frequency Distribution of Lao students.

Learning Style	Sensing - iNtuition Dimension						
	Sensing		iNtuition		Total	z-score	p <
	N	%	N	%	n		
Accommodator	383	87.84	53	12.16	436	26.3	0.00
Assimilator	0	0	0	0	0	-	-
Converger	0	0	0	0	0	-	-
Diverger	4	100	0	0	4	13.02	0.00
Total	387	87.95	53	12.05	440	1.517	0.06

$$\chi^2=0.553, DF = 1, P\text{-Value} = 0.457$$

Table 2.23(a): Thinking-Feeling Dimension Personality Types and Learning Styles Frequency Distribution of Lao students.

Learning Style	Thinking - Feeling Dimension						
	Thinking		Feeling		Total	z-score	p <
	N	%	N	%	n		
Accommodator	51	11.70	385	88.30	436	27.9	0.000
Assimilator	0	0	0	0	0	-	-
Converger	0	0	0	0	0	-	-
Diverger	0	0	4	100	4	31.57	0.00
Total	51	11.60	389	88.40	440	1.416	0.078

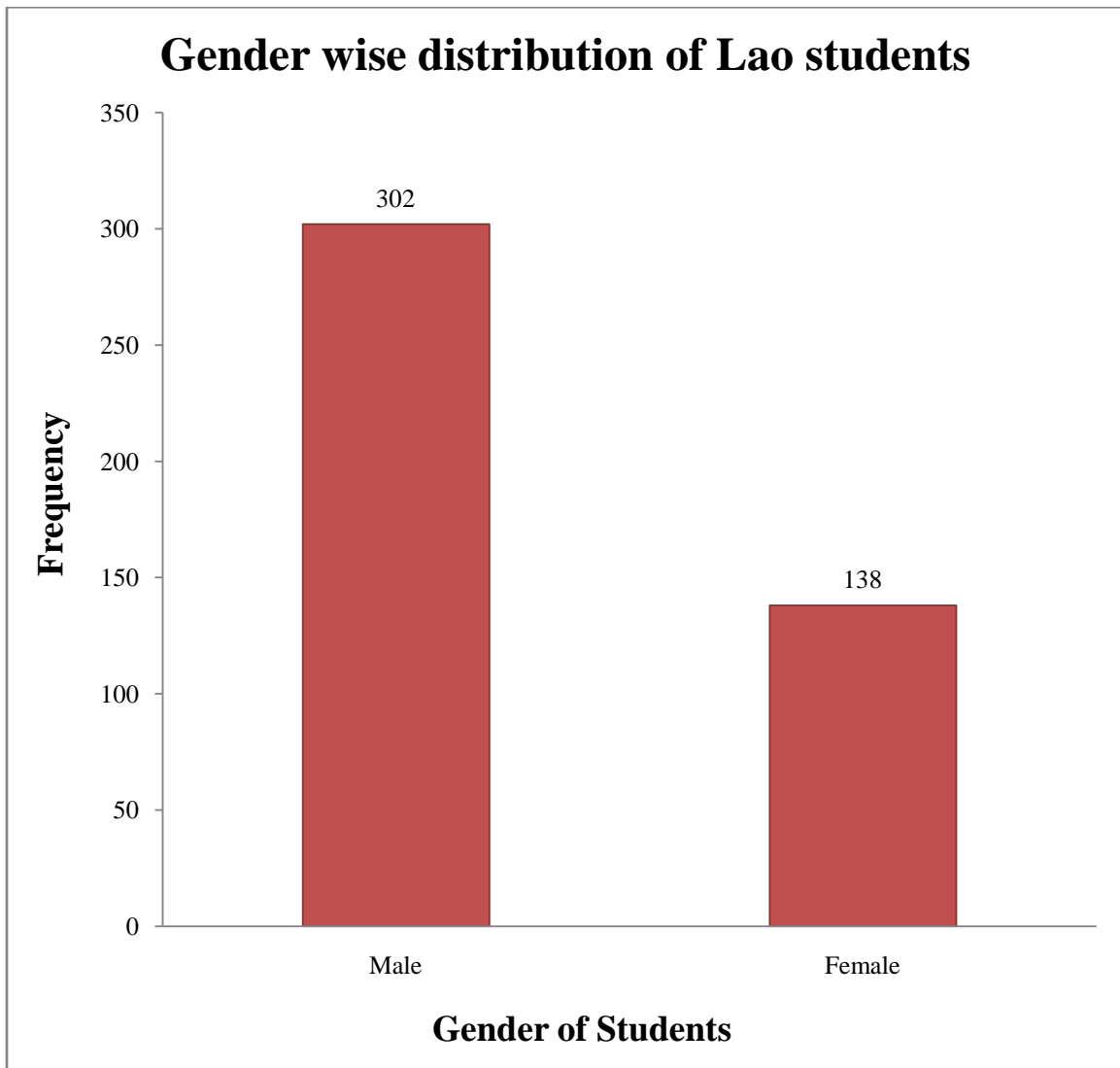
$$\chi^2=0.529, DF = 1, P\text{-Value} = 0.467$$

Table 2.24(a): Judging-Perceiving Dimension Personality Types and Learning Styles Frequency Distribution of Lao students.

Learning Style	Judging - Perceiving Dimension						
	Judging		Perceiving		Total	z-score	p <
	N	%	N	%	n		
Accommodator	402	92.20	34	7.80	436	35.28	0.00
Assimilator	0	0	0	0	0	-	
Converger	0	0	0	0	0	-	
Diverger	3	75	1	25	4	22.81	0.00
Total	405	92.05	35	7.95	440	1.643	0.050

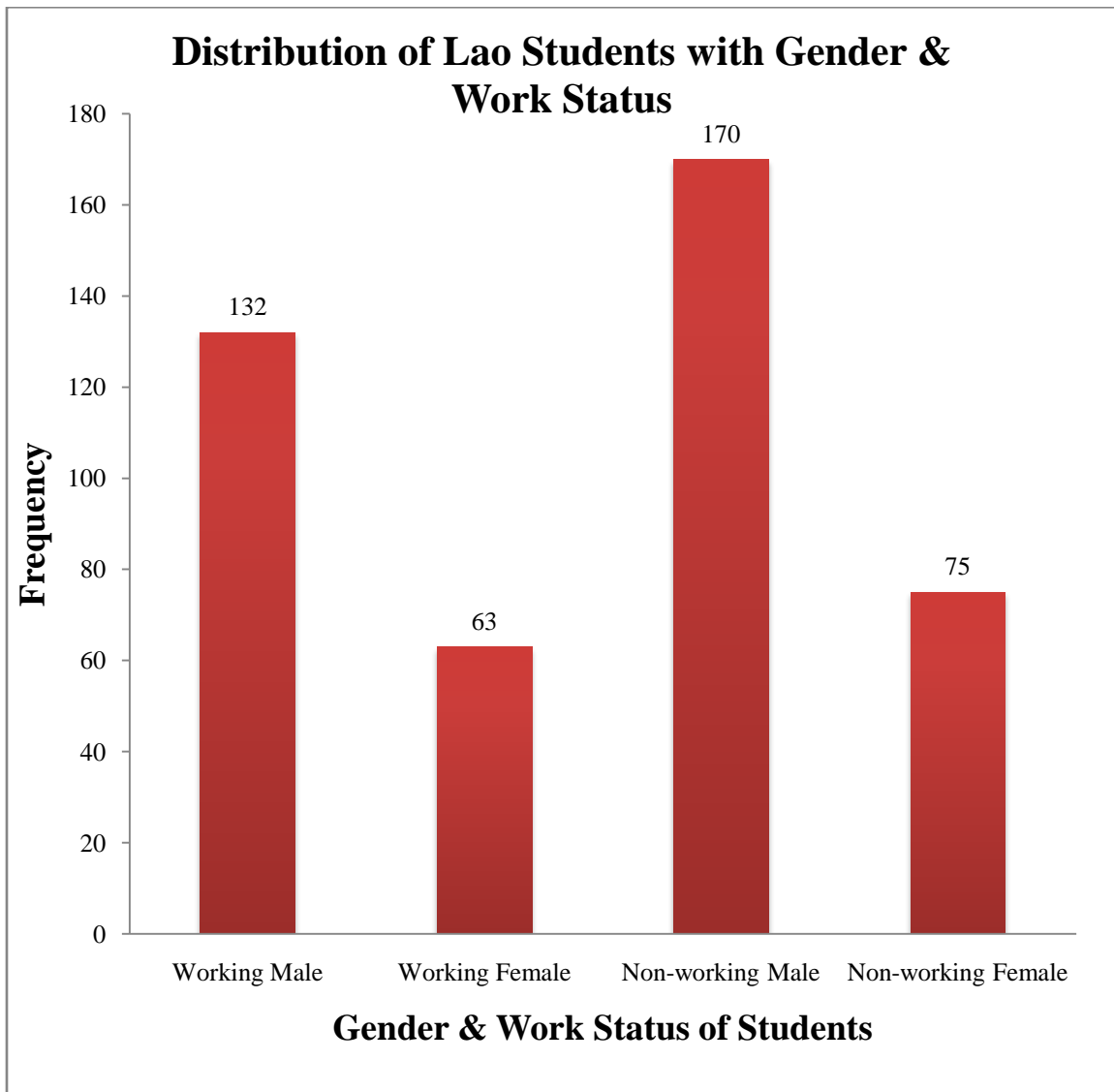
$$\chi^2=1.602, DF = 1, P\text{-Value} = 0.206$$

Graph 1(a): Gender wise distribution of Lao students.



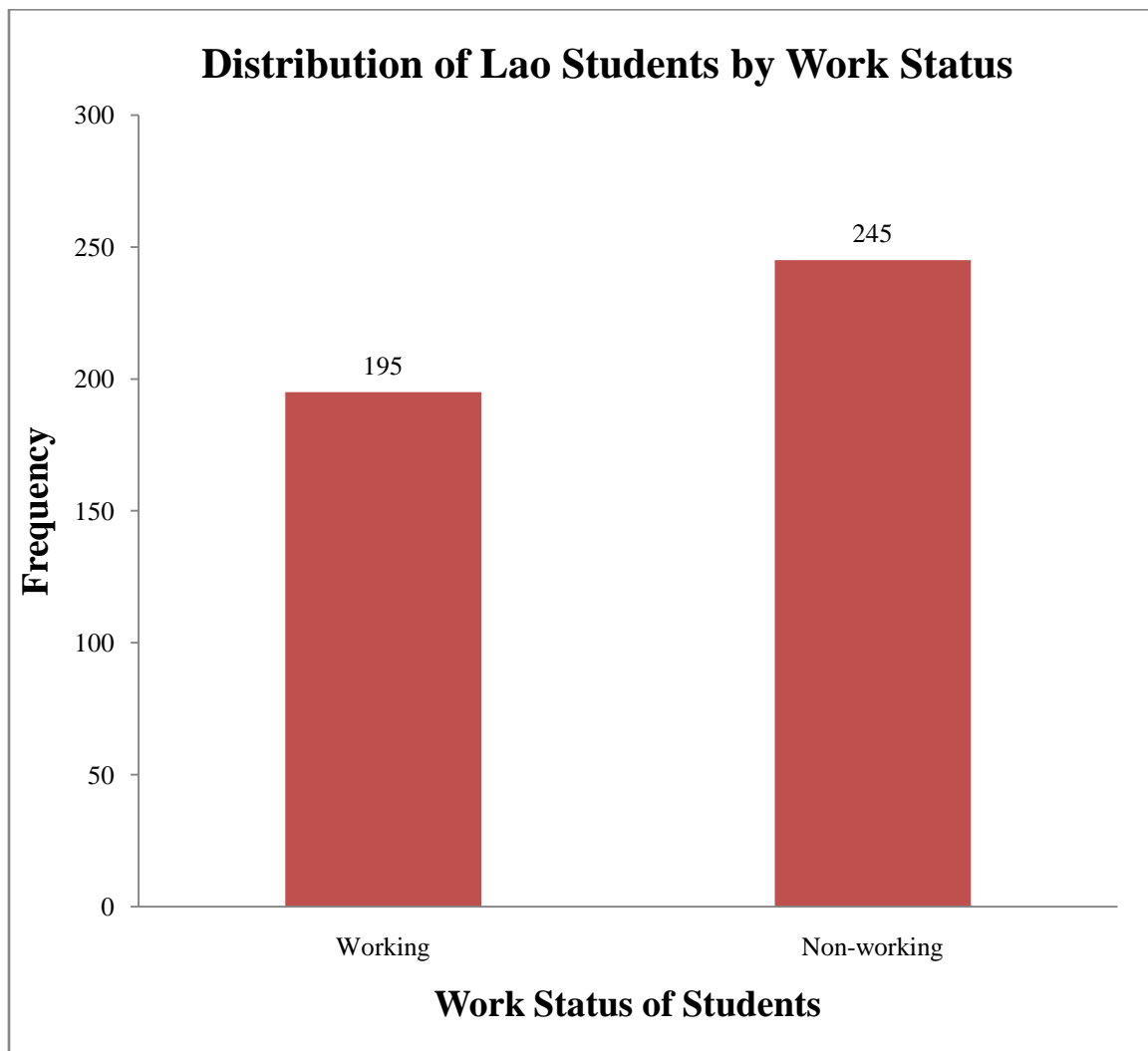
From graph 1(a), we observed that there were 302(68.64%) male students and 138 (31.36%) female students among the 440 students surveyed in Lao. Percentage of male students was more than female students by 37.38%.

Graph 2(a): Distribution of Lao Students with Gender & Work Status.



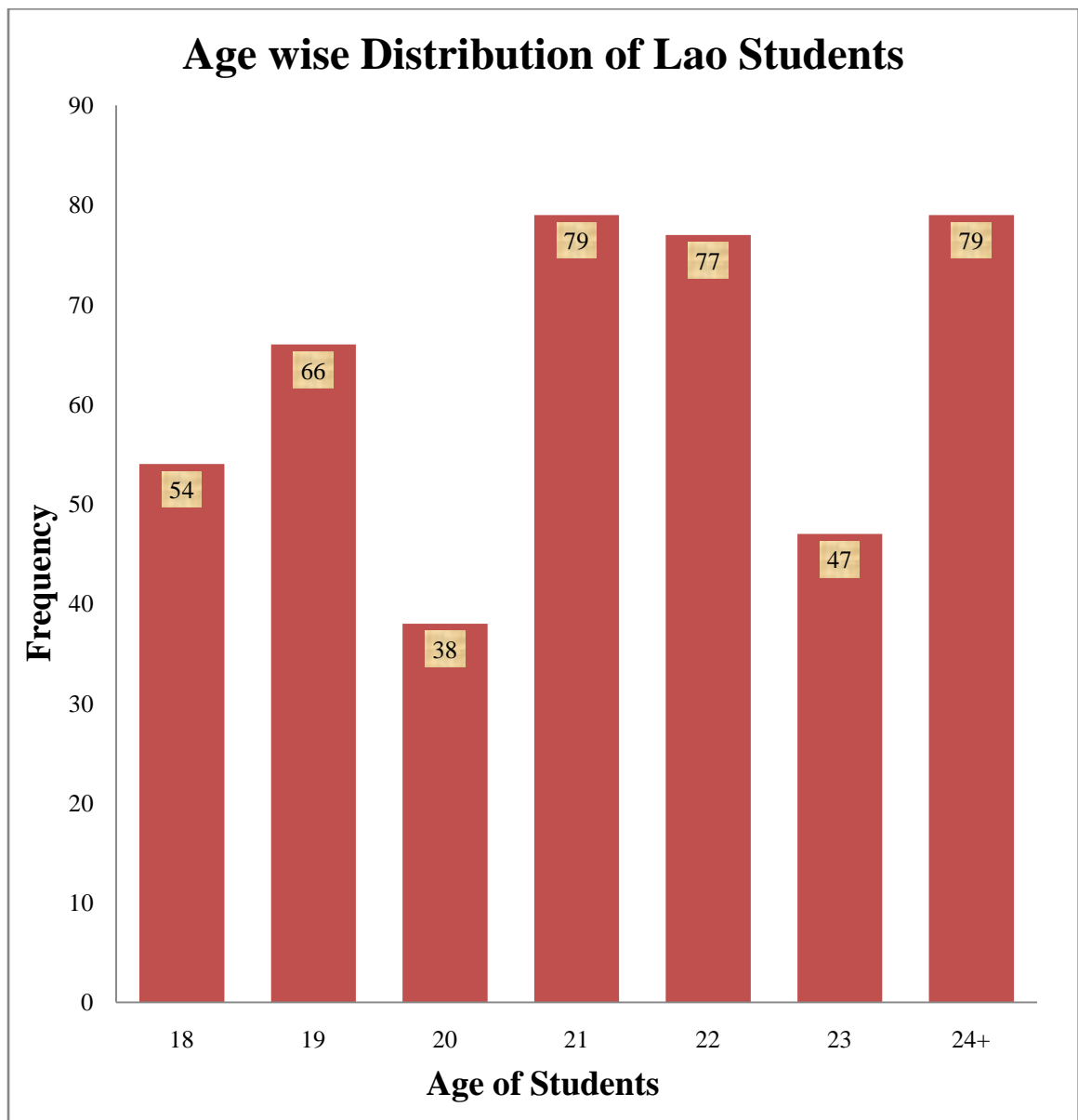
Graph 2(a) represents distribution of students with gender and work status. There were 132(23.67%) working male students, 63(31.39%) working female students, 170(76.43%) non-working male students and 75(17.05%) non-working female students. Hence, majority of the students were non-working male students.

Graph 3(a): Distribution of Lao Students by Work Status.



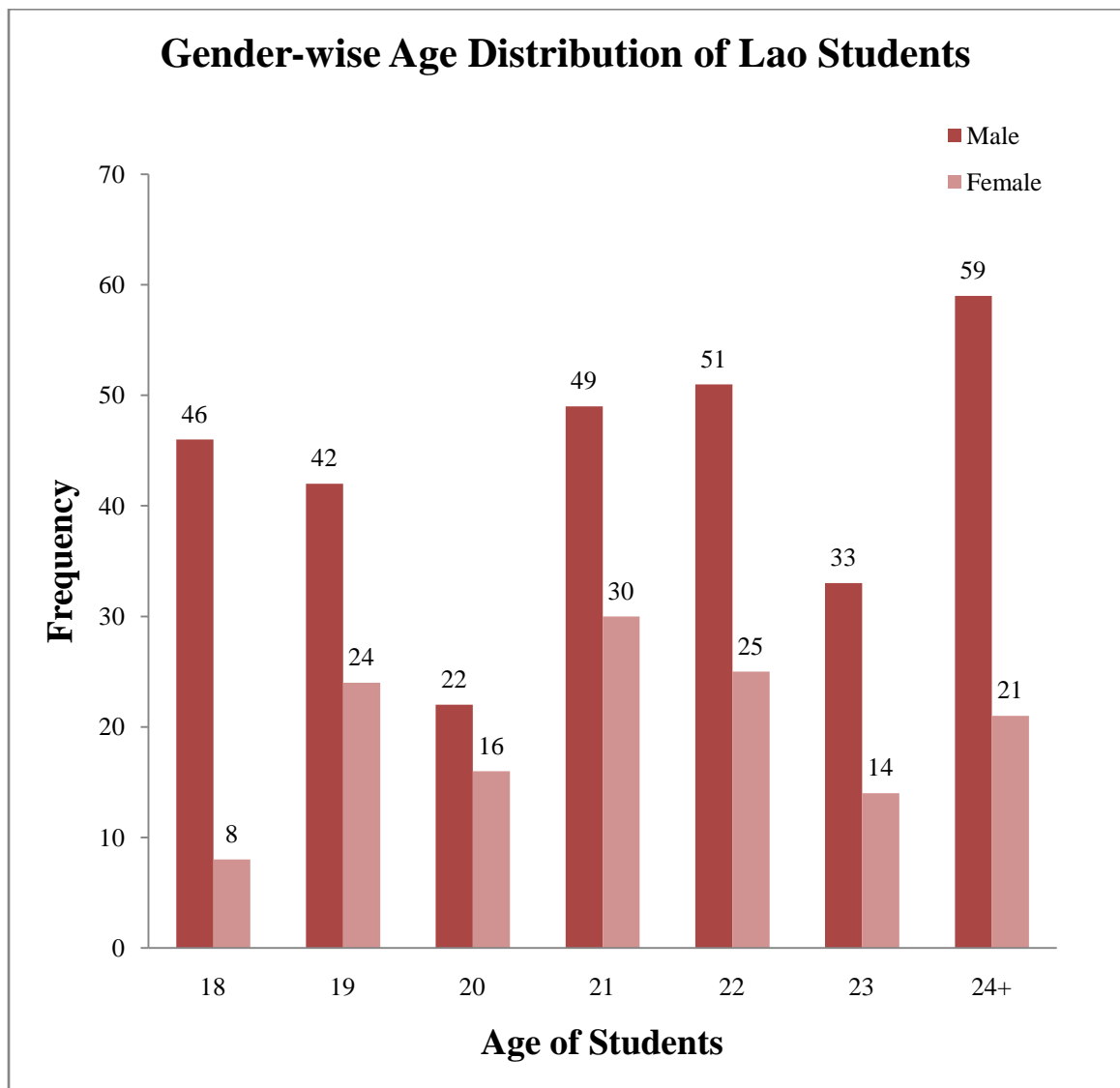
From above graph 3(a), we observed that there were 195(44.32%) working students and 245(55.68%) non-working students among 440 students. Percentage of non working students was higher than working students by 11.36%.

Graph 4(a): Age wise Distribution of Lao Students.



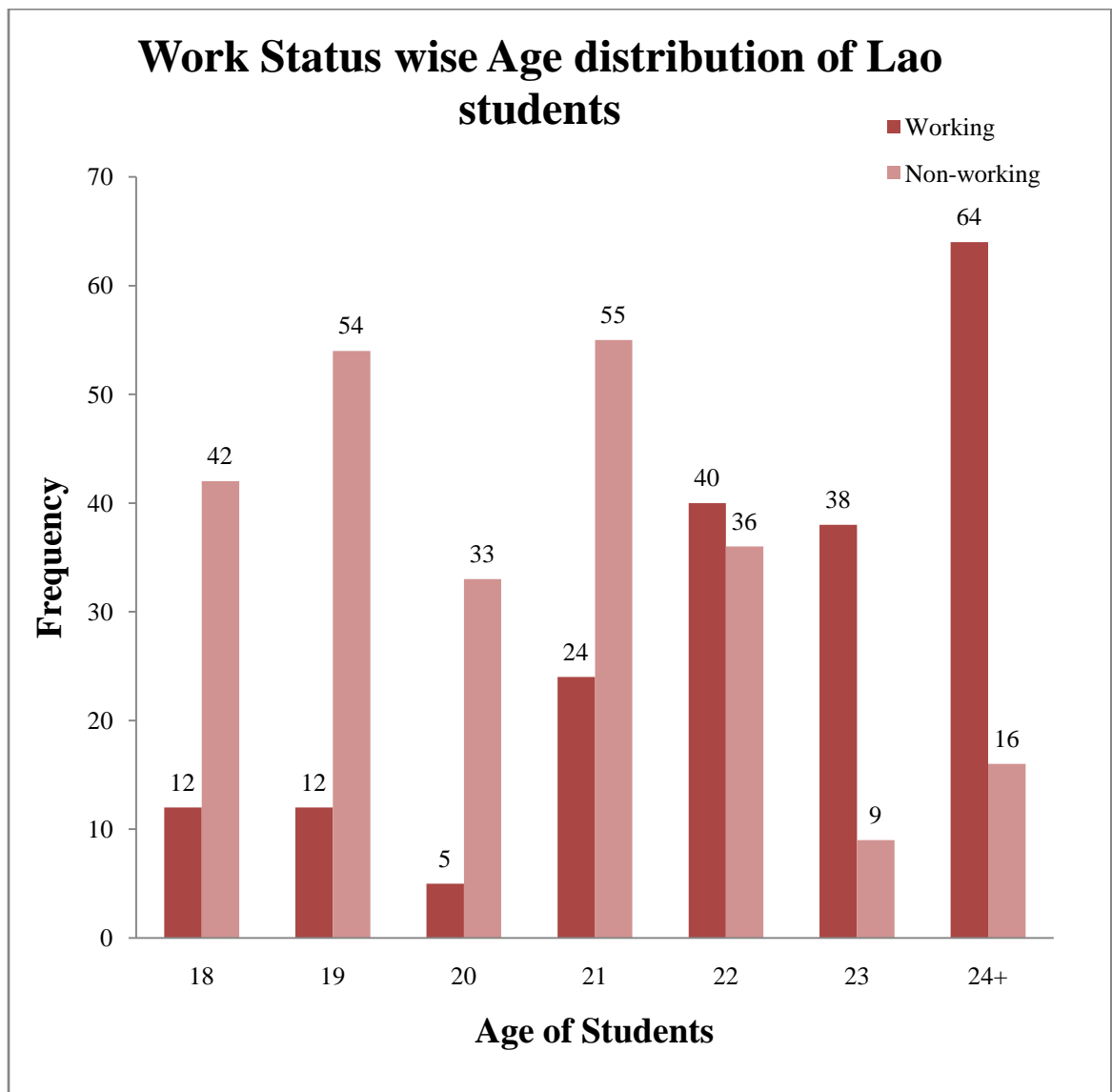
Graph 4(a) indicates students ranged from 18-32 years of age with an average age of 21.17 years (SD = 1.99). 82% of students were between 18 and 23 years of age.

Graph 5(a): Gender wise Age distribution of Lao Students.



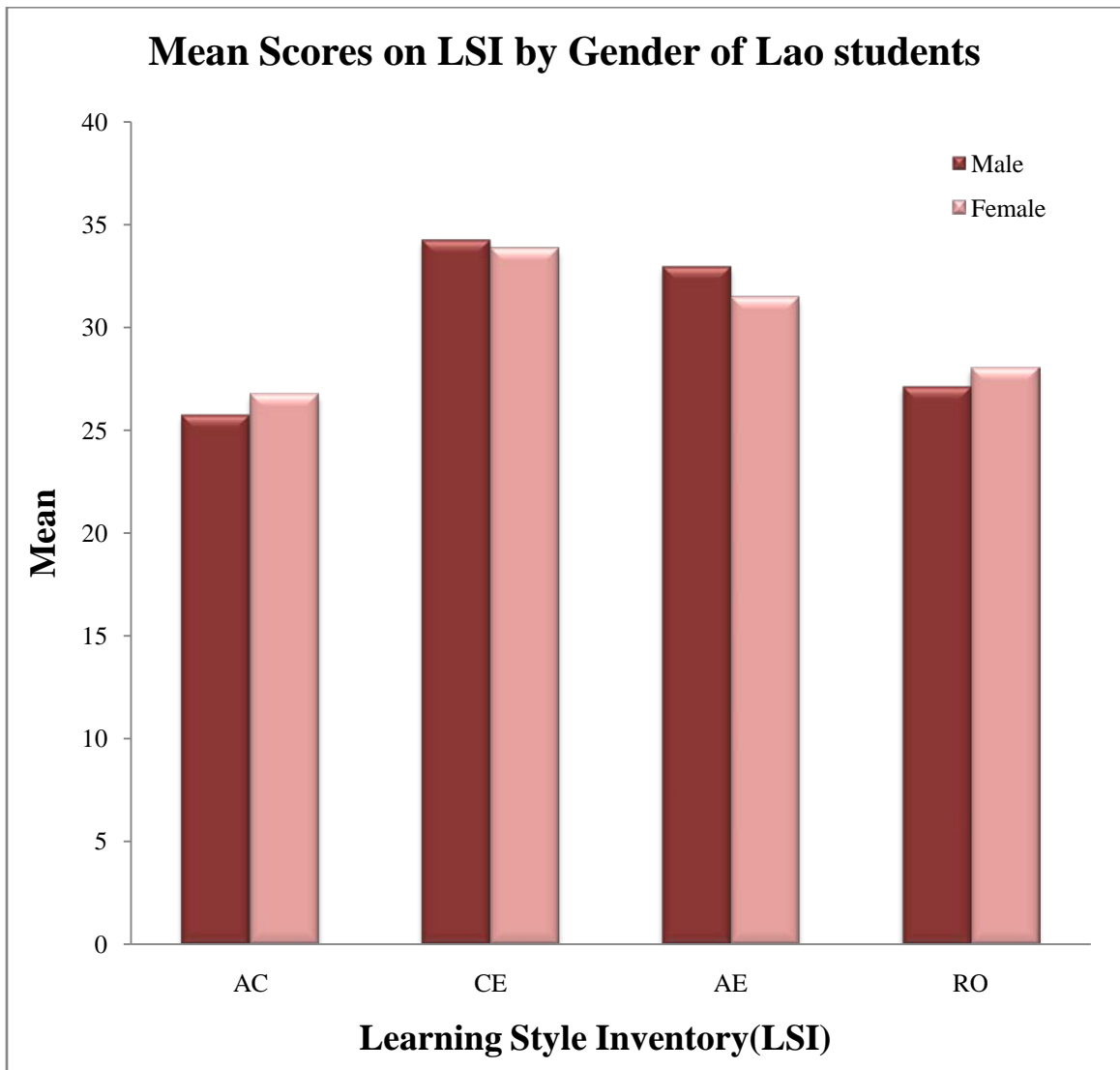
Graph 5(a) shows frequency of male and female students for corresponding age. Example, Out of 54 students of age 18 there were 46 (85.16%) males students and 8 (14.81%) females.

Graph 6(a): Work Status wise Age distribution Lao students.



Graph 6(a) shows distribution of working and non-working students for corresponding age. Example, Out of 54 students of age 18 , there are 12 (22.22%) working and 42 (77.78%) non-working students.

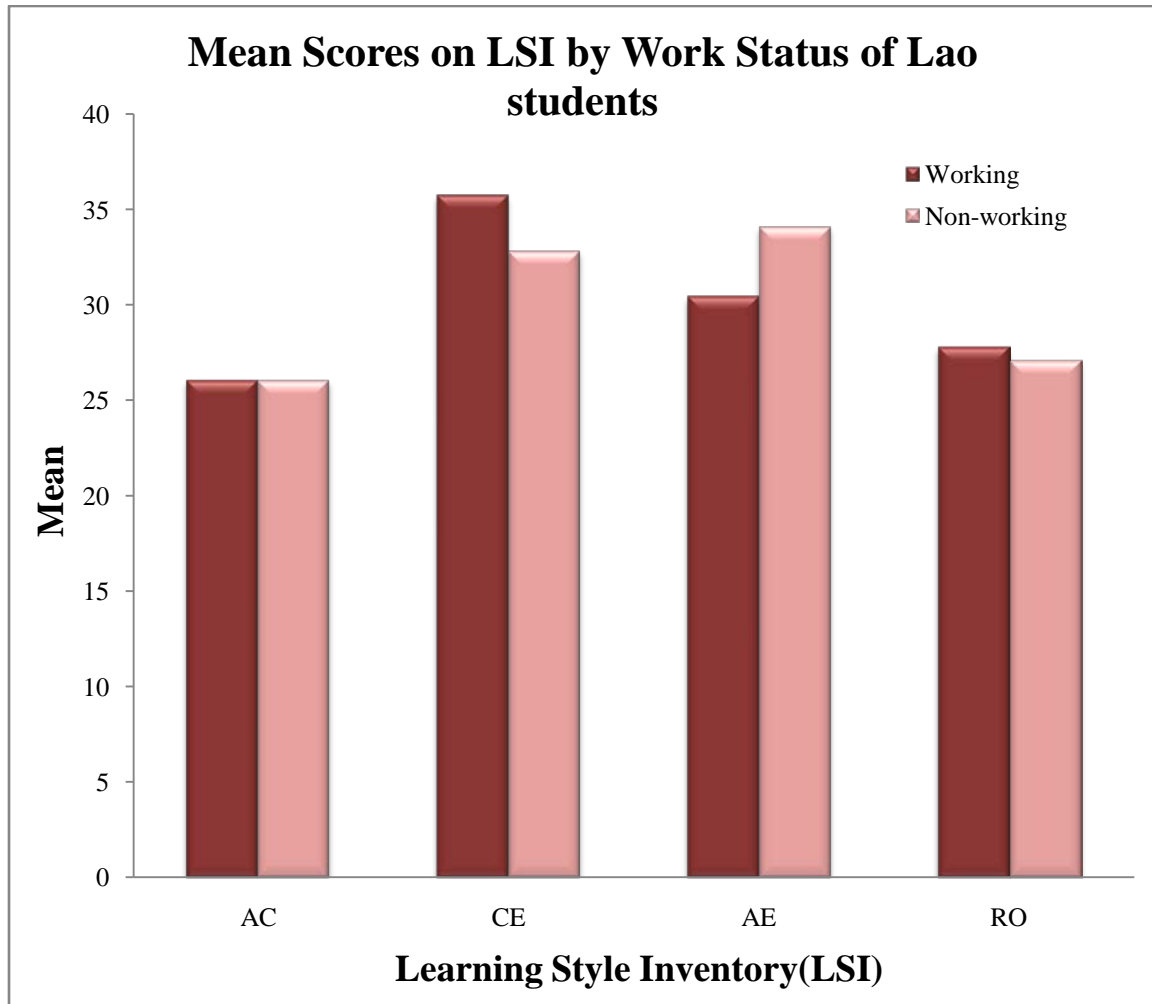
Graph 7(a): Mean Scores on LSI by Gender of Lao students.



Graph 7(a) represents gender and learning dimension mean scores for all students. The learning dimensions are Abstract Conceptualization (AC), Concrete Experience (CE), Active Experimentation (AE) and Reflective Observation (RO).

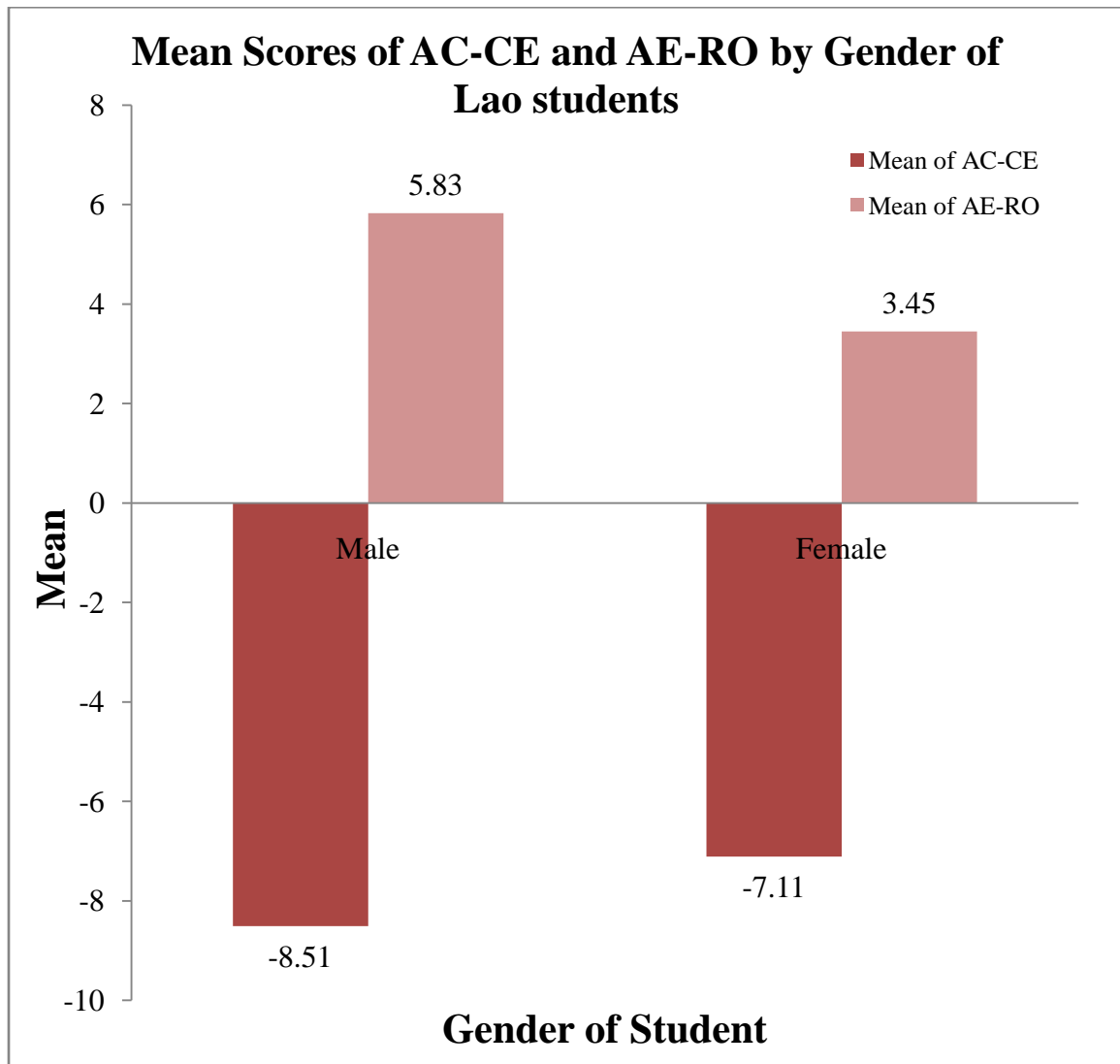
For example, we observed that 25.73 was mean score of male students (SD=1.68); and 26.72 was mean score of female students (SD=0.45) for Abstract Conceptualization (AC).

Graph 8(a): Mean Scores on LSI by Work Status of Lao students.



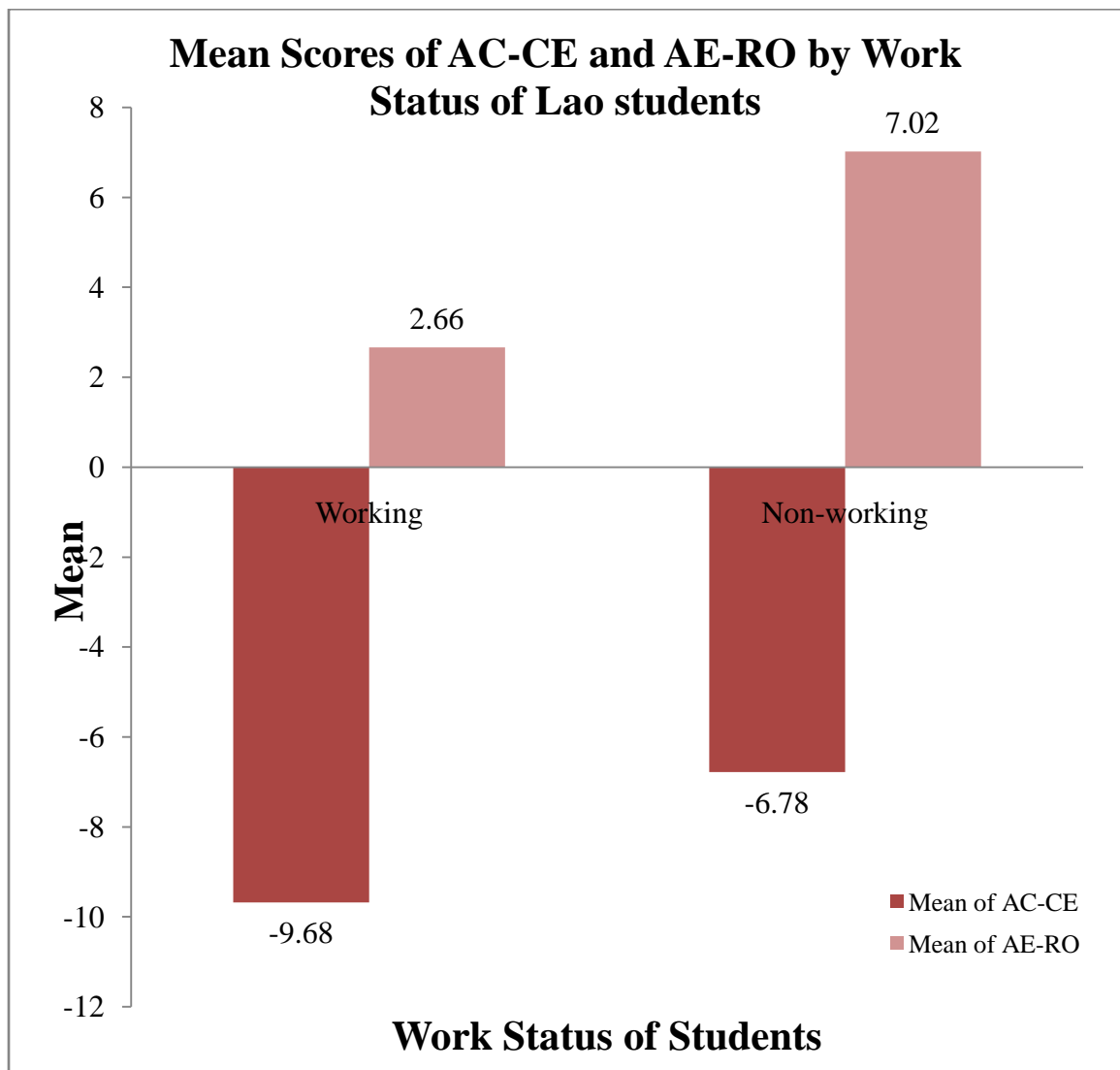
Graph 8(a) represents means scores based on work status for all Learning Dimensions, Abstract Conceptualization (AC), Concrete Experience (CE), Active Experimentation (AE) and Reflective Observation (RO). For example, we observed that 26.06 is mean score of working students (SD=1.26); 26.03 is mean score of non-working students (SD=1.65) for Abstract Conceptualization (AC).

Graph 9(a): Mean Scores of AC-CE and AE-RO by Gender of Lao Students.



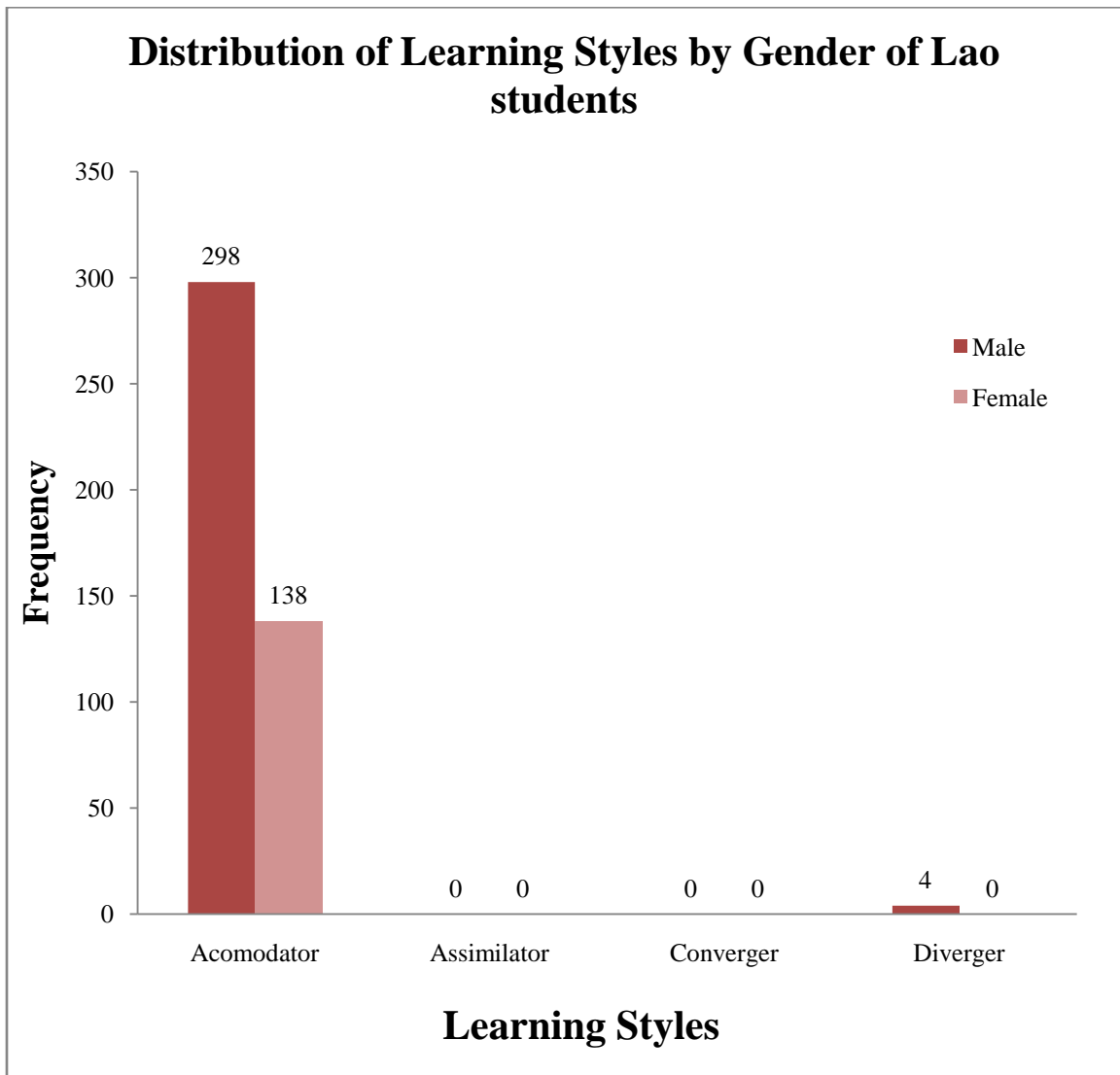
It can be observed from graph 9(a) that mean scores of AC-CE and AE-RO for male students were -8.51 and 5.83 respectively and mean scores for female students is -7.11 and 3.45 respectively.

Graph 10(a): Mean Scores of AC-CE and AE-RO by Work Status of Lao Students.



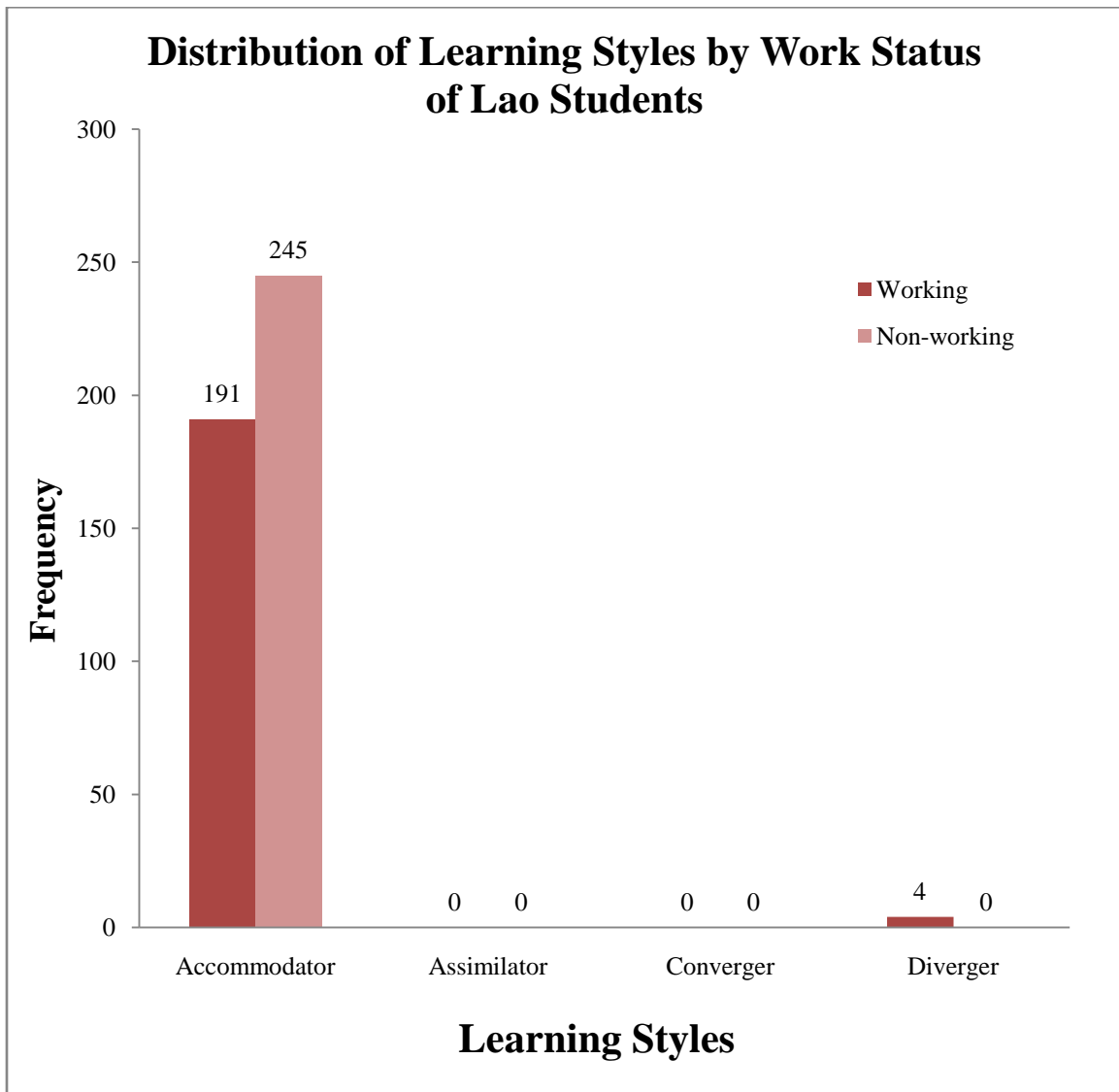
It can be observed from graph 10 (a) that mean scores of AC-CE and AE-RO for working students were -9.68 and 2.66 respectively and mean scores for non-working students were -6.78 and 7.02 respectively.

Graph 11(a): Distribution of Learning Styles by Gender of Lao Students.



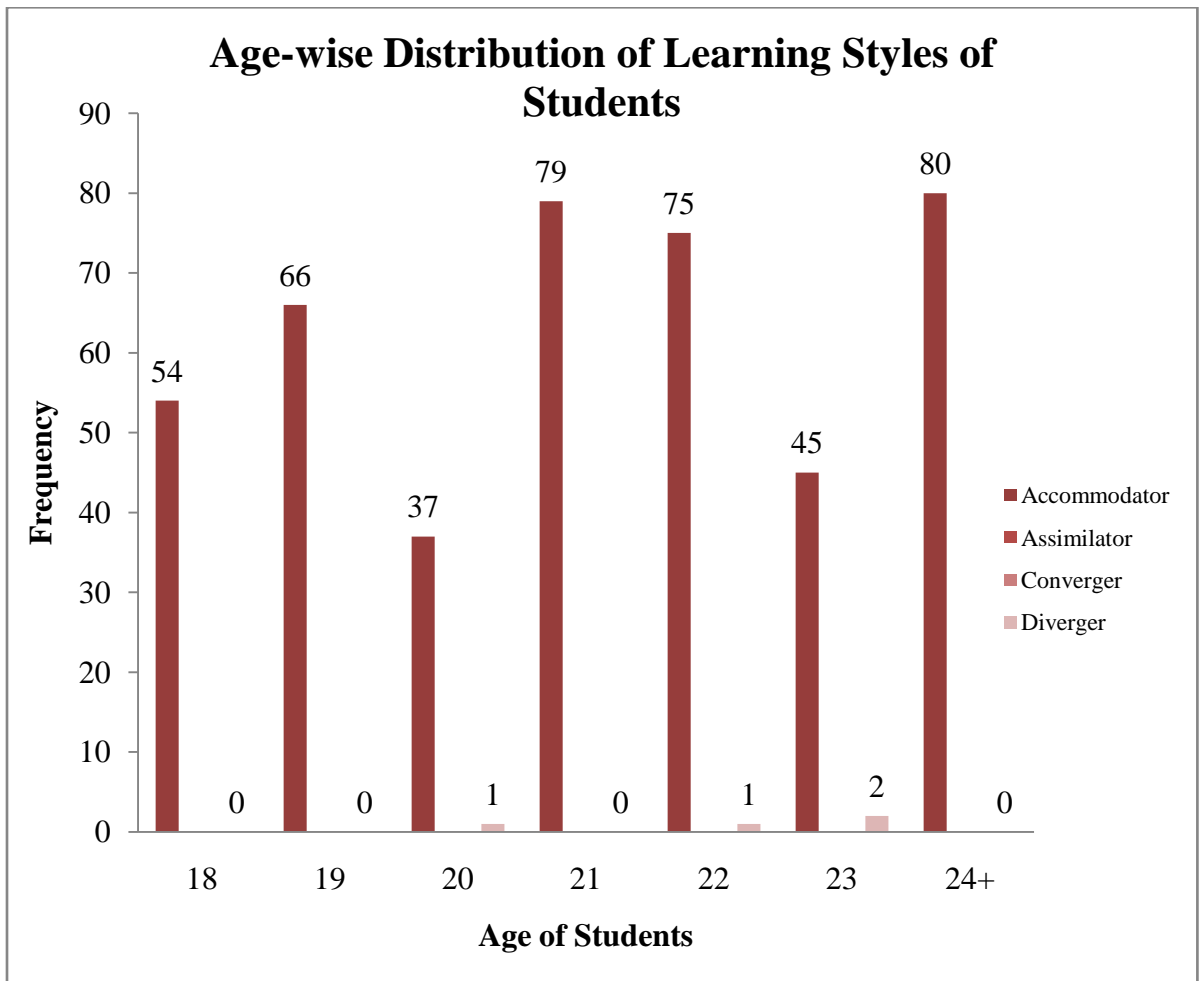
Graph 11 (a) represents the distribution of learning styles by gender . We observed none of the students were Assimilators and Convergers. 4 students were Divergers and they all were male students. Majority of the students in Lao were Accommodators i.e. 298 male students and 138 female students. All female students were Accommodators.

Graph 12(a): Distribution of Learning Styles by Work Status of Lao Students.



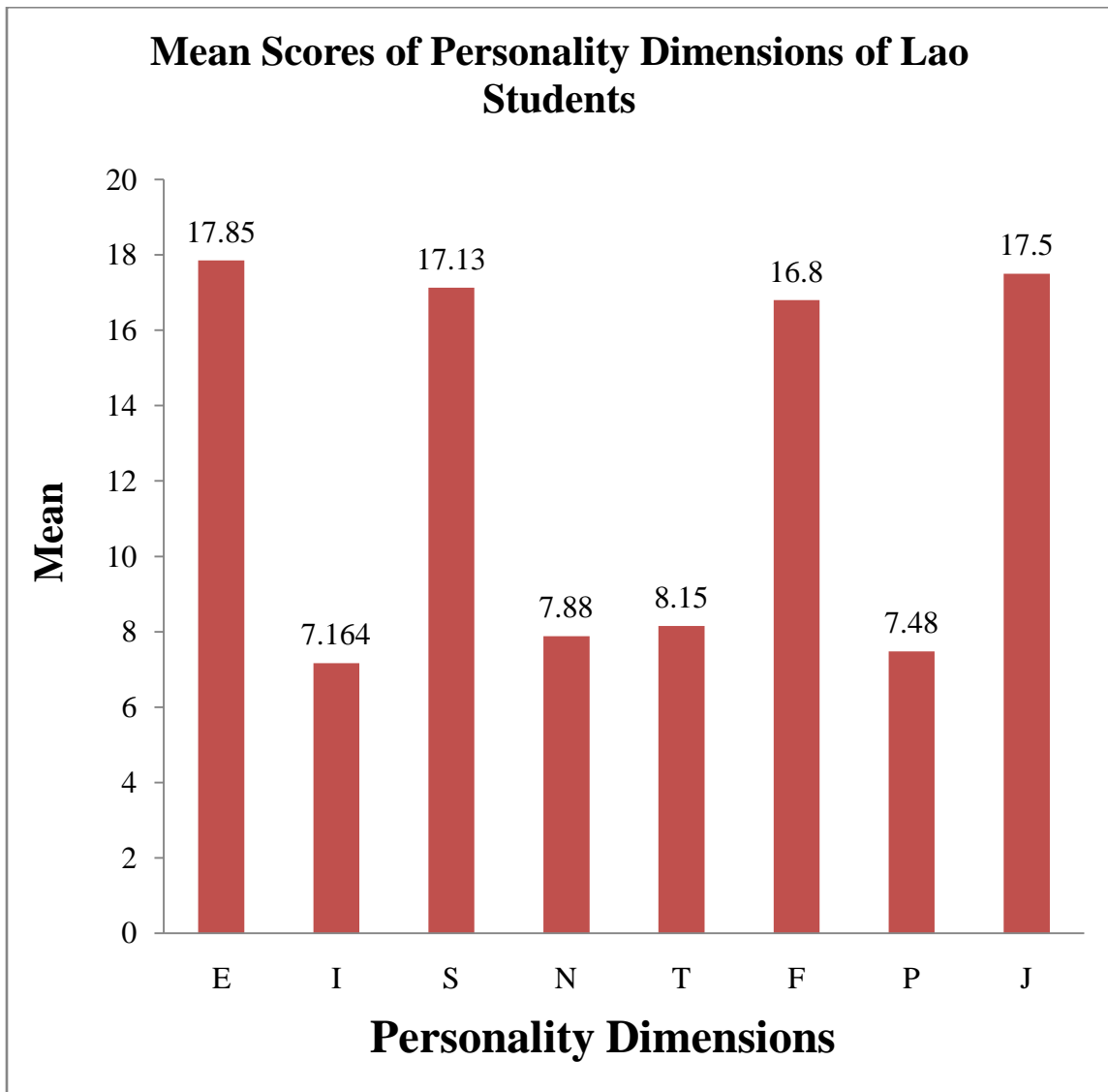
Graph 12 (a) represents the distribution of learning styles by work status . We observed none of the students were Assimilators and Convergers. 4 students were Divergers and they all were working students. Majority of the students in Lao were Accommodators i.e. 191 working and 245 non-working students. All non-working students were Accommodators.

Table 2.12(a)*: Age wise Distribution of Learning Styles of Lao Students.



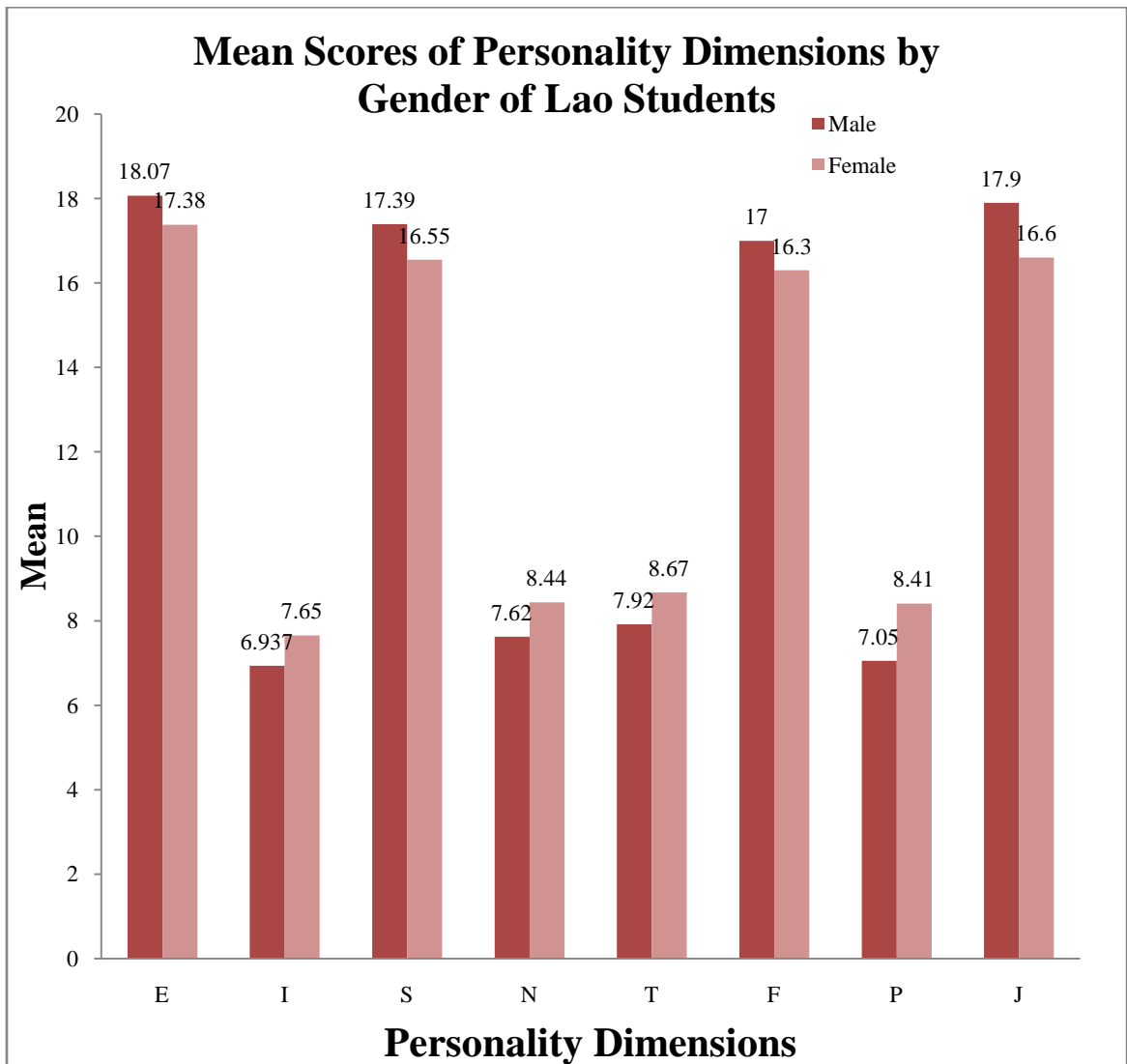
Graph shows distribution of Learning Styles of students for corresponding age. Example, All 54 students of age 18 were Accommodators but out of 38 students of age 20, there were 37 Accommodators and 1 Diverger.

Graph 13(a): Mean Scores of Personality Dimensions of Lao Students.



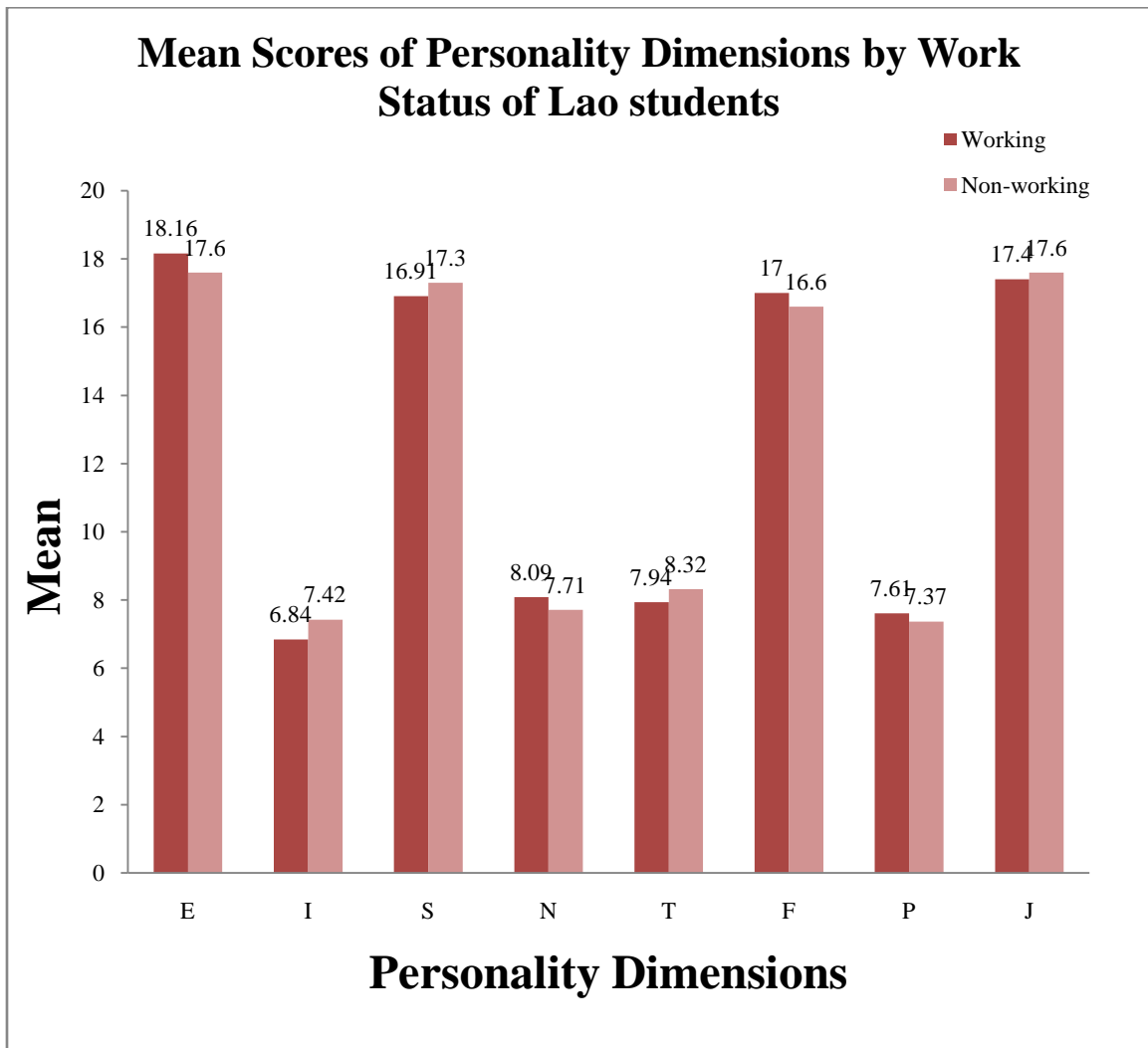
From graph 13(a), we observed that, mean score of Extroversion (E) is highest i.e. 17.85 followed by 17.5 for Judging (J), 17.13 for Sensing(S) and 16.8 for Feeling(F).

Graph 14(a): Mean Scores of Personality Dimensions by Gender of Lao Students.



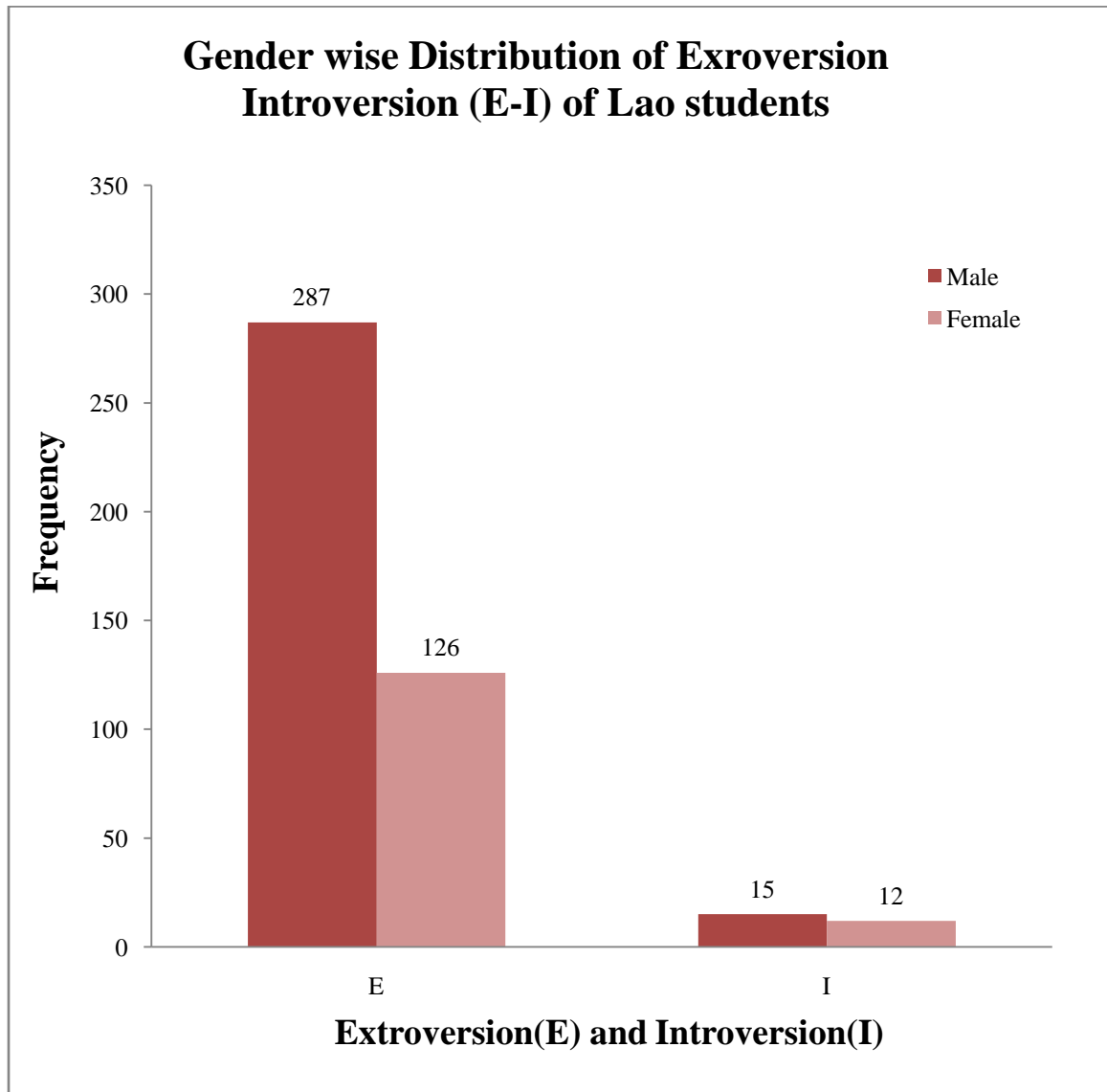
Graph 14(a) indicates that mean scores for personality dimensions for Extroversion (E), Feeling (F), Sensing(S) and Judging (J) were higher if we consider them gender wise.

Graph 15(a): Mean Scores of Personality Dimensions by Work Status of Lao Students.



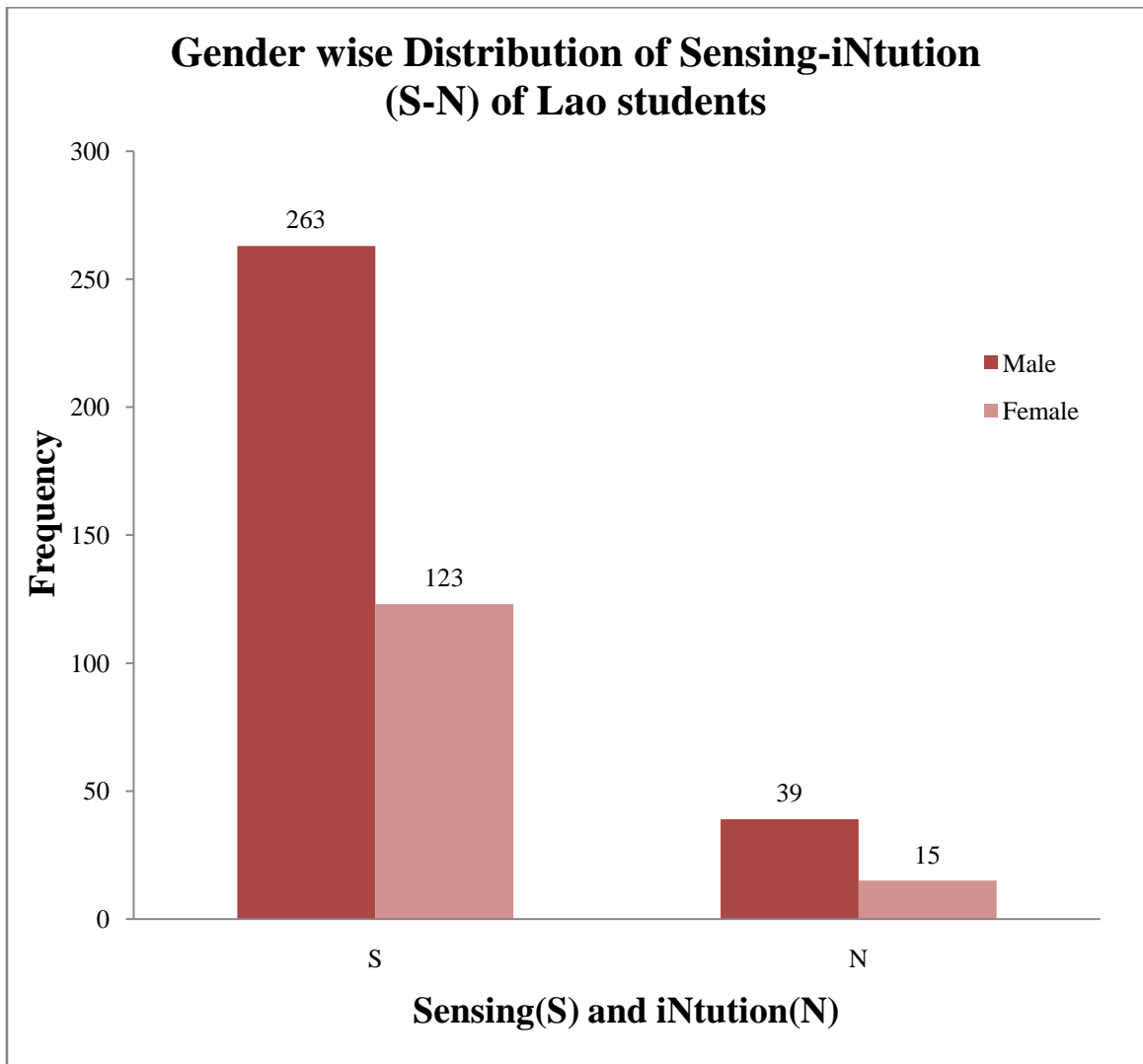
Graph 15(a) indicates that mean scores of personality dimensions for Extroversion (E), Feeling(F), Sensing(S) and Judging (J) were higher in context with work status of students.

Graph 16(a): Gender wise Distribution of Extroversion-Introversion (E-I) of Lao Students.



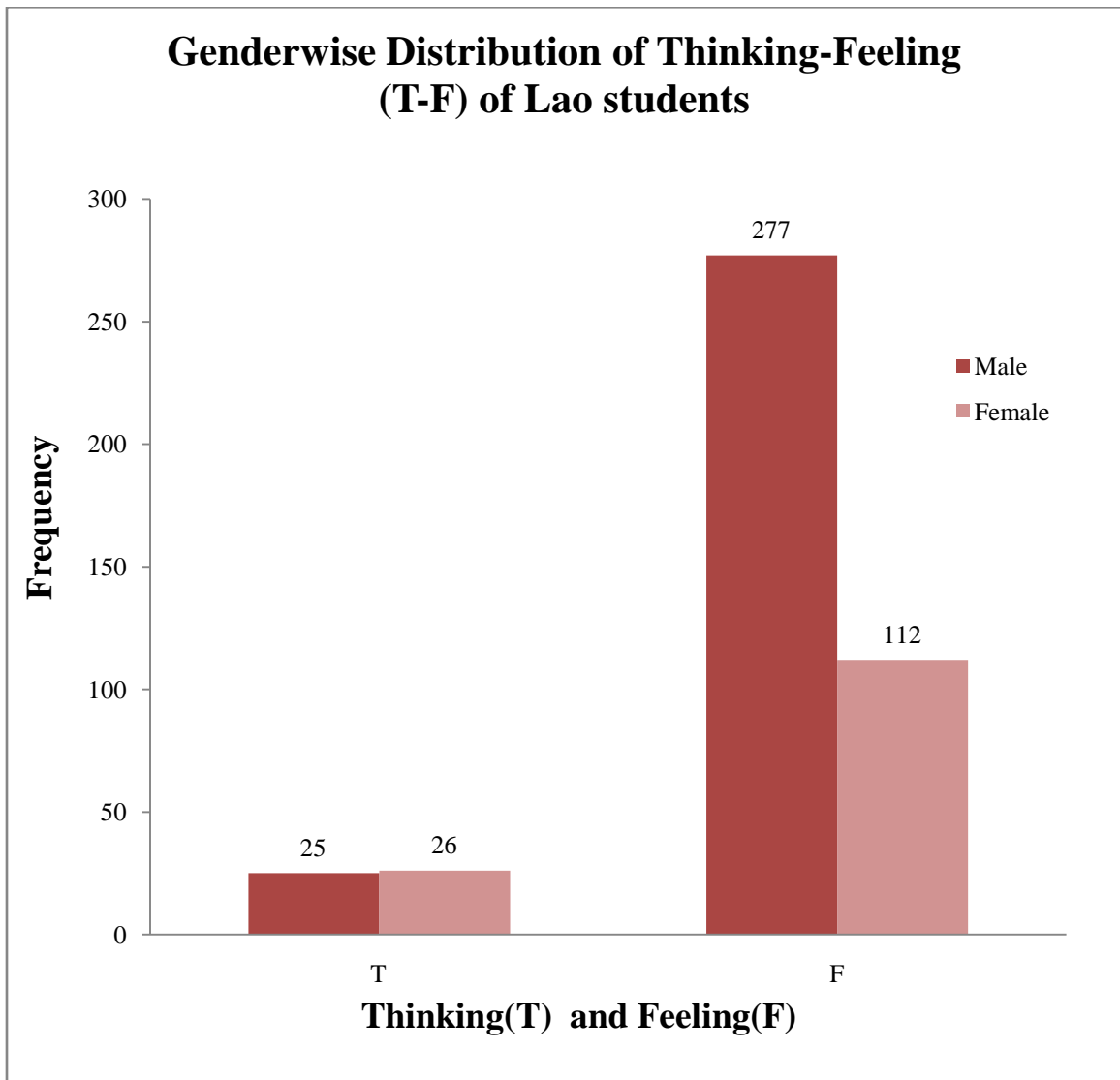
Graph 16(a) represents the gender wise distributions of 2 personality dimensions Extroversion (E)-Introversion (I) which indicates that majority of the students (male and female both) were from Extroversion (E) Dimension.

Graph 17(a): Gender wise Distribution of Sensing-iNtuition (S-N) of Lao Students.



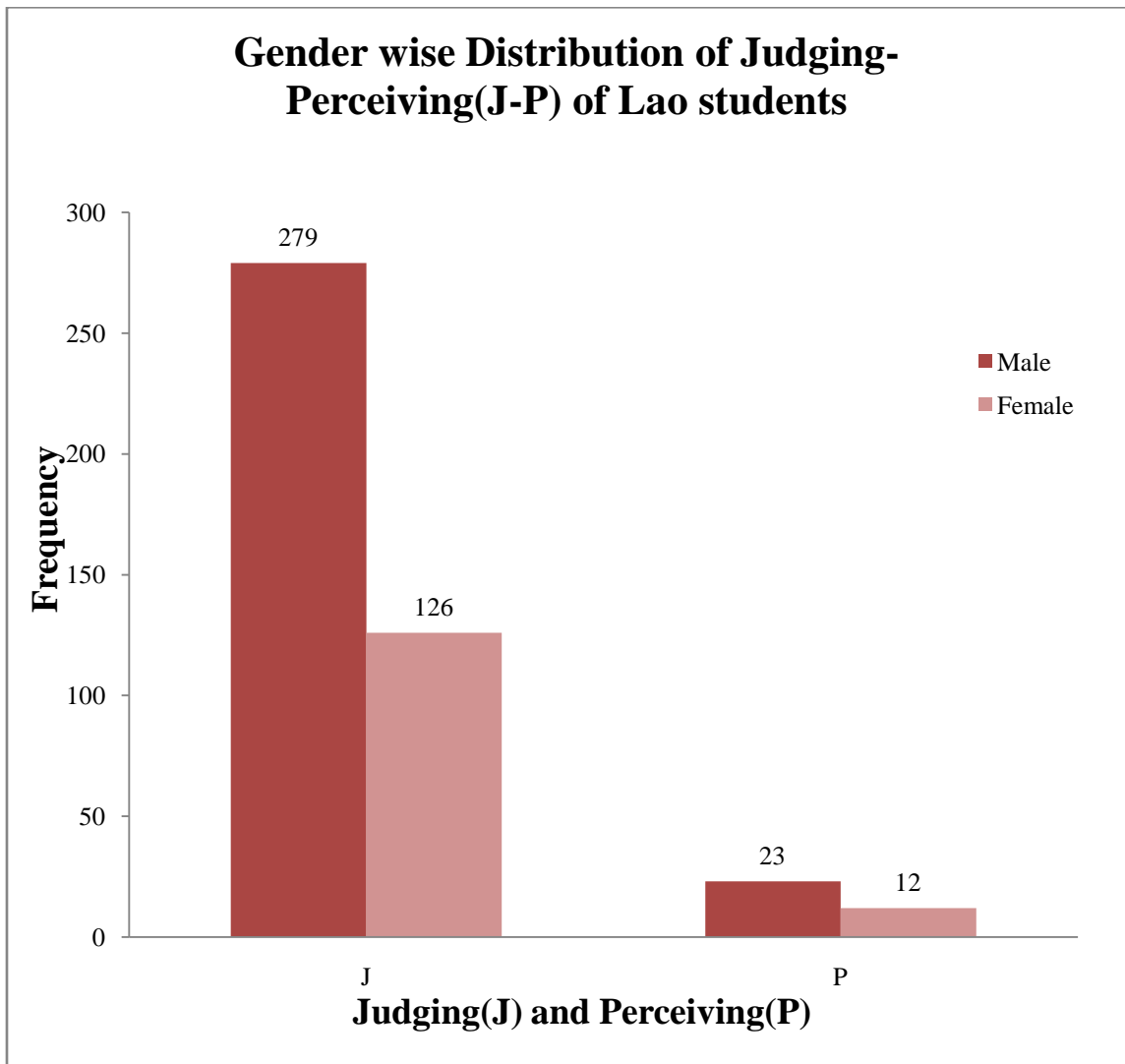
Graph 17(a) represents the gender wise distributions of 2 personality dimensions Sensing(S) –iNtuition (N) which indicates that majority of the students (male and female both) were from Sensing(S) Dimension.

Graph 18(a): Gender wise Distribution of Thinking-Feeling (T-F) of Lao Students.



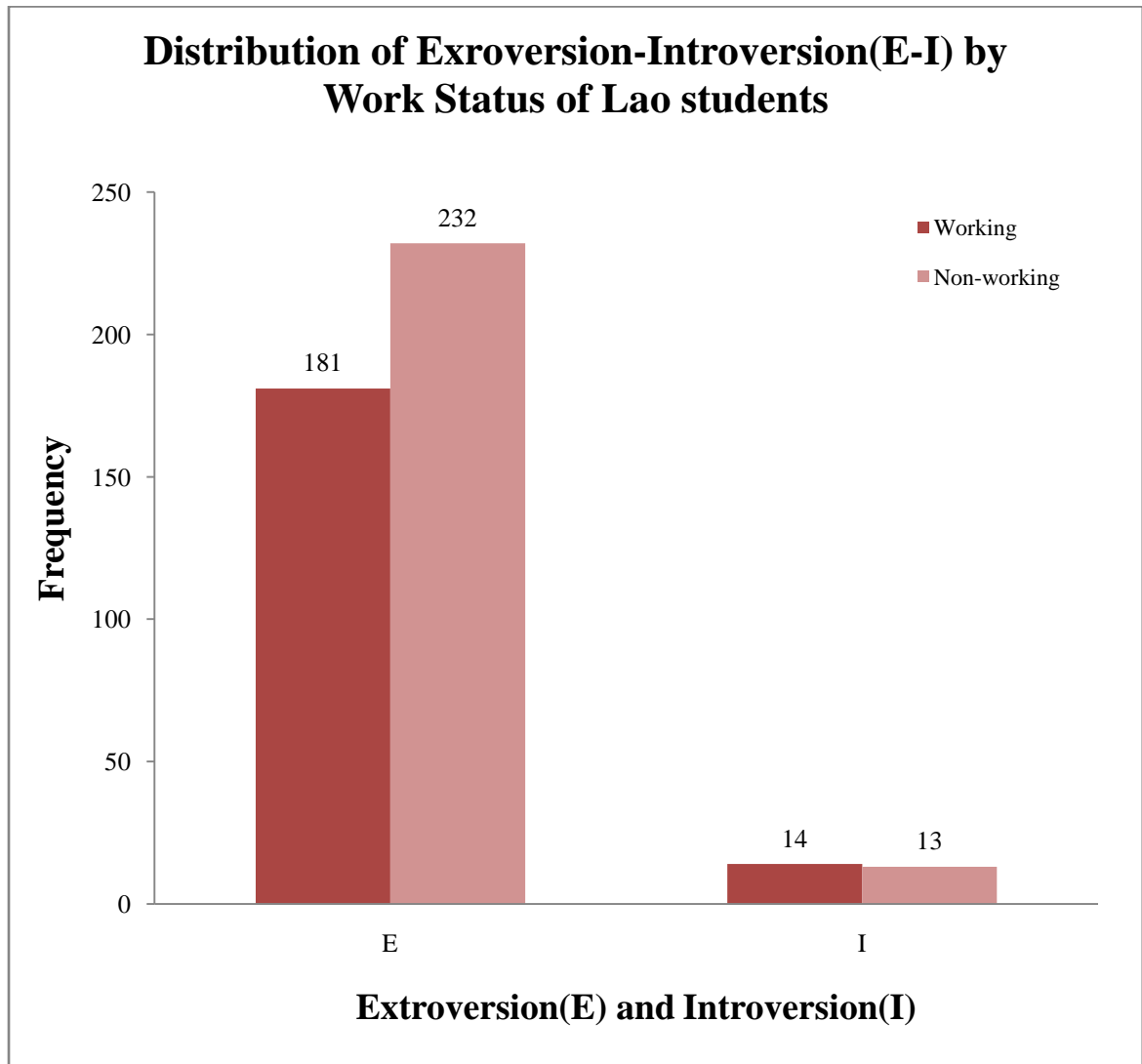
Graph 18(a) represents the gender wise distributions of 2 personality dimensions Thinking (T) –Feeling (F) which shows that majority of the students (male and female both) were from Feeling (F) Dimension.

Graph 19(a): Gender wise Distribution of Judging-Perceiving (J-P) of Lao Students.



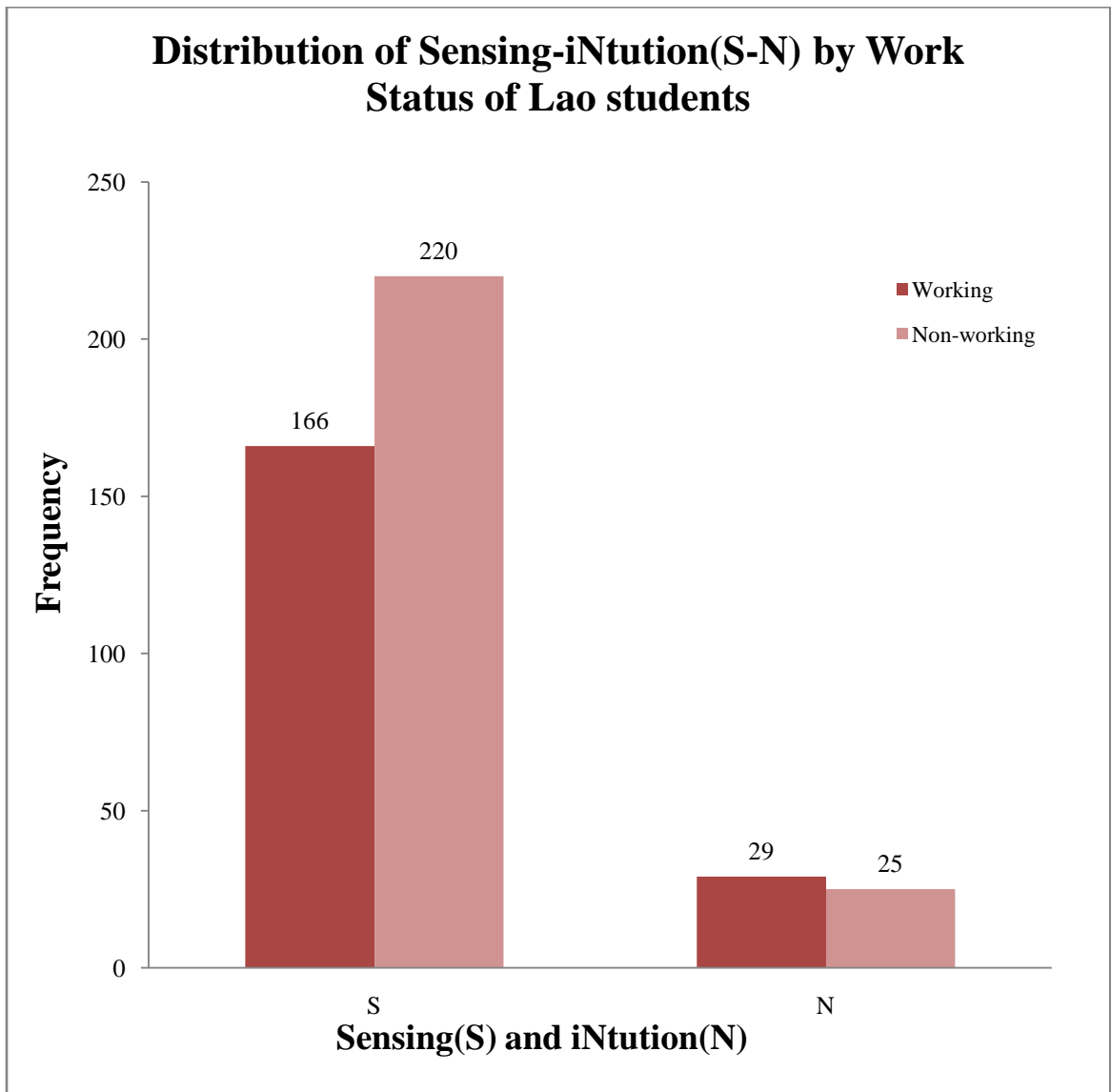
Graph 19 (a) represents the gender wise distributions of 2 personality dimensions Judging (J) –Perceiving (P) which shows that majority of the students (male and female both) were from Judging (J) Dimension.

Graph 20(a): Distribution of Extroversion-Introversion (E-I) by Work Status of Lao Students.



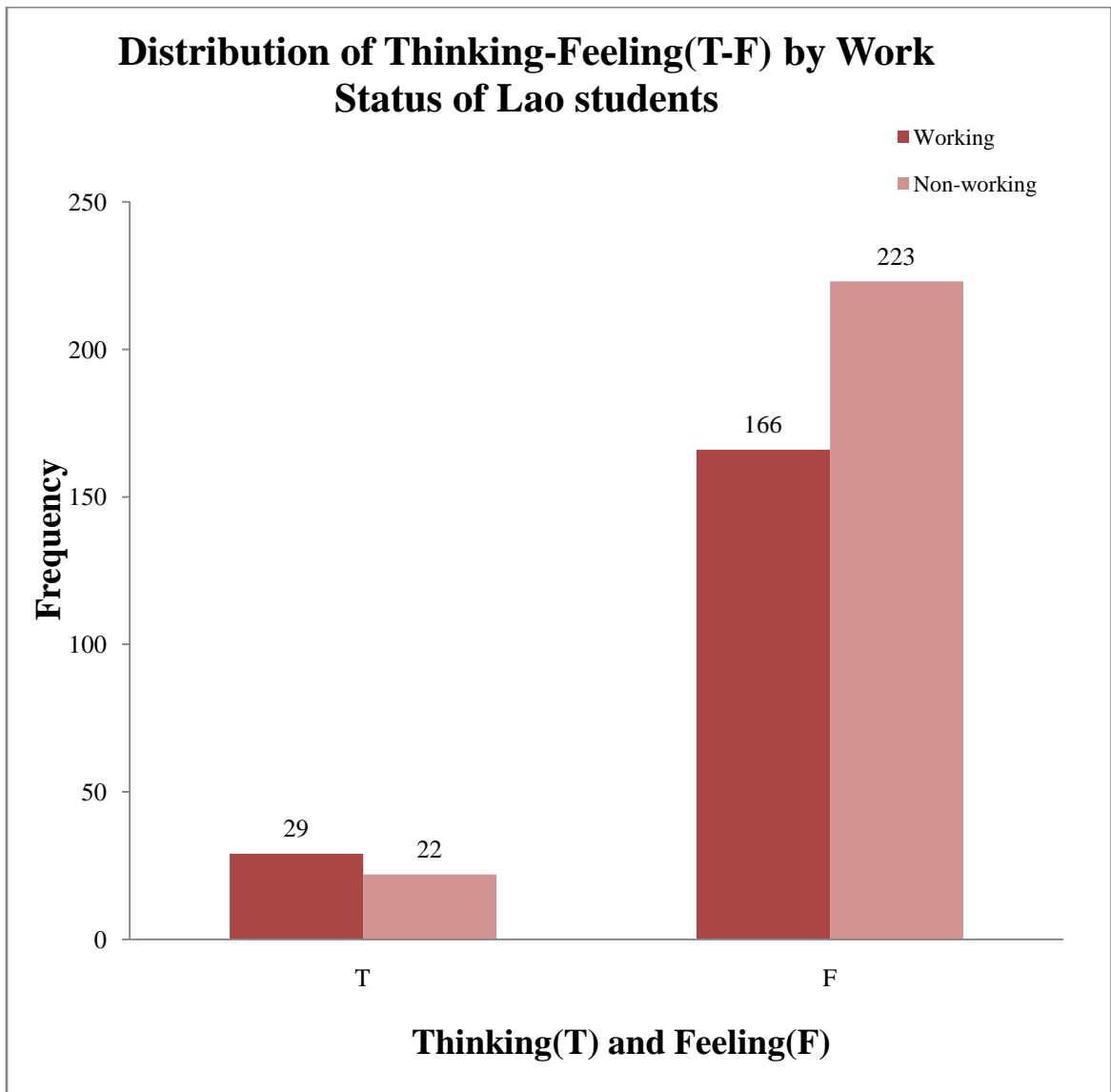
Graph 20 (a) represents the distributions of the 2 personality dimensions Extroversion (E)-Introversion (I) by work status which shows that majority of the students (working and non-working both) were from Extroversion (E) Dimension.

Graph 21(a): Distribution of Sensing-iNtuition (S-N) by Work Status of Lao Students.



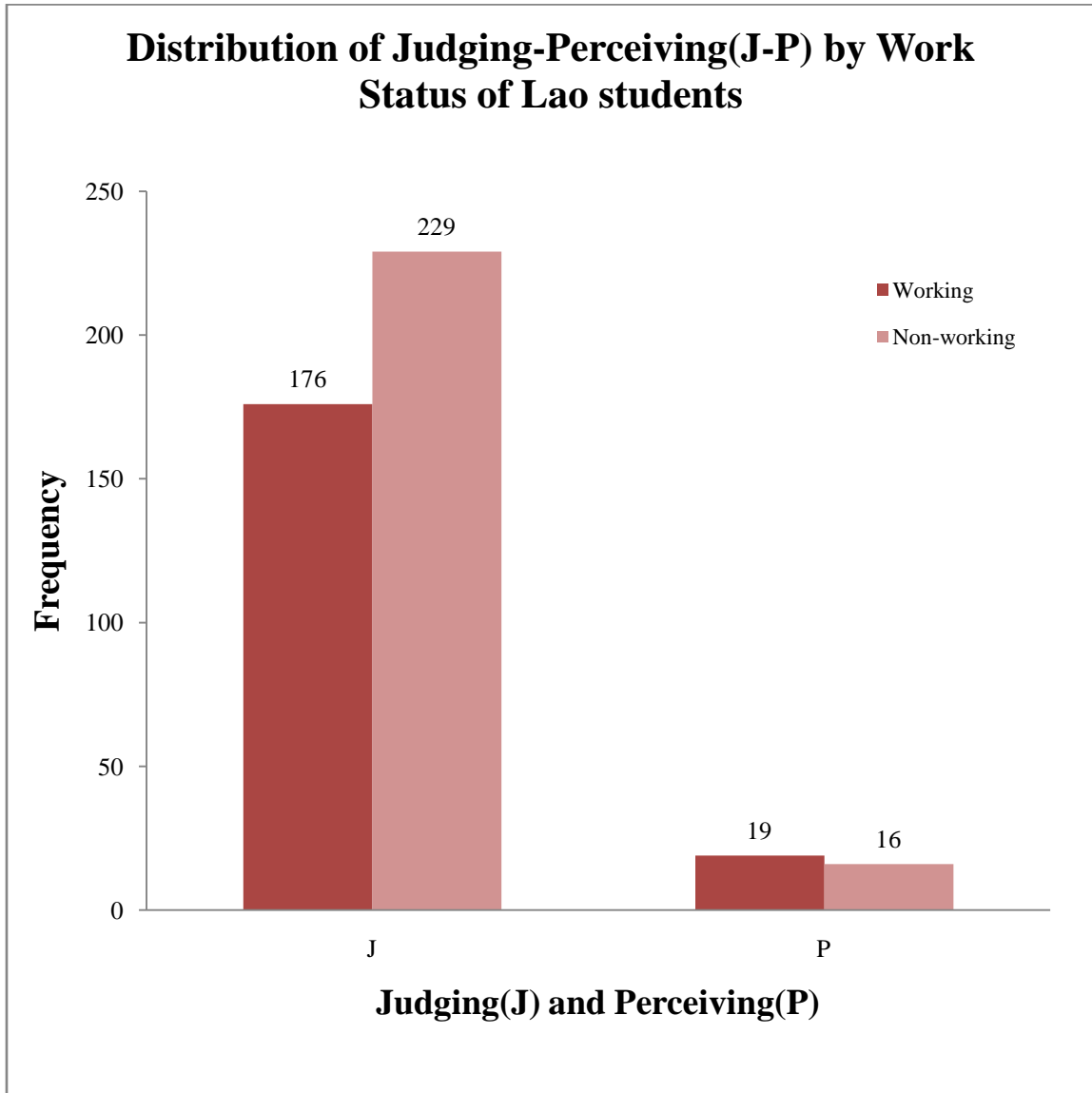
Graph 21(a) represents the distributions of the 2 personality dimensions Sensing(S) – iNtuition (N) by work status which shows that majority of the students (working and non-working both) were from Sensing(S) Dimension.

Graph 22(a): Distribution of Thinking-Feeling (T-F) by Work Status of Lao Students.



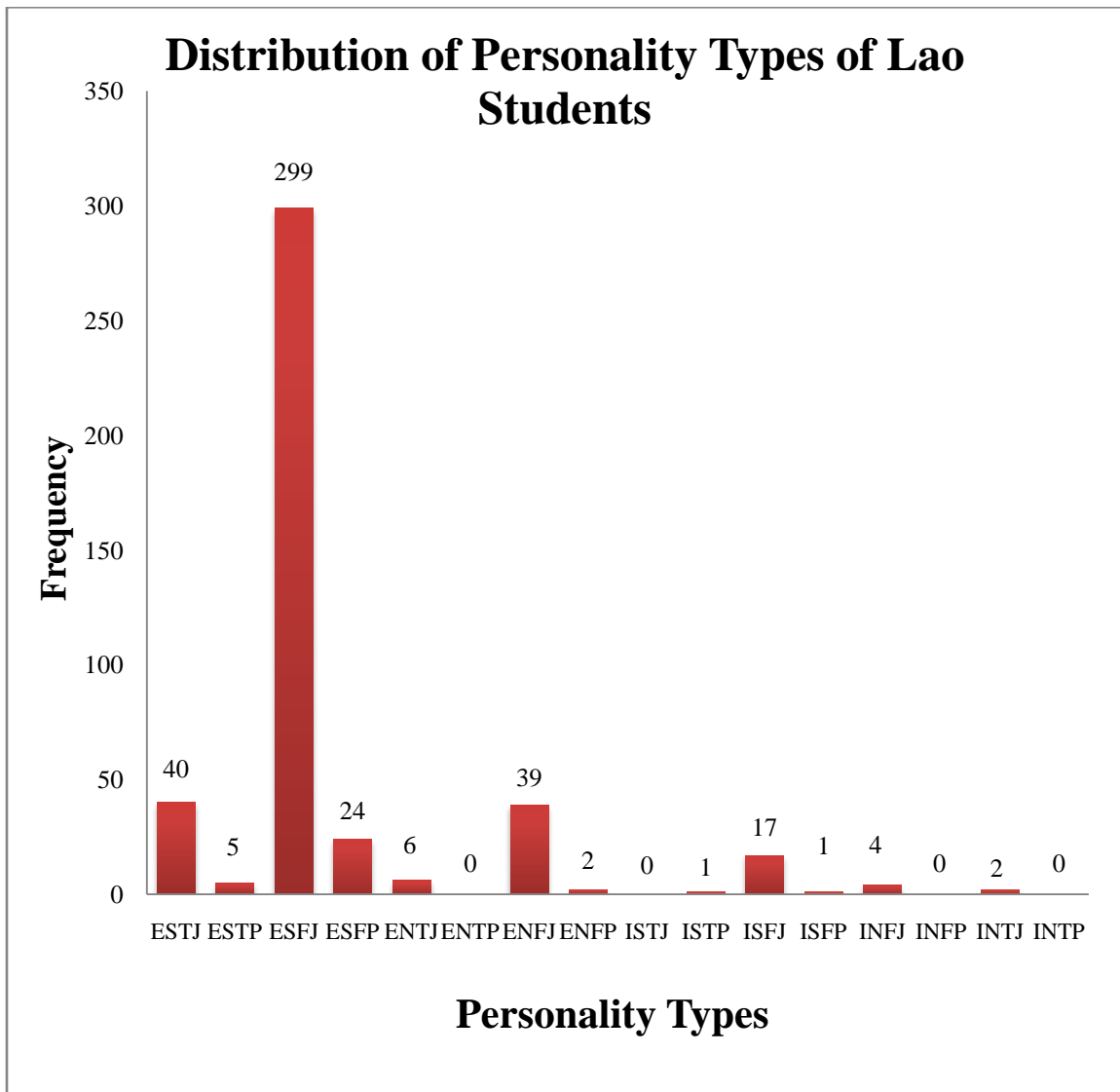
Graph 22(a) represents the distributions of the 2 personality dimensions Thinking (T) – Feeling (F) by work status which shows that majority of the students (working and non-working both) were from Feeling(F) Dimension.

Graph 23(a): Distribution of Judging-Perceiving (J-P) by Work Status of Lao Students.



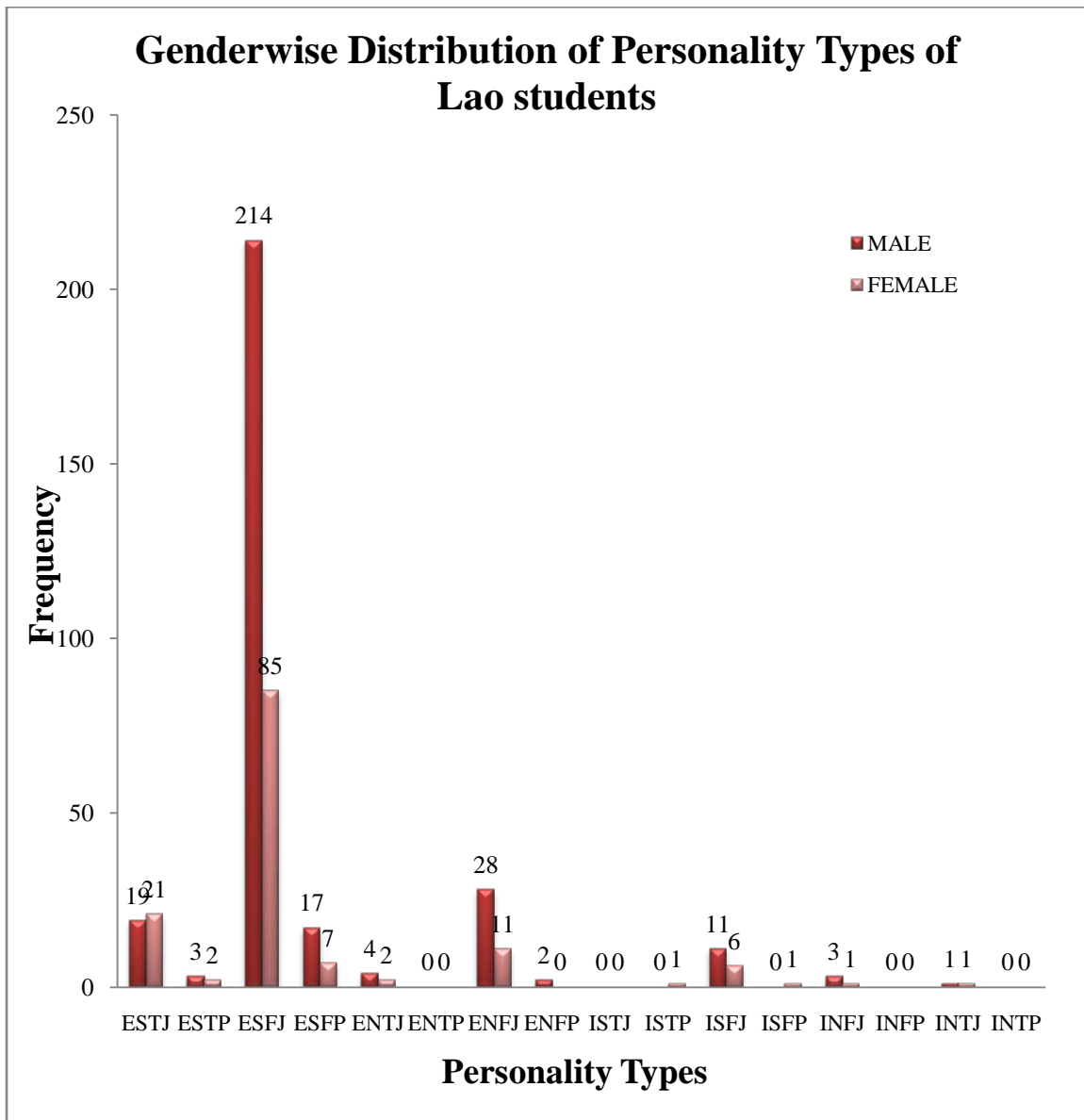
Graph 23(a) represents the distributions of the 2 personality dimensions Judging (J) – Perceiving (P) by gender which shows that majority of the students (working and non-working both) were from Judging (J) Dimension.

Graph 24(a): Distribution of Personality Types of Lao Students.



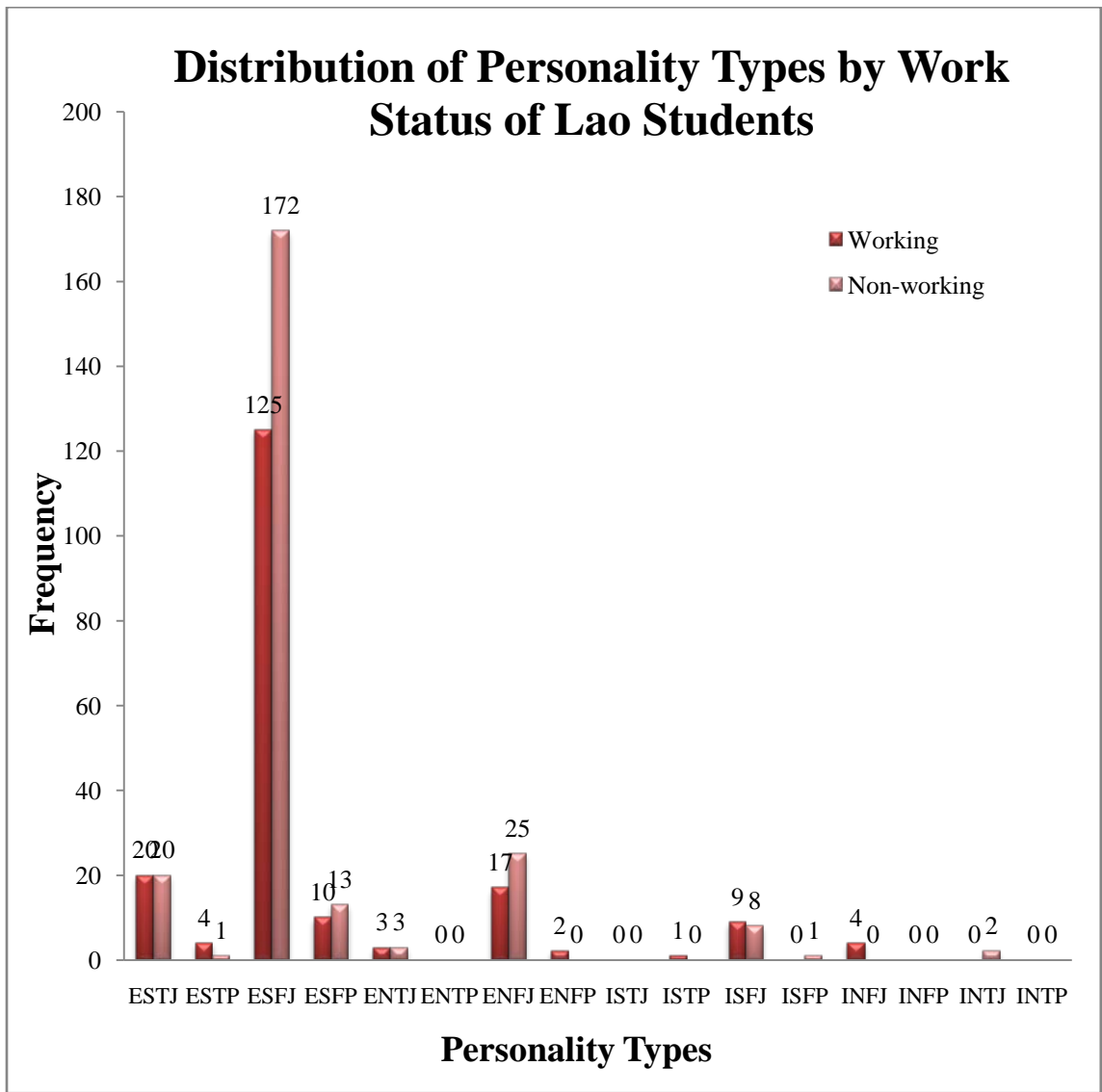
Graph 24(a) shows the distribution of 16 Personality Types and it can be easily observed that Personality Type ESFJ (Extroversion – Sensing – Feeling – Judging) was highest i.e.299 (67.96%) among 440 Lao students.

Graph 25(a): Gender wise Distribution of Personality Types of Lao Students.



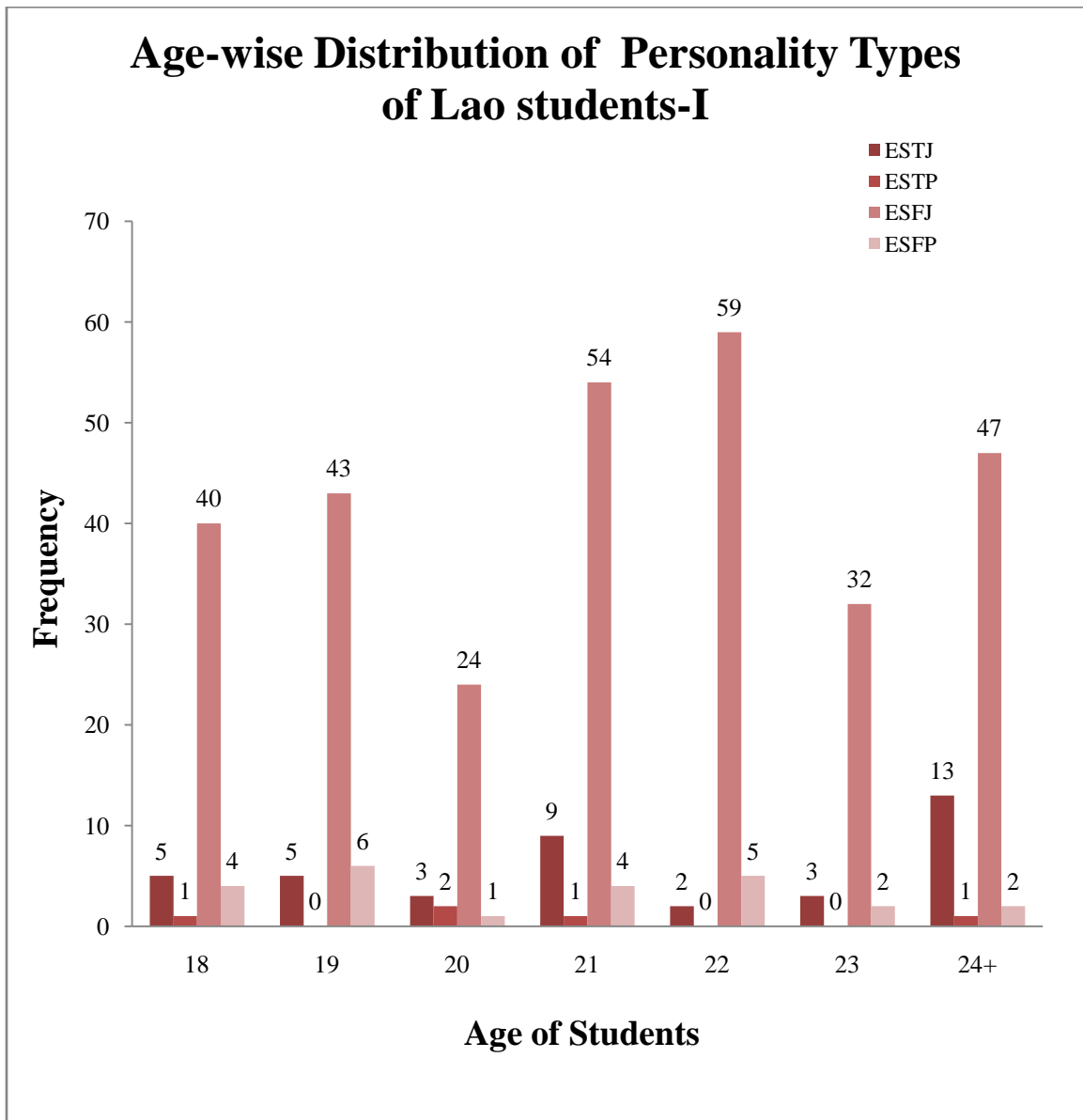
Graph 25(a) shows the gender wise distribution of 16 Personality Types and it is observed that ESFJ (Extroversion – Sensing – Feeling – Judging) was highest i.e. 214 male students (48.64%) and 85 female students (19.32%) among 440 Lao students.

Graph 26(a): Distribution of Personality Type by Work Status of Lao Students.



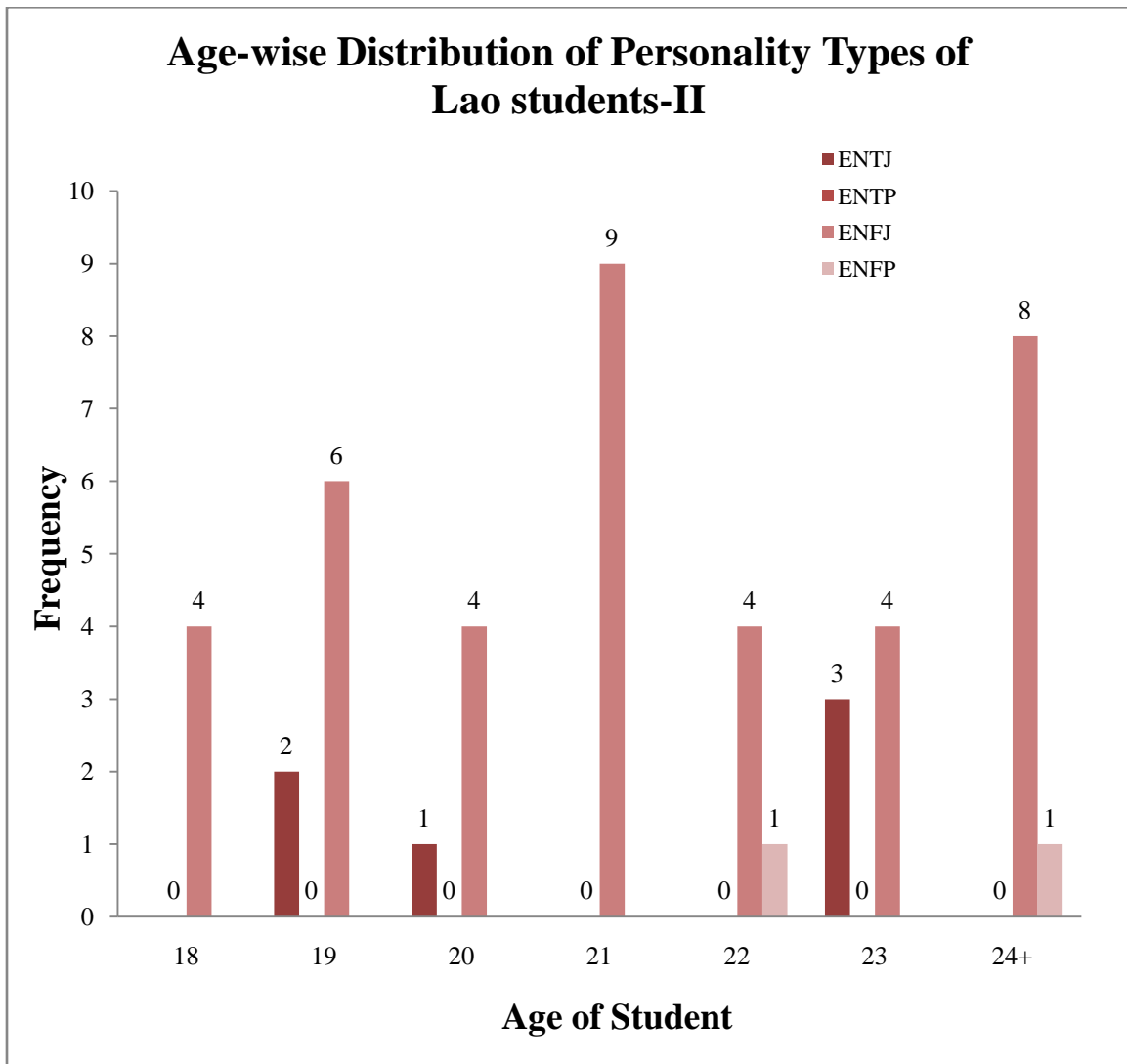
Graph 26(a) shows the distribution of 16 Personality Types in context with work status of students and it is observed that ESFJ (Extroversion – Sensing – Feeling – Judging) was highest i.e.125 working (28.41%) and 172 non-working (39.09%) among 440 Lao students showed the qualities of being ESFJ.

Graph 27(a): Age-wise Distribution of Personality Types of Lao Students-I.



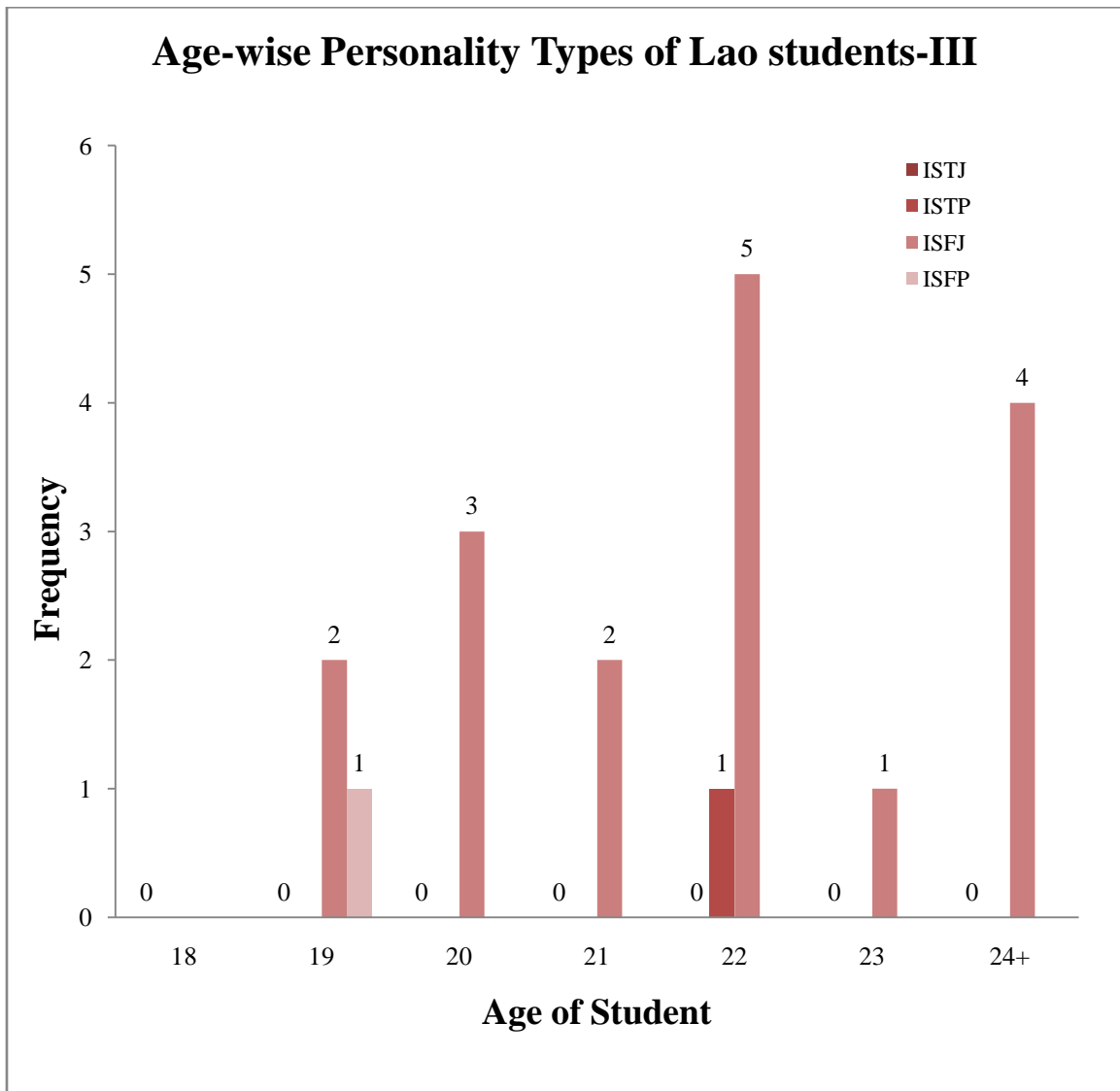
Graph 27(a) shows Age wise distribution of 4 Personality Types ESTJ,ESTP,ESFJ and ESFP which indicates that ESFJ was highest among above mentioned four Personality Types ESTJ,ESTP,ESFJ and ESFP for the age 22.

Graph 28(a): Age-wise Distribution of Personality Types of Lao Students-II.



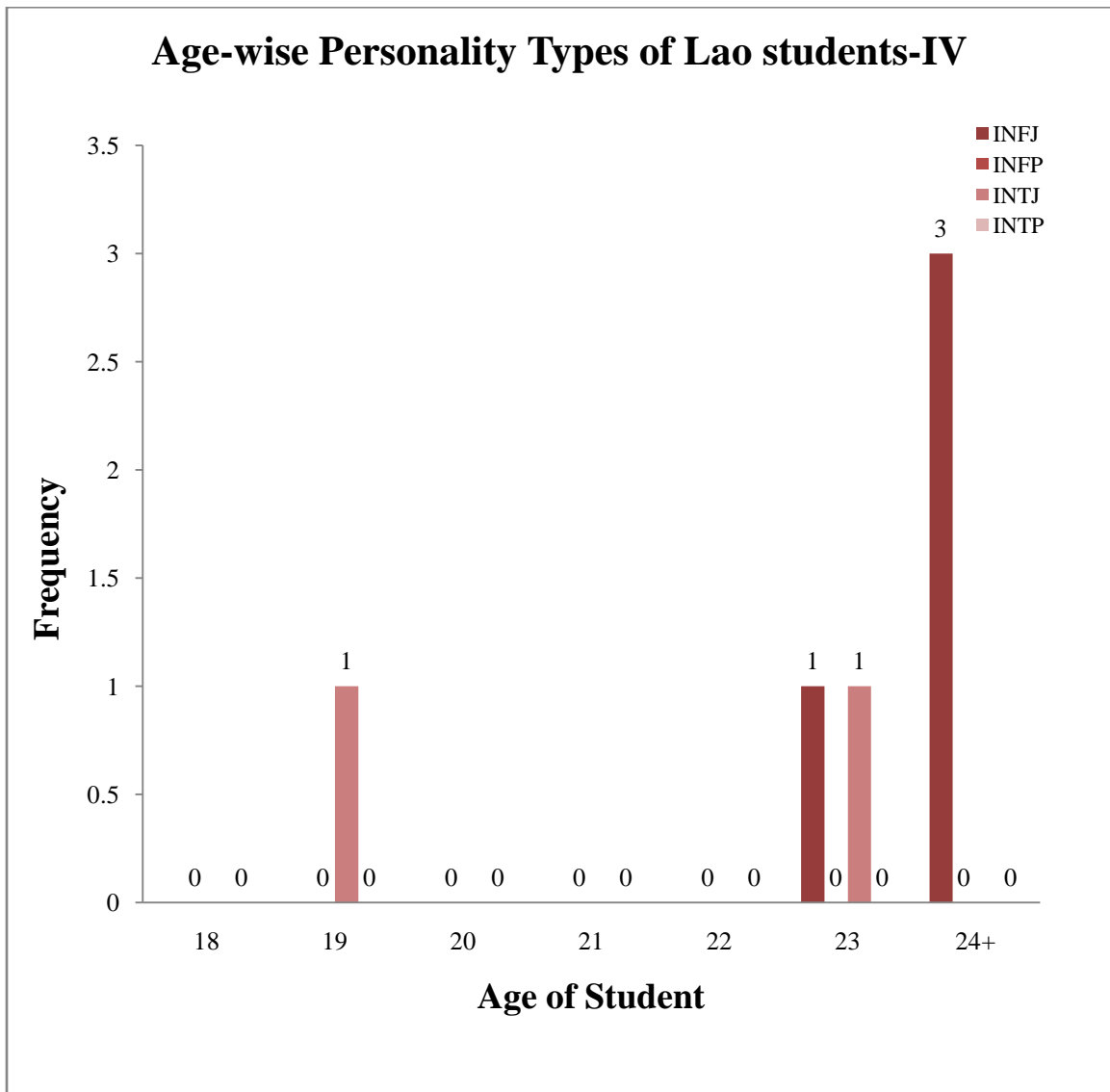
Graph 28(a) shows age wise distribution of 4 Personality Types ENTJ,ENTP,ENFJ and ENFP a which indicates that ENFJ was highest among above mentioned four Personality Types ENTJ,ENTP,ENFJ and ENFP for the age 21.

Graph 29(a): Age-wise Distribution of Personality Types of Lao Students-III.



Graph 29(a) shows Age wise distribution of 4 Personality Types ISTJ, ISTP, ISFJ and ISFP which indicates that ISFJ was highest among above mentioned 4 four Personality Types ISTJ, ISTP, ISFJ and ISFP for the age 22.

Graph 30(a): Age-wise Personality Types of Lao Students-IV.



Graph 30(a) shows Age wise distribution of Personality Types INTJ, INTP, INFJ and INFP which indicates that INFJ was highest among above mentioned four Personality Types INTJ, INTP, INFJ and INFj for the students who were 24 and above by age .

Data Analysis Results for Thailand

Reliability of the Instrument

As shown in Table 2.1(b), the estimated reliability coefficients (alpha) of the LSI for individual scales, such as Abstract Conceptualization (AC), Reflective Observation (RO), Concrete Experience (CE) and Active Experimentation (AE), ranged from 0.70 to 0.72. As shown in Table 2.2, the estimated reliability coefficients of the PSI for individual dimension scale. Extroversion-Introversion (E-I), Sensing-iNtuition (S-N), Thinking- Feeling (T-F) and Judging-Perceiving (J-P), ranged from 0.67 to 0.74.

Table 2.1(b): The Reliability Coefficients of Learning Mode for Kolb's Learning Style Inventory for Thai Students.

Learning Mode	Concrete Experience (CE)	Abstract Conceptualization (AC)	Active Experimentation (AE)	Reflective Observation (RO)
Cronbach's Alpha	0.72	0.71	0.71	0.70

Table 2.2(b): The Reliability Coefficients of Personality Dimension for Personality Style Inventory for Thai students.

Personality Dimension	Extroversion-Introversion (E+I)	Sensing-iNtuition (S+N)	Thinking-Feeling (T+F)	Judging-Perceiving (P+J)
Cronbach's Alpha	0.74	0.73	0.72	0.67

Note below - Cronbach alpha was calculated by using SPSS and MINITAB software.

Note: The Cronbach's α can also be defined as

$$\alpha = \frac{K\bar{c}}{(\bar{v} + (K - 1)\bar{c})}$$

Where K : no of components,

\bar{v} : Average variance, and

\bar{c} : The average of all covariance between the components across the current sample of persons.

Demographic Information for Thailand:

Students were asked to provide demographic information related to their Gender , Age, Work status (working, non-working).Table 2.3(b) presents the summary of the demographic information related to Gender of the students from Thailand.

From table 2.3(b), we observe that among the 380 students 58.68% were females (n = 223) and 41.32% were males (n = 157).

Table 2.3(b): Gender wise sample Description of Thai students.

Gender	N	%
Male	157	41.32
Female	223	58.68
Total	380	100

Table 2.4(b) shows that out of 157 male students 37(23.67%) were working and 120 (76.43%) were non-working. Similarly, out of 223 female students 70(31.39%) were working and 153 (68.61%) were non-working.

Table 2.4(b): Sample Description with Work Status and Gender of Thai students.

Work Status	Working	%	Non-working	%	Total
Gender					
Male	37	23.67	120	76.43	157
Female	70	31.39	153	68.61	223
Total	107	28.16	273	71.84	380

$$\chi^2=2.788, DF = 1, P\text{-Value} = 0.095(\text{ns})$$

Table 2.5 (b) shows the work status (n = 380) of the students i.e. 28.16% (n=107) were working students and 71.84% (n = 273) of them reported non-working.

Table 2.5(b): Sample Description with Work Status of Thai students.

Work Status	N	%
Working	107	28.16
Non-working	273	71.84
Total	380	100

Table 2.6(b) indicates students ranged from 18-32 years of age with an average age of 20.6 years (SD = 1.98). 86% of the students were between 18 and 23 years.

Table 2.6(b): Sample Description - Age wise of Thai students.

Age	*Frequency(n)	%
18	57	15
19	91	23.95
20	53	13.95
21	59	15.53
22	37	9.74
23	31	8.16
24+	52	13.68
Overall	380	100

Note: Frequency is the number of students in the particular age. Example, if 57 is the frequency of age 18; it means that there were 57 students of age 18.

Table 2.7(b) shows percentage of male and female students of corresponding age. Example, Out of 57 students of age 18, there are 54 (94.74%) males and 3(5.26%) females.

Table 2.7(b): Gender wise age Distribution of Thai students.

Age	Male	%	Female	%	Total
18	54	94.74	3	5.26	57
19	42	46.15	49	53.85	91
20	31	58.49	22	41.51	53
21	0	0	59	100	59
22	0	0	37	100	37

23	11	35.48	20	64.52	31
24 and above	19	36.54	33	63.46	52
Total	157	41.32	223	58.68	380

$$\chi^2=142.929, DF = 6, P\text{-Value} = 0.054(\text{ns})$$

Table 2.8(a) shows percentage of working and non-working students for corresponding age. Example, Out of 57 students of age 18, there were 4 (7.02%) working and 53 (92.98%) non-working students.

Table 2.8(b): Work Status wise age Distribution of Thai students.

Age	Working	%	Non-working	%	Total
18	4	7.02	53	92.98	57
19	4	4.39	87	95.60	91
20	1	1.89	52	98.11	53
21	10	16.95	49	83.05	59
22	11	29.73	26	70.27	37
23	28	90.32	3	9.68	31
24 and above	49	94.23	3	5.77	52
Total	107	28.16	273	71.84	380

$$\chi^2=231.225, DF = 6, P\text{-Value} = 0.000$$

Learning Style

Completion of Kolb's Learning Style Inventory (LSI) generated six scores: four Learning stage scores and two learning dimension scores. Each respondent was identified as preferring one of the four learning styles (Converger ,Diverger, Assimilator or Accommodator) according to the respondent's scores on Kolb's learning Style Inventory (LSI).

Table 2.9(b) presents gender, learning stage and learning dimension's mean scores for all the students. The learning stages are Abstract Conceptualization (AC), Concrete Experience (CE), Active Experimentation (AE), and Reflective Observation (RO).

Table 2.9(b): Learning Stage, Learning Dimension Mean scores and Gender of Thai students.

Gender	n	AC ¹	CE ²	AE ³	RO ⁴	AC-CE ⁵	AE-RO ⁶
Male	302	28.15 ^a	35.98 ^a	24.04 ^a	31.82 ^a	-7.83 ^a	-7.78 ^a
		2.86 ^b	3.84 ^b	1.86 ^b	2.67 ^b	6.26 ^b	3.86 ^b
Female	138	26.71 ^a	33.49 ^a	24.76 ^a	35.01 ^a	-6.78 ^a	-10.25 ^a
		2.33 ^b	2.78 ^b	1.97 ^b	2.58 ^b	4.69 ^b	4.09 ^b
Overall	440	27.31 ^a	34.52 ^a	24.46 ^a	33.69 ^a	-7.22 ^a	-9.23 ^a
		2.65 ^b	3.48 ^b	1.95 ^b	3.05 ^b	5.41 ^b	4.17 ^b

a=mean

b=Standard Deviation (SD)

1= Abstract Conceptualization, Thinking

2= Concrete Experience, Feeling

3= Active Experimentation, Doing

4= Reflective Observation, Watching

5= Abstract Conceptualization/ Concrete Experience

6= Active Experimentation/ Reflective Observation

Example, From above table (Table 2.9(b)) we observed that 28.15 is mean score of male students (SD=2.86); 26.71 is mean score of female students (SD=2.33) and 27.31 is mean score of all students (SD=2.65) for Abstract Conceptualization (AC).

The learning stage mean scores by work status (working, non-working) were presented in Table 2.10(b). The possible scoring range was 12 to 48 for each learning stage and -36 to +36 for each learning dimension. The learning dimension preferences of all students were presented in Table 2.9(b) and Table 2.10(b). The dimension Abstract Conceptualization (AC) minus Concrete Experience (CE) represents the AC-CE score; the dimension Active Experimentation (AE) minus Reflective Observation (RO) represented the AE-RO score.

Table 2.10(b): Learning Stage, Learning Dimension Mean scores and Work Status of Thai students.

Gender	N	AC ¹	CE ²	AE ³	RO ⁴	AC-CE ⁵	AE-RO ⁶
Working	195	27.04 ^a	32.92 ^a	24.55 ^a	35.47 ^a	-5.88 ^a	-10.92 ^a
		1.96 ^b	2.29 ^b	2.01 ^b	2.09 ^b	4.07 ^b	3.88 ^b
Non-working	245	27.41 ^a	35.14 ^a	24.42 ^a	33.01 ^a	-7.73 ^a	-8.57 ^a
		2.87 ^b	3.66 ^b	1.94 ^b	3.09 ^b	5.77 ^b	4.12 ^b
Overall	440	27.31 ^a	34.52 ^a	24.46 ^a	33.69 ^a	-7.22 ^a	-9.23 ^a
		2.65 ^b	3.48 ^b	1.95 ^b	3.05 ^b	5.41 ^b	4.17 ^b

a=mean

b=Standard Deviation (SD)

1= Abstract Conceptualization, Thinking

2= Concrete Experience, Feeling

3= Active Experimentation, Doing

4= Reflective Observation, Watching

5= Abstract Conceptualization/ Concrete Experience

6= Active Experimentation/ Reflective Observation

Example, From above table (Table 2.10(b)) we observed that 27.04 is mean score of working students (SD=1.96); 27.41 is mean score of non-working students (SD=2.87) and 27.31 was mean score of all students (SD=2.65) for Abstract Conceptualization (AC).

Respondents were identified as 19 Assimilators(5%), followed by 10 Convergences (2.63%) and 4 Accommodators (1.05%).Majority of the students were Divergers and they were 347 in number (91.32%) as observed in Table 2.11(b).

Table 2.11(b): Frequency Distribution and Chi-square between Gender and Learning Styles of Thai students.

Gender	Accommodator		Assimilator		Converger		Diverger		Total
	n	%	n	%	n	%	n	%	n
Male	1	0.26	7	1.84	5	1.32	144	37.89	157
Female	3	0.79	12	3.16	5	1.32	203	53.42	223
Overall	4	1.05	19	5	10	2.63	347	91.32	380

$$\chi^2=0.912, DF = 3, P\text{-Value} = 0.823(\text{ns})$$

As P-value is not significant (ns) for rejecting hypothesis I of no difference, between gender and learning styles of the students, we conclude that no differences were detected on learning styles proportion distribution based on the gender of the student.

Note: Under the null hypothesis of no association (or independence), expected frequencies for each (i, j) cell of the r x c table are:

$$E_{ij} = [(total\ of\ row\ i) * (total\ of\ column\ j)] / total\ number\ of\ observations$$

The total χ^2 is calculated by:

$$\sum \sum [(O_{ij} - E_{ij})^2 / E_{ij}]$$

Where O_{ij} = observed frequency in cell (i, j)

E_{ij} = expected frequency for cell (i, j) and

Σ represents summation.

The degrees of freedom (DF) associated with a contingency table possessing r rows and c columns equals (r - 1) (c - 1).]

Table 2.12(b): Frequency Distribution and Chi-square between Work Status and Learning Styles of Thai students.

	Accommodator		Assimilator		Converger		Diverger		Overall
Work Status	N	%	n	%	n	%	n	%	n
Working	1	0.26	6	1.58	2	0.53	65	14.78	107
Non-working	3	0.79	13	3.42	8	2.11	282	64.09	273
Overall	4	1.05	19	5	10	2.63	347	91.32	380

$$\chi^2=1.977, DF = 3, P-Value = 0.024$$

Similarly, table 2.12(b) shows that 282 non-working students were identified as Divergers, followed by 3 (0.79%) Accommodator, 8 Converger (2.11%) and 13(3.42%) Assimilator.

As P-value is significant for rejecting hypothesis I of no difference, between work status and learning styles of the students, we conclude that differences were detected on learning styles proportion distribution based on the work status of the students.

Table 2.12(b)*: Frequency Distribution and Chi-square between Age and Learning Styles of Thai students.

Age	Accommodator		Assimilator		Converger		Diverger		Overall n
	n	%	n	%	n	%	n	%	
18	50	87.72	4	7.02	3	5.26	0	0	57
19	86	94.51	3	3.30	2	2.20	0	0	91
20	47	88.68	2	3.77	3	5.66	1	1.88	53
21	56	94.92	2	3.39	1	1.69	0	0	59
22	32	86.48	4	10.81	0	0	1	2.70	37
23	26	83.87	2	6.45	1	3.23	2	6.45	31
24+	50	96.54	2	3.85	0	0	0	0	52
Total	347	91.32	19	5	10	2.63	4	1.05	380

$$\chi^2=0.278, DF = 3, P\text{-Value} = 0.964(\text{ns})$$

As P-value is not significant for rejecting hypothesis I of no difference, between age and learning styles of the students, we conclude that no differences were detected on learning styles proportion distribution based on the age of the students in Thailand.

Personality Type

The Personal Style Inventory (PSI) generated 8 scores: Extroversion, Introversion, Sensing, iNtuition, Thinking, Feeling, Judging, and Perceiving, which characterize one's preferences when paired into four dimensions (indices) (Hogan & Champagne, 1979). Each dimension had two types: Extroversion-Introversion, Sensing-iNtuition, Thinking- Feeling, and Judging-Perceiving. Each subject was classified as one of 16 possible personality types, according to the respondent's tendency toward each personality trait on the Personal Style Inventory (PSD- The combined score of each dimension should be 25. The possible scoring range of each component of the dimension should be between 0 and 25.

After completion of the Personal Style Inventory (PSI), each respondent was classified as either an Extroversion (E) type or an Introversion (I) type, depending upon the respondent's score of tendency on the E-I dimension; a Sensing (S) type or an iNtuition (N) type, depending upon the subject's score of tendency on the S-N dimension; a Thinking (T) type or a Feeling (F) type, depending upon the subject's score of tendency on the T-F dimension; and a Judging (J) type or a Perceiving (P) type, depending upon the subject's score of tendency on the J-P dimension. The personality type was determined by combining the four dominate tendencies.

Table 2.13(b): Personality Dimension's Mean Scores by Gender of Thai students.

Gender	n	E ¹	I ²	S ³	N ⁴	T ⁵	F ⁶	P ⁷	J ⁸
Male	157	5.19 ^a	19.80 ^a	16.76 ^a	7.62 ^a	9.45 ^a	15.62 ^a	17.18 ^a	7.78 ^a
		2.11 ^b	2.10 ^b	3.89 ^b	3.94 ^b	4.32 ^b	4.28 ^b	3.16 ^b	3.19 ^b
Female	223	5.62 ^a	19.38 ^a	16.98 ^a	8.44 ^a	9.04 ^a	16.02 ^a	16.42 ^a	8.57 ^a
		3.08 ^b	3.08 ^b	3.04 ^b	4.31 ^b	4.29 ^b	4.18 ^b	4.19 ^b	4.19 ^b
Overall	380	5.44 ^a	19.55 ^a	16.89 ^a	8.08 ^a	9.21 ^a	15.85 ^a	16.73 ^a	8.25 ^a
		2.73 ^b	2.73 ^b	3.42 ^b	3.49 ^b	4.31 ^b	4.22 ^b	3.82 ^b	3.83 ^b

a=mean

b=Standard Deviation (SD)

1= Extroversion (Range 0-14)

2= Introversion (Range 11-25)

3= Sensing (Range 6-25)

4= iNtuition (Range 0-19)

5= Thinking (Range 0-23)

6= Feeling (Range 2-25)

7=Perceiving (Range 1-25)

8=Judging (Range 0-24)

Table 2.13(b) presents mean scores and their standard deviation for eight personality dimensions (E, I, N, S, T, F, P and J) classified by gender of the student. For example, 5.19 is the mean score of male students (SD=2.11); 5.62 is mean score of female students (SD=3.08) and 5.44 is mean score of all students (SD=2.73) for Personality Dimension Extroversion (E). All students showed stronger tendencies on Introversion (I), Sensing (S), Feeling (F) and Perceiving (P) scores with respect to their corresponding personality dimension.

By this we can conclude that overall personality type of Thai students is ISFP.

Table 2.14(b): Personality Dimension's Mean Scores of by Work Status of Thai students.

Gender	n	E ¹	I ²	S ³	N ⁴	T ⁵	F ⁶	P ⁷	J ⁸
Working	107	5.39 ^a	19.61 ^a	16.83 ^a	8.13 ^a	9.30 ^a	15.78 ^a	16.53 ^a	8.46 ^a
		2.77 ^b	2.76 ^b	3.44 ^b	3.55 ^b	4.28 ^b	4.167 ^b	3.76 ^b	3.76 ^b
Non-working	273	5.59 ^a	19.41 ^a	17.05 ^a	7.93 ^a	8.97 ^a	16.02 ^a	17.26 ^a	7.68 ^a
		2.64 ^b	2.64 ^b	3.36 ^b	3.36 ^b	4.37 ^b	4.38 ^b	3.92 ^b	3.96 ^b
Overall	380	5.44 ^a	19.55 ^a	16.89 ^a	8.07 ^a	9.21 ^a	15.85 ^a	16.73 ^a	8.24 ^a
		2.73 ^b	2.73 ^b	3.42 ^b	3.49 ^b	4.31 ^b	4.22 ^b	3.82 ^b	3.83 ^b

a=mean

b=Standard Deviation (SD)

1= Extroversion (Range 0-14)

2= Introversion (Range 11-25)

3= Sensing (Range 6-25)

4= iNtuition (Range 0-19)

5= Thinking (Range 0-23)

6= Feeling (Range 2-25)

7=Perceiving (Range 1-25)

8=Judging (Range 0-24)

Table 2.14(b) presented mean scores and their standard deviation for eight personality dimensions (E, I, N, S, T, F, P and J) classified by work status of the students. For example, 5.39 is the mean score of working student (SD=2.77); 5.59 is mean score of non-working

students (SD=2.64) and 5.44 is mean score of all students (SD=2.73) for Personality Dimension E. All students showed stronger tendencies on Introversion (I), Sensing (S), Feeling (F) and Perceiving (P) scores with respect to their corresponding personality types.

By this we can conclude that overall personality type of Thai students is ISFP.

Table 2.15(b) presented the proportional distributions of the four personality dimensions: Extroversion-Introversion, Sensing-iNtuition, Thinking-Feeling, and Judging-Perceiving. The Chi-square analysis indicated that there were no statistically significant differences regarding personality dimensions on the E-I Index between male and female students ($\chi^2 = 1.382$, $p = 0.24$) and p-value is also not significant.

Furthermore, each subject was classified as either a Sensing (S) type or an iNtuition (N) type, depending upon the subject's score on the S-N Index. The chi-square analysis indicated that there were no statistically significant differences regarding personality type on the S-N Index between male and female students ($\chi^2 = 1.873$, $p = 0.171$) and p-value is also not significant.

Also, each subject was classified as either a Thinking (T) type or a Feeling (F) type, depending upon the subject's score on the T-F Index. The chi-square analysis indicated that there were significant differences regarding personality type on the T-F Index between male and female students ($\chi^2 = 146.48$, $p = 0.000$) and p-value is significant.

Finally, each subject was classified as either a Judging (J) type or a Perceiving (P) type, depending upon the subject's score on the J-P Index. The chi-square analysis indicated that there were no significant differences regarding personality type on the J-P Index between male and female hospitality undergraduate students ($\chi^2 = 3.394$, $p = 0.065$) and p-value is also not significant.

Table 2.15(b): Frequency Distribution and Chi-square between Personality Dimensions of Thai students.

	Male (n=157)		Female (n=223)		Total (n=380)	Chi-square	P-value
	n	%	N	%	n		
Extroversion-Introversion Dimension						1.382	0.24 (ns)
E	4	1.06	11	2.89	15		
I	153	10.26	212	55.78	365		
Sensing-iNtuition Dimension						1.873	0.171 (ns)
S	142	37.36	210	55.26	352		
N	15	3.95	13	3.42	28		
Thinking-Feeling Dimension						146.48	0.000
T	34	8.95	187	49.22	221		
F	123	32.37	36	9.47	159		
Judging-Perceiving Dimension						3.394	0.065 (ns)
J	9	2.37	25	6.58	34		
P	148	3.89	198	52.11	346		
Overall	157	41.32	223	58.68	380		

Note: ns=not significant

Table 2.16 (b) presented the proportional distributions of the 4 personality dimensions: Extroversion-Introversion, Sensing-iNtuition, Thinking-Feeling, and Judging-Perceiving. The Chi-square analysis indicates that there were no significant differences regarding personality type on the E-I Index between working and non-working students ($\chi^2 = 0.207$, $p = 0.649$) and p-value is also not significant.

Furthermore, each subject was classified as either a Sensing (S) type or an iNtuition (N) type, depending upon the subject's score on the S-N Index. The chi-square analysis indicated

that there were no statistically significant differences regarding personality type on the S-N Index between working and non-working students ($\chi^2 = 0.201$, $p = 0.654$) and p-value is also not significant.

Also, each subject was classified as either a Thinking (T) type or a Feeling (F) type, depending upon the subject's score on the T-F Index. The chi-square analysis indicated that there were no statistically significant differences regarding personality type on the T-F Index between working and non-working students ($\chi^2 = 109.35$, $p = 0.000$) and p-value is also significant.

Finally, each subject was classified as either a Judging (J) type or a Perceiving (P) type, depending upon the subject's score on the J-P Index. The chi-square analysis indicated that there were no significant differences regarding personality type on the J-P Index between working and non-working hospitality undergraduate students ($\chi^2 = 0.029$, $p = 0.865$) and p-value is also not significant in rejecting hypothesis of no-difference hence we accept it.

Table 2.16(b): Frequency Distribution and Chi-square between Personality Dimensions of Thai students.

	Working (n=107)		Non- working (n=273)		Total (n=380)	Chi- square	P-value
	n	%	n	%	n		
Extroversion-Introversion Dimension						0.207	0.649 (ns)
E	5	1.32	10	2.63	15		
I	102	26.84	263	69.21	365		
Sensing-iNtuition Dimension						0.201	0.654 (ns)
S	102	26.84	250	65.78	352		
N	7	1.32	21	5.53	28		
Thinking-Feeling Dimension						109.35	0.000
T	17	4.47	204	53.68	221		
F	90	23.68	69	18.16	159		
Judging-Perceiving Dimension						0.029	0.865 (ns)
J	10	2.63	24	6.32	34		
P	97	25.53	249	65.53	346		
Overall	107	28.16	273	71.84	380		

Note: ns=not significant

Table 2.17(b): Thai Student's Personality Type Distribution (n=380).

ESTJ 0 (0.00%)	ESTP 5 (1.32%)	ESFP 8 (2.11%)	ESFJ 1 (0.27%)
ENTJ 1 (0.27%)	ENTP 0 (0.00%)	ENFJ 0 (0.00%)	ENFP 2 (0.53%)
ISTJ 13 (3.42%)	ISTP 50 (13.16%)	ISFJ 16 (4.22%)	ISFP 259 (68.16%)
INFJ 3 (0.79%)	INFP 18 (4.74%)	INTJ 0 (0.00%)	INTP 4 (1.06%)

E=Extroversion

I=Introversion

S=Sensing

N=iNtuition

T=Thinking

F=Feeling

P=Perceiving

J=Judging

The Personality Type of ISFP (n=259,68.16%), ISTP (n=50,13.16%) and INFP (n=18,4.74%) were the majority Personality Types of hospitality students as shown in Table 2.17(a), followed closely by the personality types of ISFJ (n=16,4.22%), ISTJ(n=13,3.42%), INFJ (n=3,0.79%), INTP(n=4,1.06%),ENTJ(n=1,0.27%), ESFP(n=8,2.11%), ESFJ(n=1, 0.27%) and ENFP(n=2,0.53%). All the remaining Personality Types were zero.

Table2.18 (b): Frequency Distribution between Student’s Gender and Personality Type of Thai students.

Personality Type	Male		Female		Overall		z-score	p <
	n	%	n	%	n	%		
ISFP	108	28.42	151	39.74	259	68.16	-13.22	0.00
ISTP	25	6.58	25	6.58	50	13.16	-6.27	0.00
ISTJ	6	1.58	7	1.84	13	3.42	2.98	0.001
ISFJ	1	0.26	15	3.95	16	4.21	-11.43	0.00
INTP	4	1.05	0	0	4	1.05	-12.85	0.00
INTJ	0	0	0	0	0	0	-5.67	0.00
INFP	9	2.37	9	2.37	18	4.73	-4.91	0.00
INFJ	1	0.26	2	0.53	3	0.78	-9.79	0.00
ESFP	0	0	8	2.11	8	2.12	-3.34	0.00
ESFJ	1	0.26	0	0	1	0.26	-4.2	0.00
ESTP	1	0.26	4	1.05	5	1.32	4.67	0.001
ESTJ	0	0	0	0	0	0	-6.98	0.00
ENTP	0	0	0	0	0	0	-12.35	0.00
ENTJ	0	0	1	0.26	1	0.26	-7.45	0.00
ENFP	1	0.26	1	0.26	2	0.53	-6.08	0.00
ENFJ	0	0	0	0	0	0	-3.05	0.00
Overall	157	41.32	223	58.68	380	100	-4.29	0.00

$$\chi^2 = 16.916, DF = 6, P\text{-Value} = 0.01$$

Considering gender as a parameter (Table 2.18(a)), the majority distributions of both male students' and female students' personality types were close to the distribution of the samples. The first three major personality types for female students were ISFP (n=151, 39.74%), ISTP (n=25, 6.58%) and ISFJ (n=15, 3.95%). The three major personality types for male students were ISFP (n=108, 28.42%), ISTP (n=25, 6.58%) and INFP (n=9, 2.37%).and; however, there were statistically significant differences ($\chi^2 = 16.916$, $p = 0.01$) regarding personality types on the PSI between male and female students and p-value is significant.

As P-value is significant for rejecting hypothesis II of no difference, between Gender and Personality Types of the students, we conclude that differences were detected on Personality Types based on the Gender of the students

Table2.19 (b): Frequency Distribution between Work Status and Personality Type of Thai students.

Personality Type	Working		Non-working		Overall		z-score	p <
	N	%	N	%	n	%		
ISFP	73	19.21	186	48.95	259	68.16	0.81	0.21
ISTP	12	3.16	38	10	50	13.16	-7.9	0.00
ISTJ	3	0.79	10	2.63	13	3.42	-4.58	0.008
ISFJ	7	1.84	9	2.36	16	4.21	-6.91	0.00
INTP	1	0.26	3	0.78	4	1.05	-7.93	0.00
INTJ	0	0	0	0	0	0	-5.33	0.00
INFP	5	1.32	13	3.43	18	4.73	2.95	0.001
INFJ	0	0	3	0.78	3	0.78	6.13	0.00
ESFP	3	0.78	5	1.32	8	2.12	-9.28	0.00
ESFJ	0	0	1	0.26	1	0.26	-4.89	0.00
ESTP	2	0.52	3	0.78	5	1.32	-12.84	0.00
ESTJ	0	0	0	0	0	0	-1.52	0.015
ENTP	0	0	0	0	0	0	-3.32	0.02
ENTJ	0	0	1	0.26	1	0.26	9.47	0
ENFP	1	0.26	1	0.26	2	0.53	6.97	0.00
ENFJ	0	0	0	0	0	0	-10.63	0.00
Overall	107	28.16	273	71.84	380	100	-11.07	0.00

$$\chi^2 = 2.661, DF = 7, P\text{-Value} = 0.915$$

Table 2.19(b) showed the distributions of Personality Types of students by work status. 107 Thailand students of the overall sample (n = 380) were working and remaining 273 were non-working. The Personality Type distribution of working student was ISFP (n = 73, 19.21%), ISTP (n = 12, 3.16%), ISFP (n = 5, 1.32%), ISFJ (n = 7, 1.84%) and ESFP (n = 3, 0.78%); while students who did not work had almost same distributions, ISFP (n = 186, 48.95%), ISTP (n = 38, 10%), ISFP (n = 13, 3.43%), ISFJ (n = 9, 2.36%) and ESFP (n = 5, 1.32%) from the ones who work.

Here also, we conclude that there were no statistically significant differences ($\chi^2 = 2.661$, $p = 0.915$) regarding personality types on the PSI between working and non-working students.

As P-value is not significant (ns) for rejecting hypothesis II of no difference, between Work Status and Personality Types of the students, we conclude that no differences were detected on Personality Types based on the Work Status of the students.

Table 2.19(b)*: Age-wise Personality Types of Thai students.

Age								Total
Personality Type	18	19	20	21	22	23	24+	
ISFP	41	64	33	42	27	20	32	259
ISTP	10	9	11	7	3	2	8	50
ISTJ	2	4	1	1	1	3	1	13
ISFJ	0	5	0	4	0	3	4	16
INTP	2	1	1	0	0	0	0	4
INTJ	0	0	0	0	0	0	0	0
INFP	1	5	4	3	2	0	3	18
INFJ	0	1	0	1	0	1	0	3
ESFP	0	1	2	0	1	1	3	8
ESFJ	0	0	0	0	1	0	0	1
ESTP	1	1	0	0	1	1	1	5
ESTJ	0	0	0	0	0	0	0	0
ENTP	0	0	0	0	0	0	0	0
ENTJ	0	0	0	1	0	0	0	1
ENFP	0	0	1	0	1	0	0	2
ENFJ	0	0	0	0	0	0	0	0
Overall	57	91	53	59	37	31	52	380

$\chi^2=19.268$, DF = 18, P-Value = 0.376(ns)

Table 2.19(b)* gives the age-wise distribution of 16 Personality Types which shows that ISFP is highest among all Personality Type and is highest for age 19 years.

In this case also p-value is not significant in rejecting hypothesis of no-difference, we conclude that no differences on 16 personality Types were detected based on age of student in Thailand.

As P-value is not significant (ns) for rejecting hypothesis II of no difference, between Age and Personality Types of the students, we conclude that no differences were detected on 16 Personality Types based on the Age of the students.

Learning Style and Personality Type

There were no statistically significant differences ($\chi^2 = 1.083$, $p = 0.781$) on Kolb's learning styles among students' personality types (Table 2.20(a)) and p-value is also not significant in rejecting hypothesis of no-difference hence we accept it. However, for the purpose of further analysis, each subject was re-classified according to the subject's scores on each of the PSI four dimensions.

Table 2.20 (b): Chi-square Comparison of Learning Style by Personality Type of Thai students.

Personality Type	n	Learning Style			
		Accommodator	Assimilator	Converger	Diverger
ESTJ	0	0	0	0	0
ESTP	5	0	0	0	5
ESFJ	1	0	0	0	1
ESFP	8	0	1	0	7
ENTJ	1	0	0	0	1
ENTP	0	0	0	0	0
ENFJ	0	0	0	0	0
ENFP	2	0	0	0	2
ISTJ	13	0	0	0	13
ISTP	50	0	1	2	47
ISFJ	16	0	2	0	14
ISFP	259	3	14	8	234
INFJ	3	0	0	0	3
INFP	18	0	0	0	18
INTJ	0	0	0	0	0
INTP	4	1	1	0	2
Overall n	380	4	19	10	347
%	100.0	1.05	5	2.63	91.32

$$\chi^2 = 1.083, DF = 3, P\text{-Value} = 0.781(\text{ns})$$

As shown in Tables 2.21(b), 2.22(b), 2.23(b), and 2.24(b), there were no statistically significant differences in students' four learning styles based on Extroversion-Introversion dimension ($\chi^2 = 0.08$, $p = 0.77$), Sensing- iNtution dimensions ($\chi^2 = 0.132$, $p = 0.936$), Thinking-Feeling dimension ($\chi^2 = 0.032$, $p = 0.984$) and Judging-Perceiving dimension ($\chi^2 = 1.424$, $p = 0.491$) of personality types since P value is not significant for rejecting the hypothesis III of no difference between personality types and learning styles.

Table 2.21(b): Extroversion-Introversion Dimension Personality Types and Learning Styles Frequency Distribution of Thai students.

Learning Style	Extroversion-Introversion Dimension						
	Extroversion		Introversion		Total	z-score	p <
	N	%	n	%	n		
Accommodator	0	0	4	1.05	4	1.98	0.029
Assimilator	1	0.26	18	4.74	19	9.71	0.00
Converger	0	0	10	2.63	10	-3.86	0.001
Diverger	14	3.68	333	87.63	347	-12.69	0.000
Total	15	3.95	365	96.05	380	2.03	0.021

$$\chi^2=0.080, DF= 1, P-Value = 0.777$$

Table 2.22(b): Sensing-iNtuition Dimension Personality Types and Learning Styles Frequency Distribution of Thai students.

Learning Style	Sensing - iNtuition Dimension						
	Sensing		iNtuition		Total	z-score	p <
	N	%	n	%	n		
Accommodator	3	0.79	1	0.26	4	1.85	0.032
Assimilator	18	4.74	1	0.26	19	10.95	0.000
Converger	10	2.63	0	0	10	8.32	0.00

Diverger	321	84.47	26	6.84	347	4.11	0.001
Total	352	92.63	28	7.37	380	12.66	0.000

$\chi^2=0.132$, DF = 2, P-Value = 0.936

Table 2.23(b): Thinking-Feeling Dimension Personality Types and Learning Styles Frequency Distribution of Thai students.

Learning Style	Thinking - Feeling Dimension						
	Thinking		Feeling		Total	z-score	p <
	N	%	n	%	n		
Accommodator	1	0.26	3	0.79	4	5.03	0.000
Assimilator	3	0.79	16	4.21	19	12.78	0.000
Converger	2	0.53	8	2.10	10	6.32	0.000
Diverger	63	16.58	284	7.47	347	1.02	0.132
Total	69	18.16	311	81.84	380	-16.11	0.000

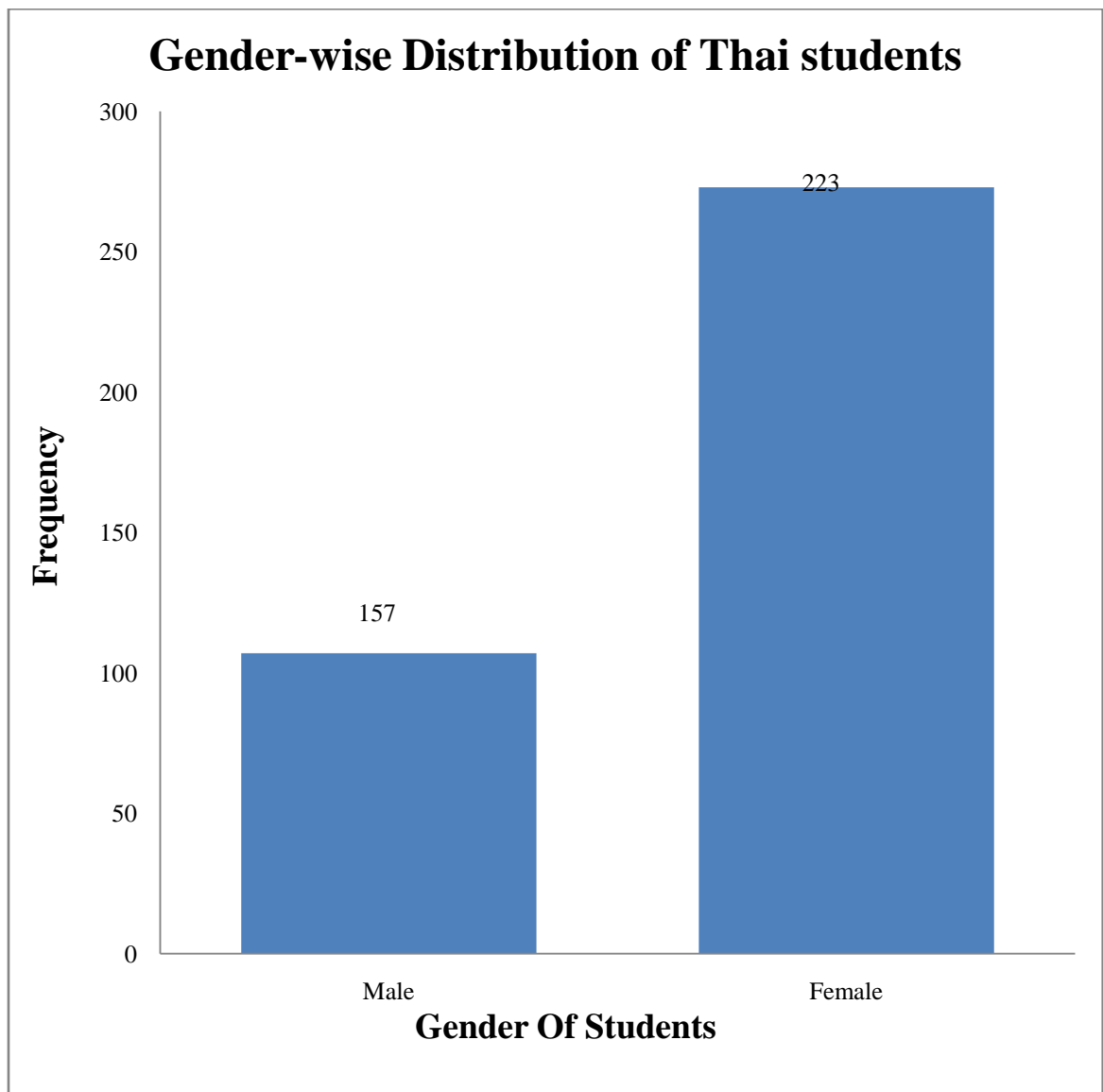
$\chi^2=0.032$, DF = 2, P-Value = 0.984

Table 2.24(b): Judging-Perceiving Dimension Personality Types and Learning Styles Frequency Distribution of Thai students.

Learning Style	Judging - Perceiving Dimension						
	Judging		Perceiving		Total	z-score	p <
	N	%	n	%	n		
Accommodator	0	0	4	1.05	4	4.83	0.00
Assimilator	2	0.53	17	4.47	19	-3.29	0.00
Converger	0	0	10	2.63	10	1.99	0.023
Diverger	32	8.42	335	88.16	347	17.67	0.00
Total	34	8.94	346	91.05	380	-3.01	0.0001

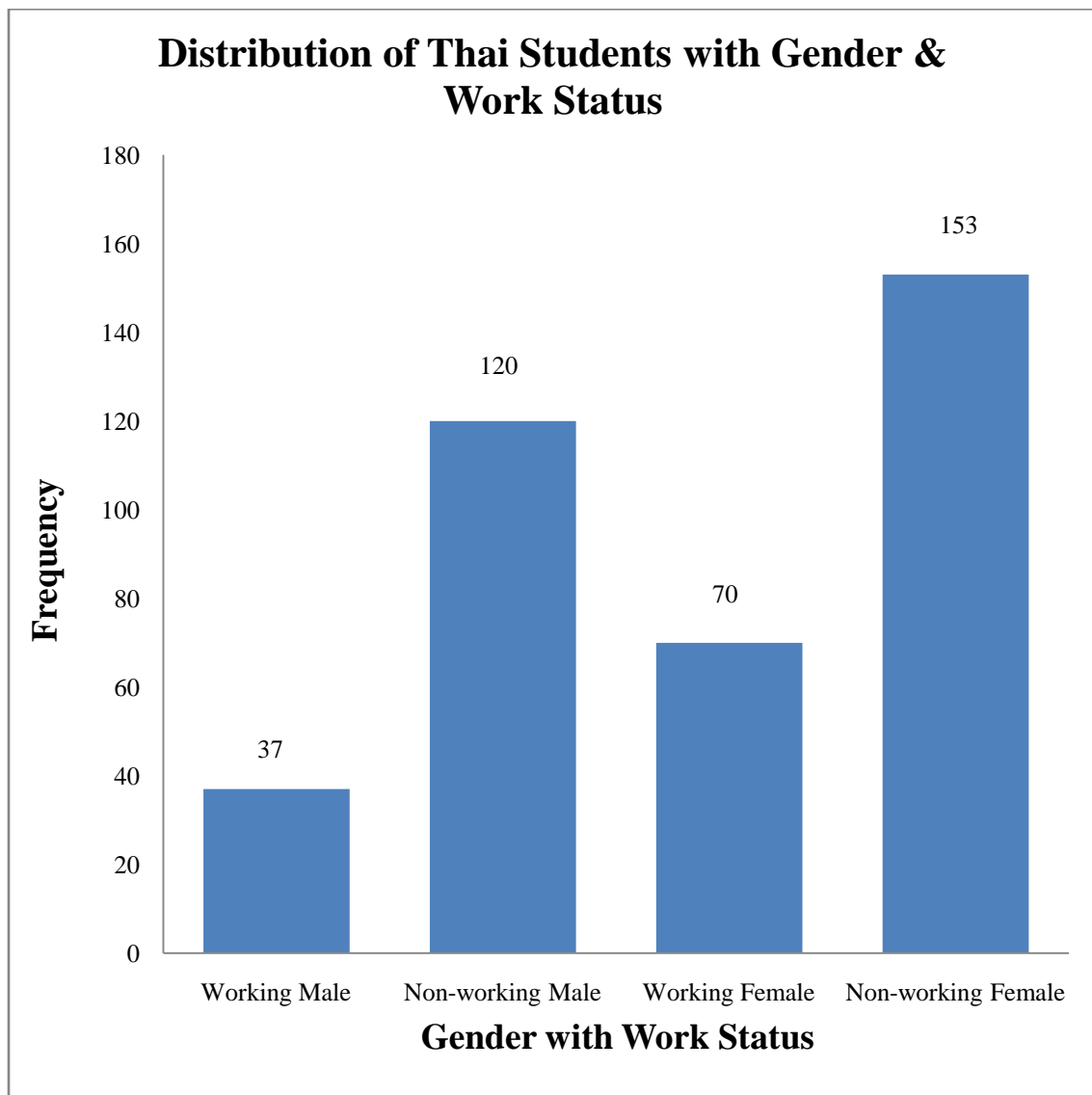
$\chi^2=1.424$, DF = 2, P-Value = 0.491

Graph 1(b): Gender wise distribution of Thai students.



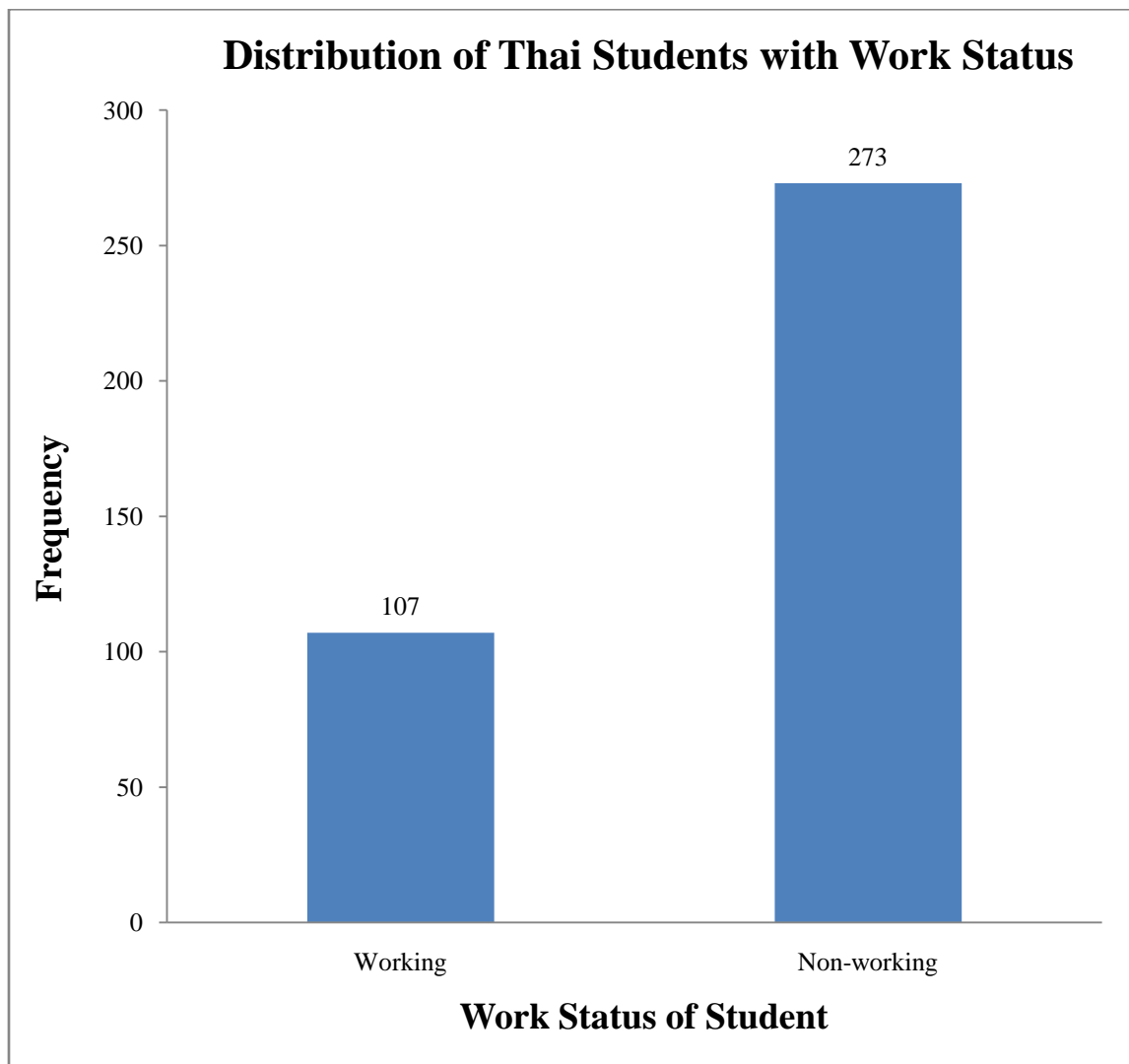
From graph 1(b), we observed that there were 157 (41.32%) male students and 223 (58.68%) female students among the 380 students surveyed in Thailand. Percentage of female students is more than male students by 17.36%.

Graph 2(b): Distribution of Thai Students with Gender & Work Status.



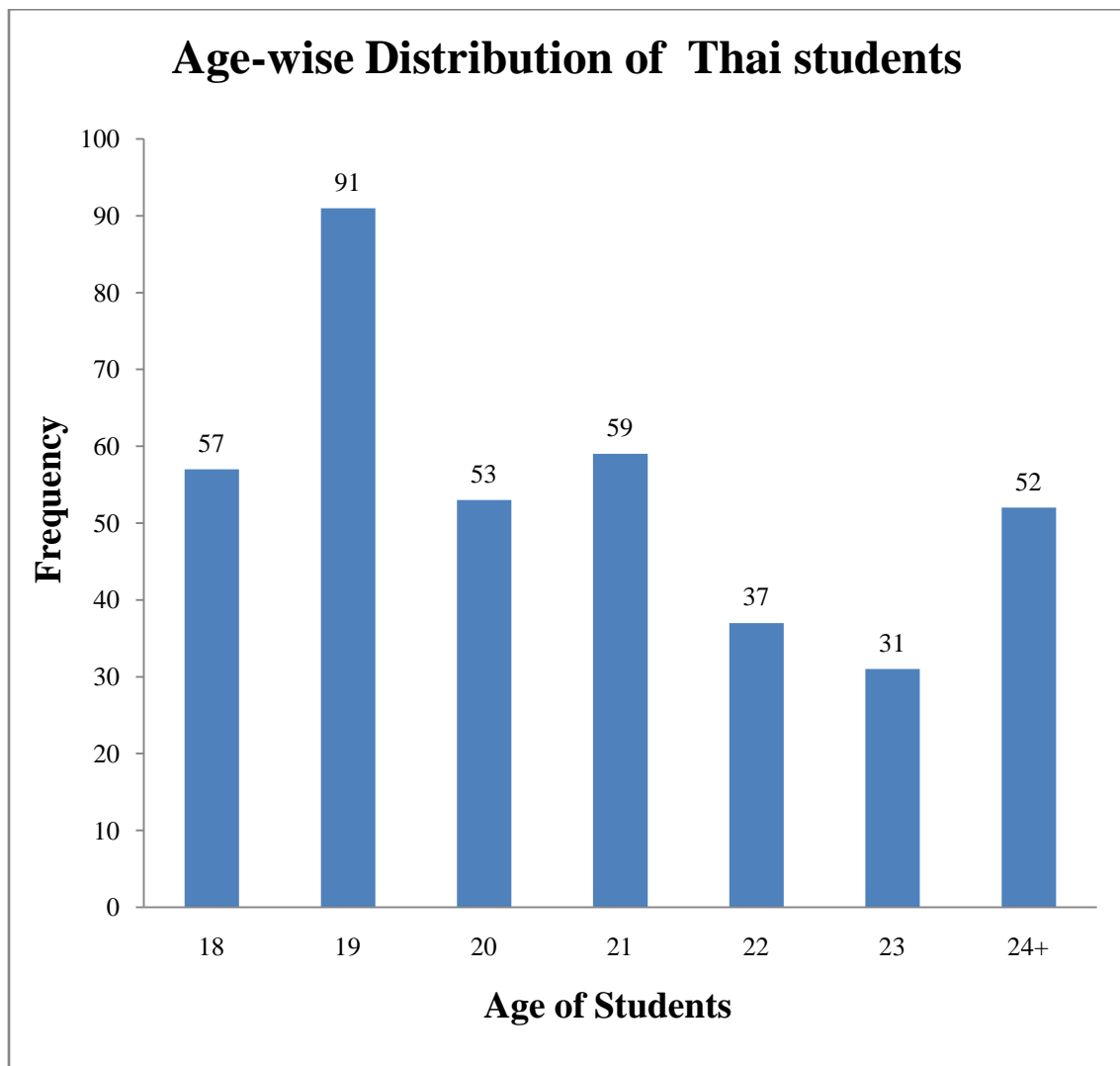
From graph 2(b) represents distribution of students with gender and work status. There were 37(30%) working male students, 70(14.32%) working female students, 120(76.43%) non-working male students and 153(68.61%) non-working female students. Hence, majority of the students were non-working female students.

Graph 3(b): Distribution of Thai Students by Work Status.



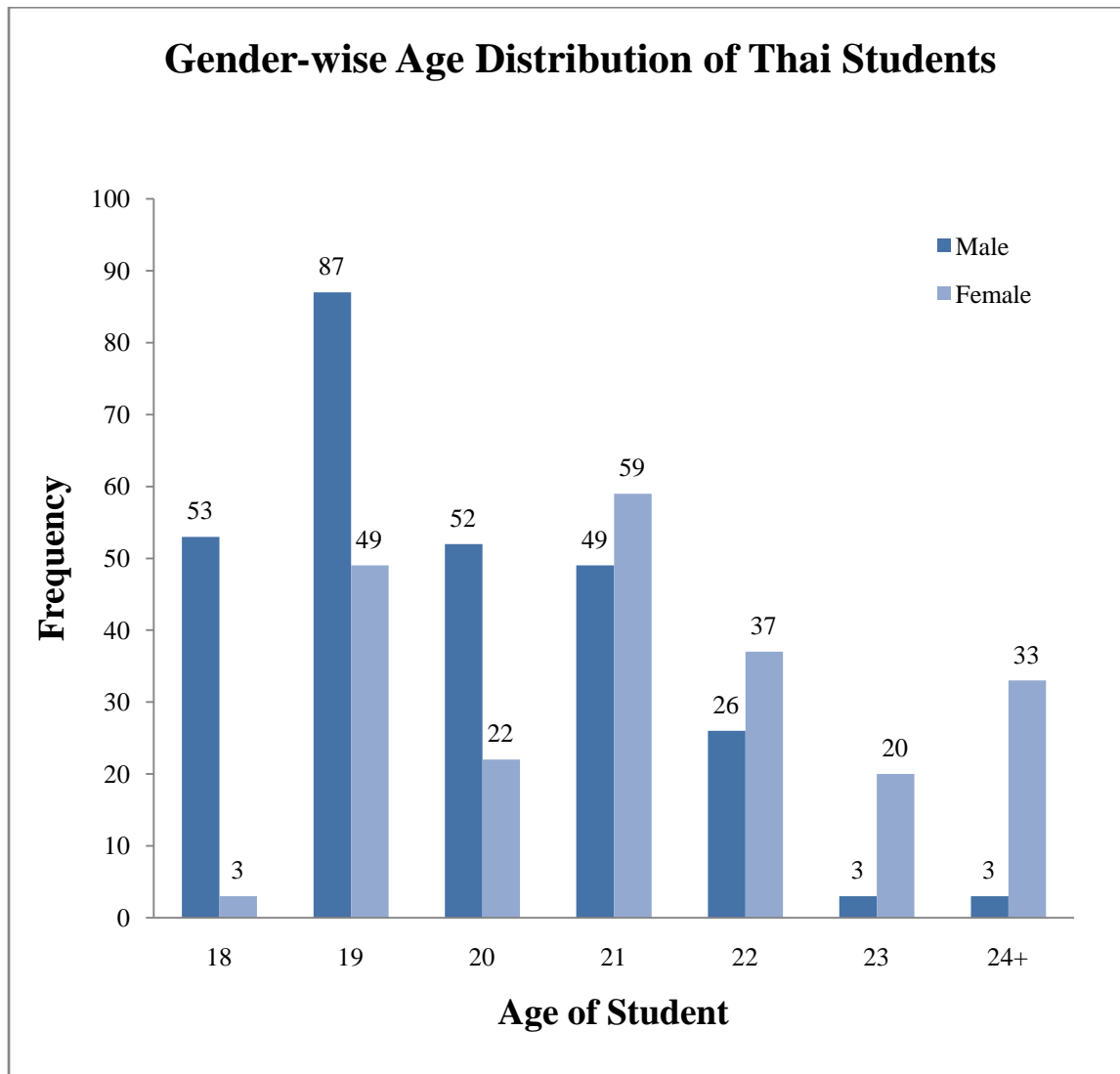
From above graph 3(b), we observed that there were 107(28.16%) working students and 273(71.84%) non-working students among 380 students i.e. majority of the students were non-working. Percentage of non working students was higher than working students by 43.68%.

Graph 4(b): Age wise Distribution of Thai Students.



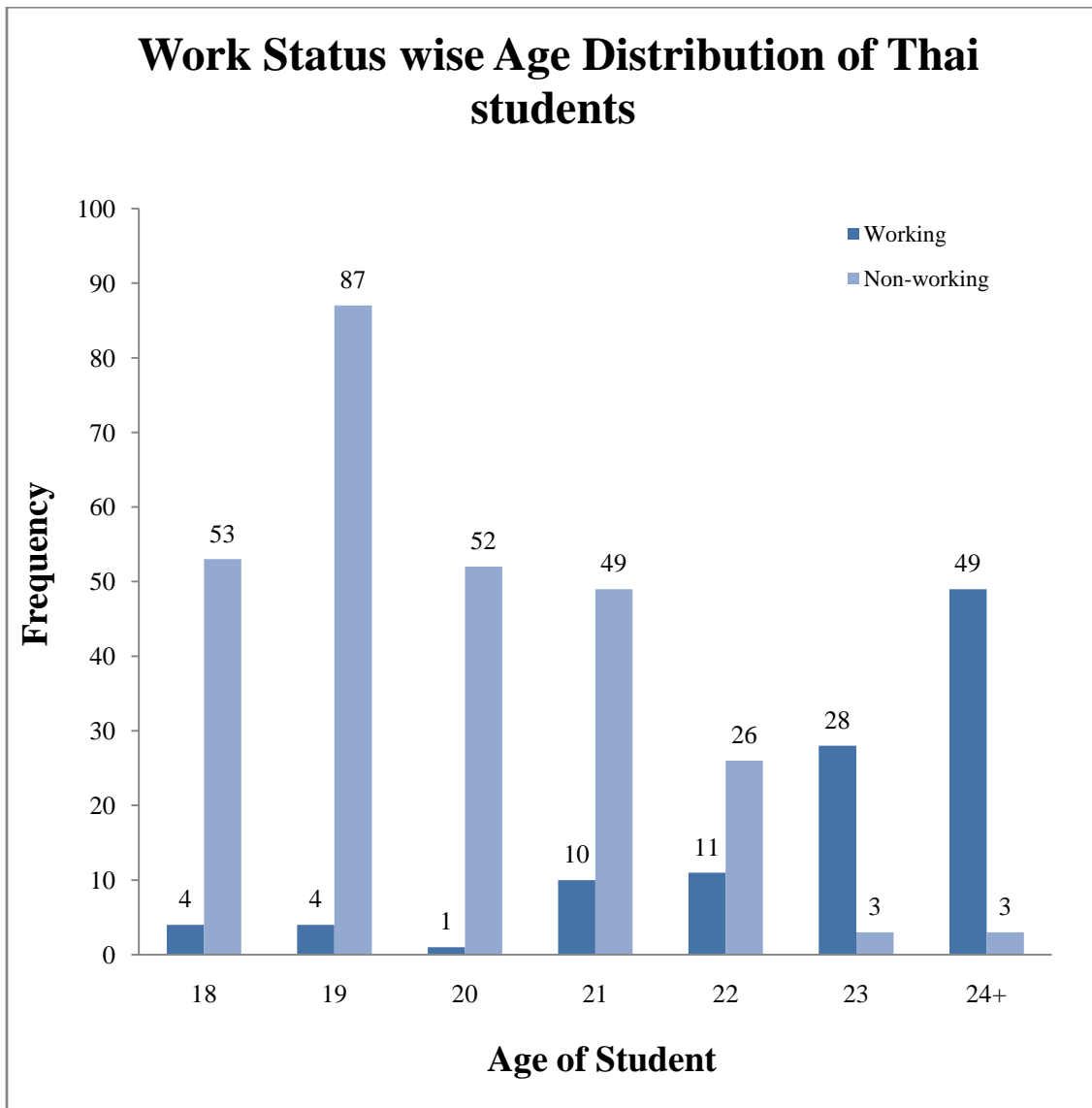
Graph 4(b) indicates students ranged from 18-32 years of age with an average age of 20.60 years (SD = 1.98). 86% of the respondents were between 18 and 23 years.

Graph 5(b): Gender wise age distribution of Thai Students.



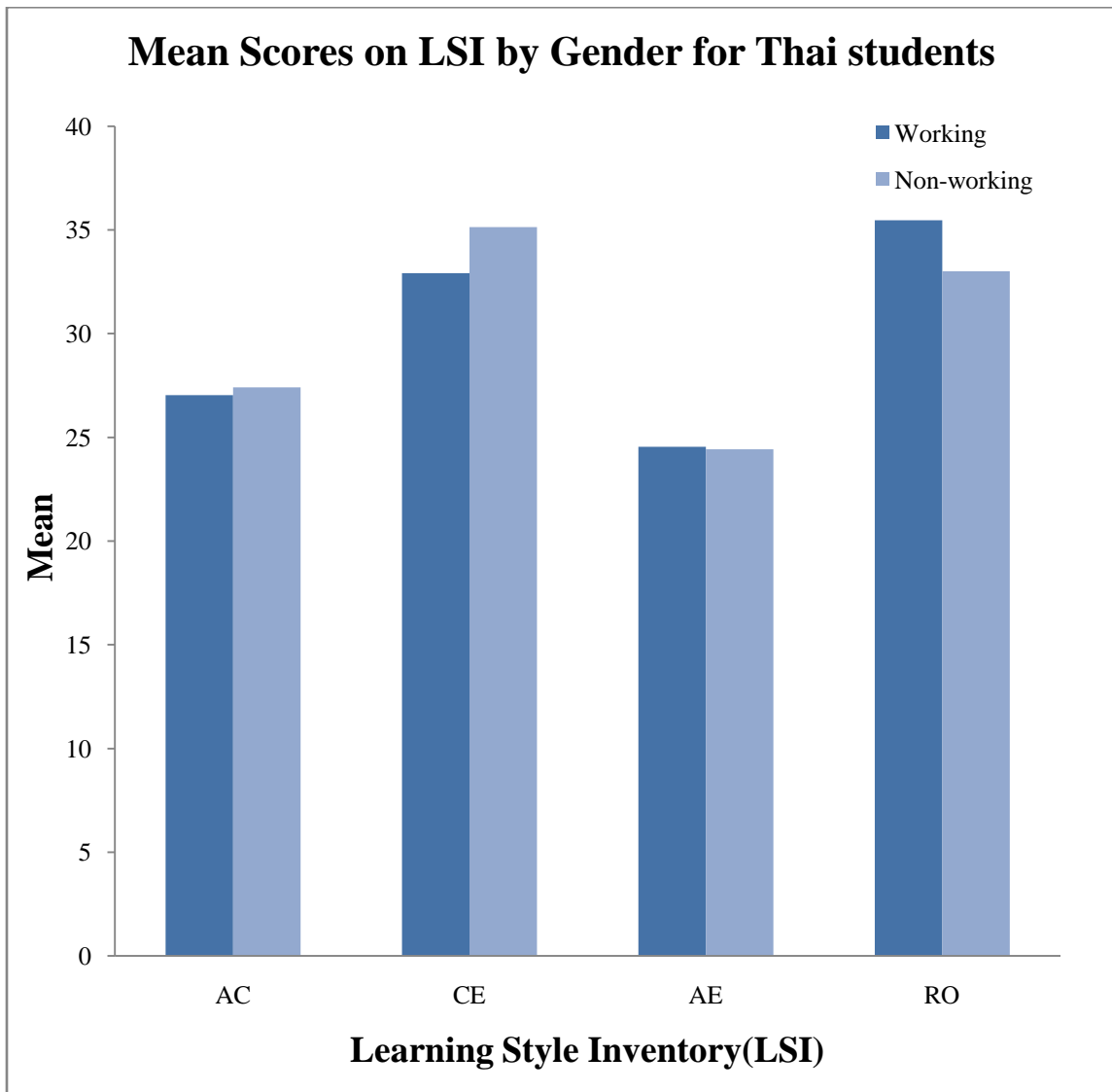
Graph 5(b) shows frequency of males and female students for corresponding age. Example, Out of 57 students of age 18 there were 53(94.74%) males and 3 (5.26%) females.

Graph 6(b): Work Status wise Age of Students from Thailand.



Graph 6(b) shows distribution of working and non-working students for corresponding age. Example, Out of 57 students of age 18 there were 4(7.02%) working and 53 (92.98%) non-working students.

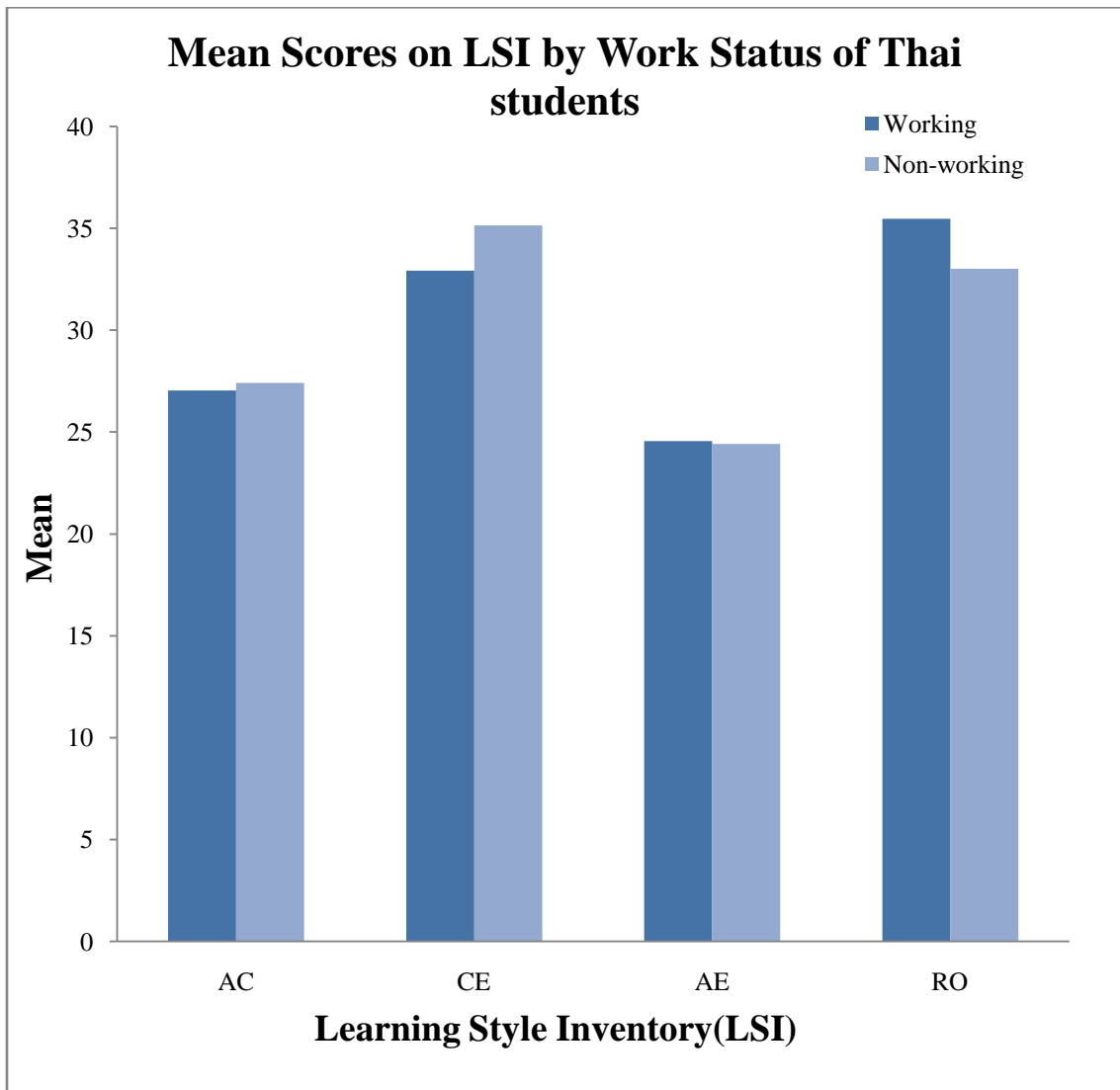
Graph 7(b): Mean Scores on LSI by Gender of Thai students.



Graph 7(b) represents gender and learning dimension mean scores for all students. The learning dimensions are Abstract Conceptualization (AC), Concrete Experience (CE), Active Experimentation (AE) and Reflective Observation (RO).

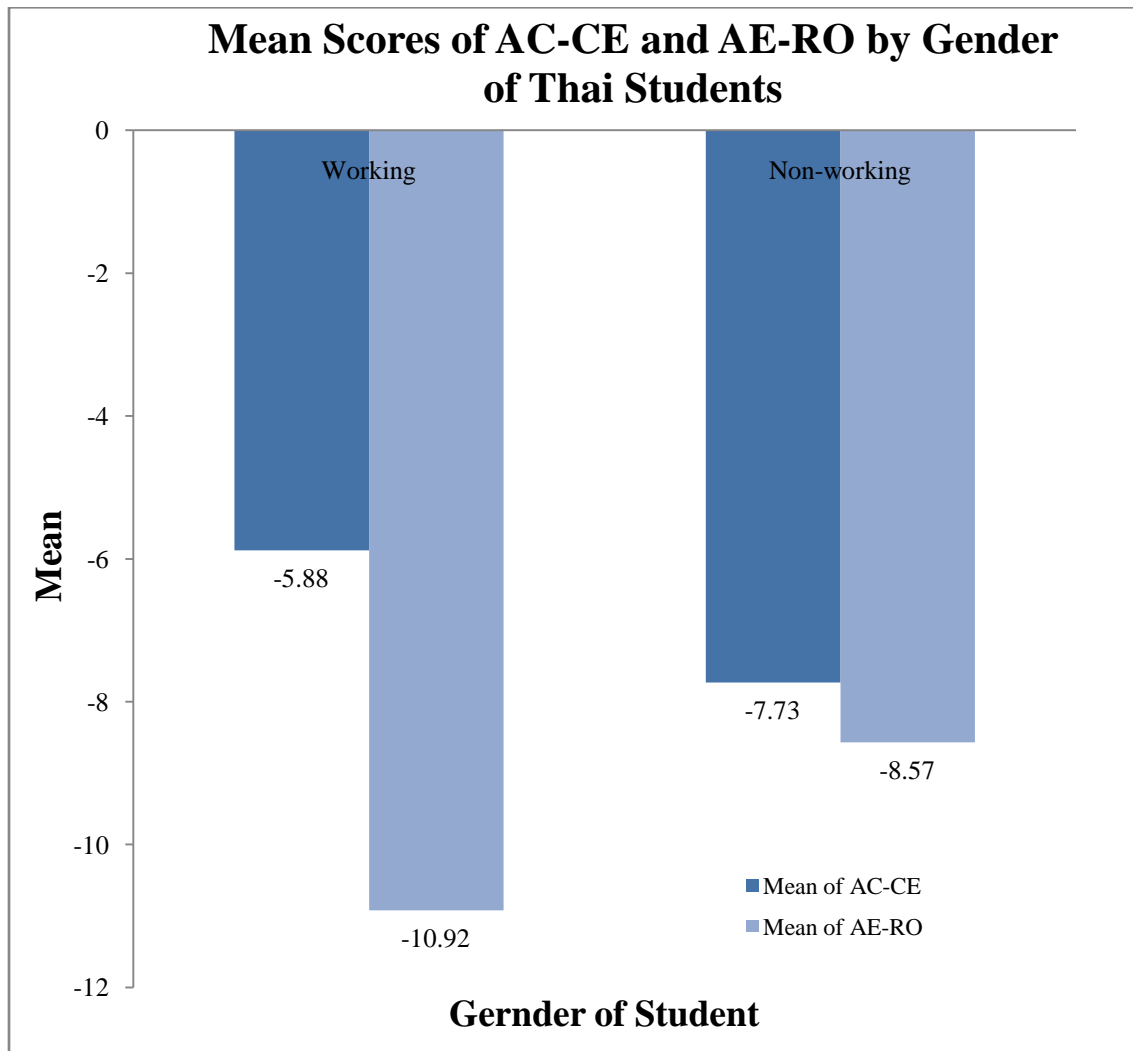
For example, we observed that 28.15 was mean score of male students (SD=2.86); and 26.71 was mean score of female students (SD=2.33) for Abstract Conceptualization (AC).

Graph 8(b): Mean Scores on LSI by Work Status of Thai students.



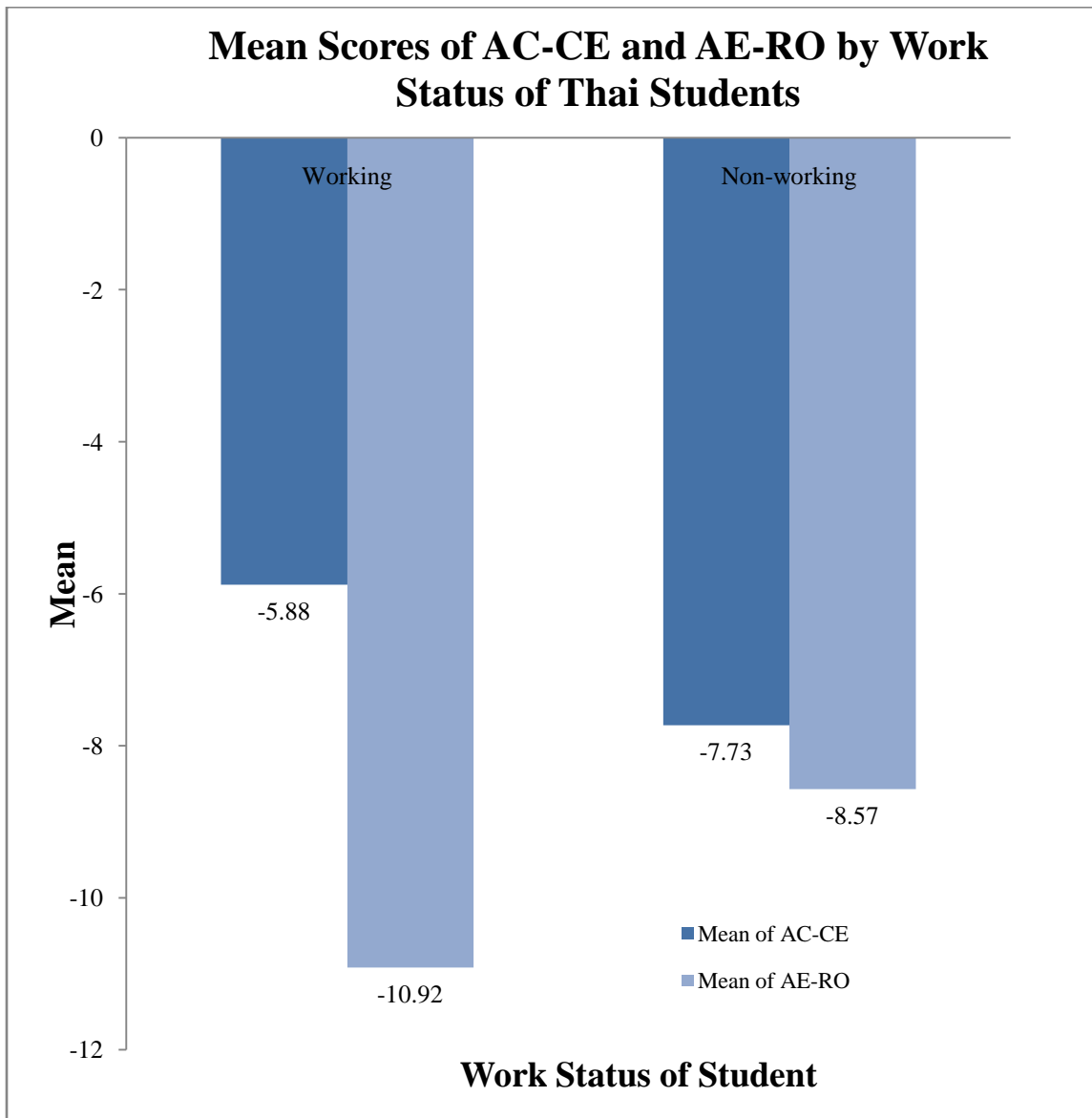
Graph 8(b) represents means scores based on work status for all Learning Dimensions, Abstract Conceptualization (AC), Concrete Experience (CE), Active Experimentation (AE) and Reflective Observation (RO). For example, we observed that 27.04 is mean score of working students (SD=1.96); 27.41 is mean score of non-working students (SD=2.87) for Abstract Conceptualization (AC).

Graph 9(b): Mean Scores of AC-CE and AE-RO by Gender of Thai Students.



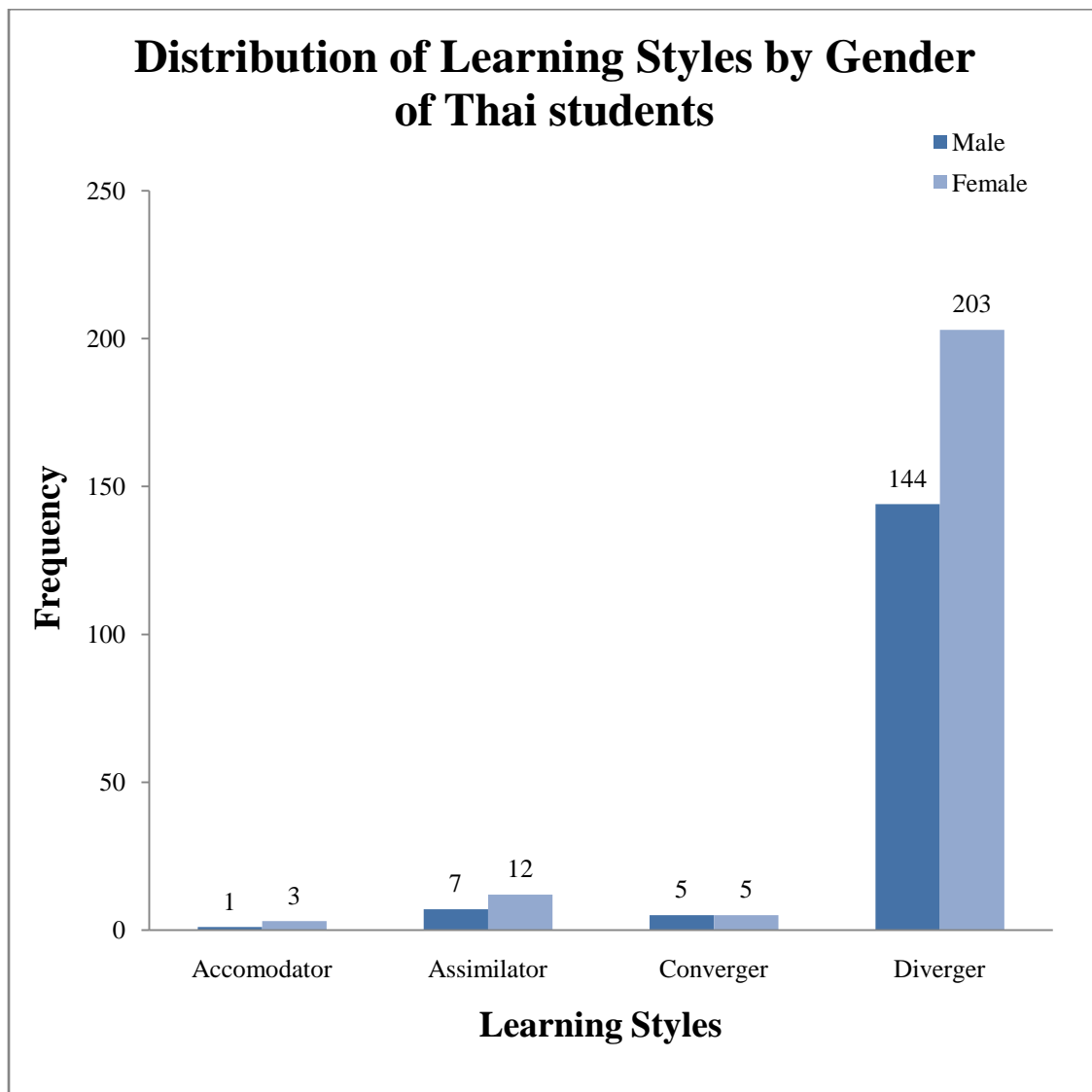
It can be observed from graph 9(b) that mean scores of AC-CE and AE-RO for male students were -7.83 and -7.78 respectively and mean scores for female students was -6.78 and -10.25 respectively.

Graph 10(b): Mean Scores of AC-CE and AE-RO by Work Status of Thai Students.



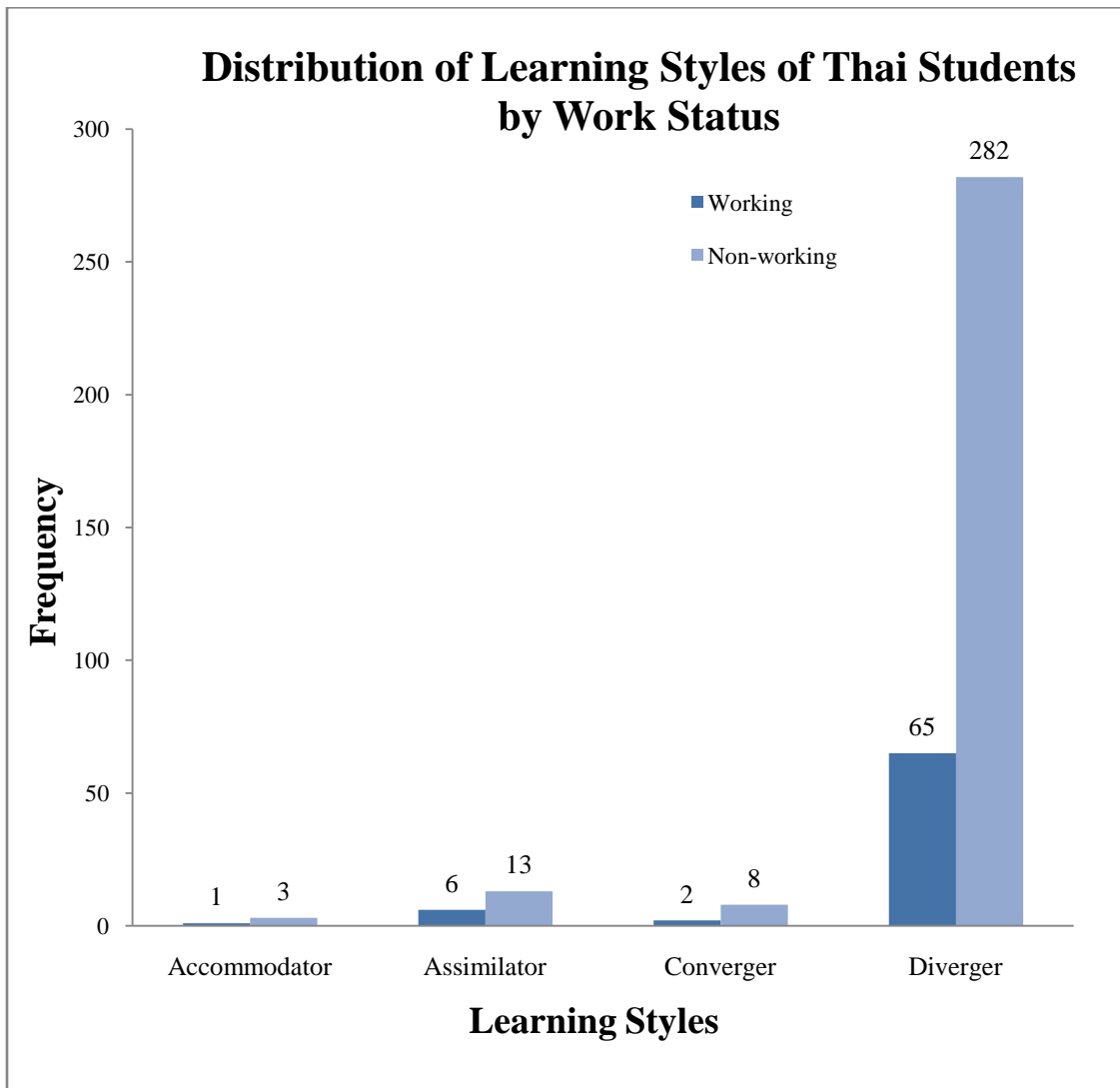
It can be observed from graph 10 (b) that mean scores of AC-CE and AE-RO for working students were -5.88 and -10.92 respectively and mean scores for non-working students was -7.73 and -8.57 respectively.

Graph 11(b): Distribution of Learning Styles by Gender of Thai Students.



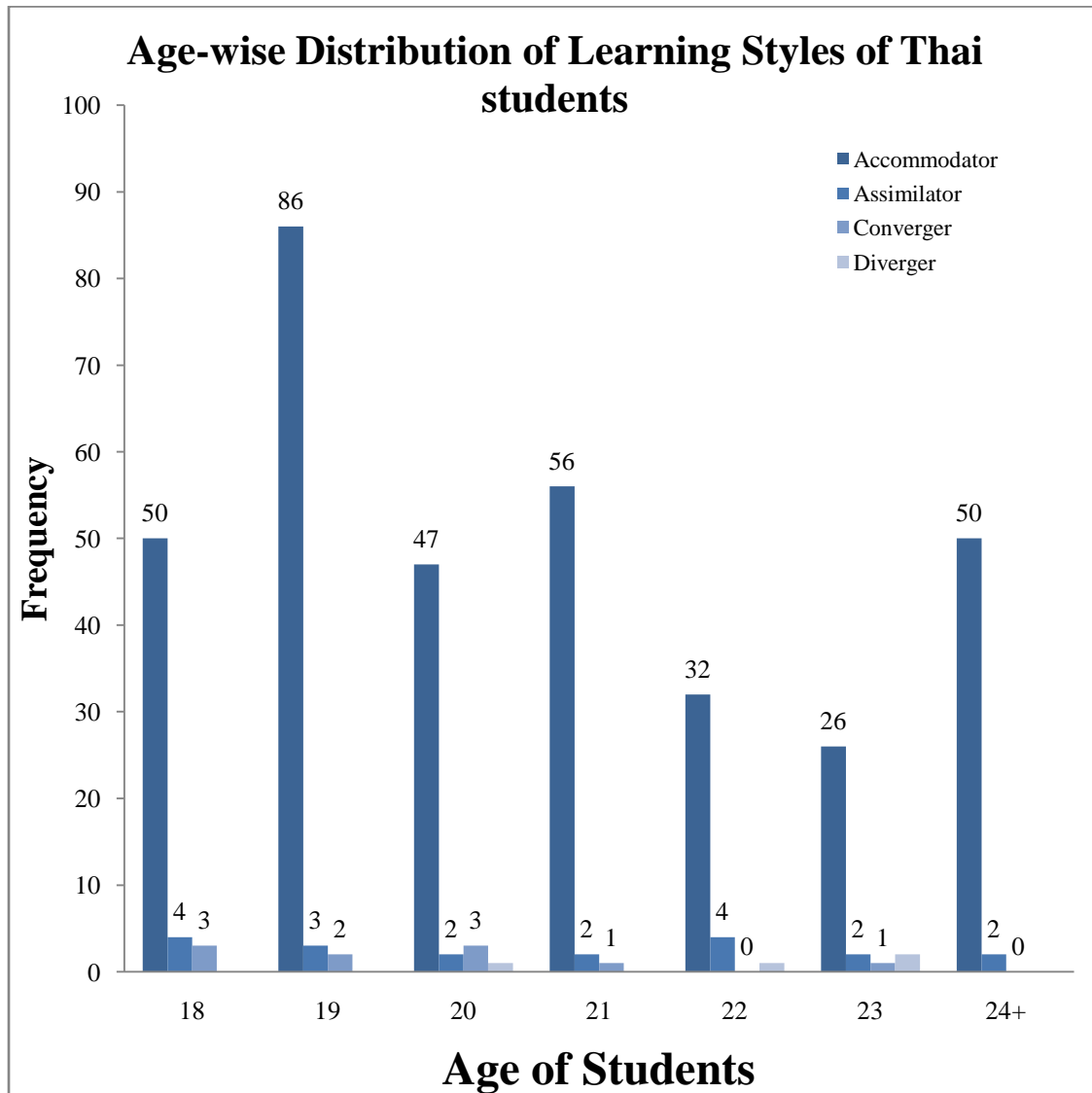
19 students were identified as Assimilators, followed by 10 Convergers and 4 Accommodator. Majority of the students in Thailand were Divergers i.e. 144 male students and 203 female students as observed in graph 11(b).

Graph 12(b): Distribution of Learning Styles by Work Status of Thai Students.



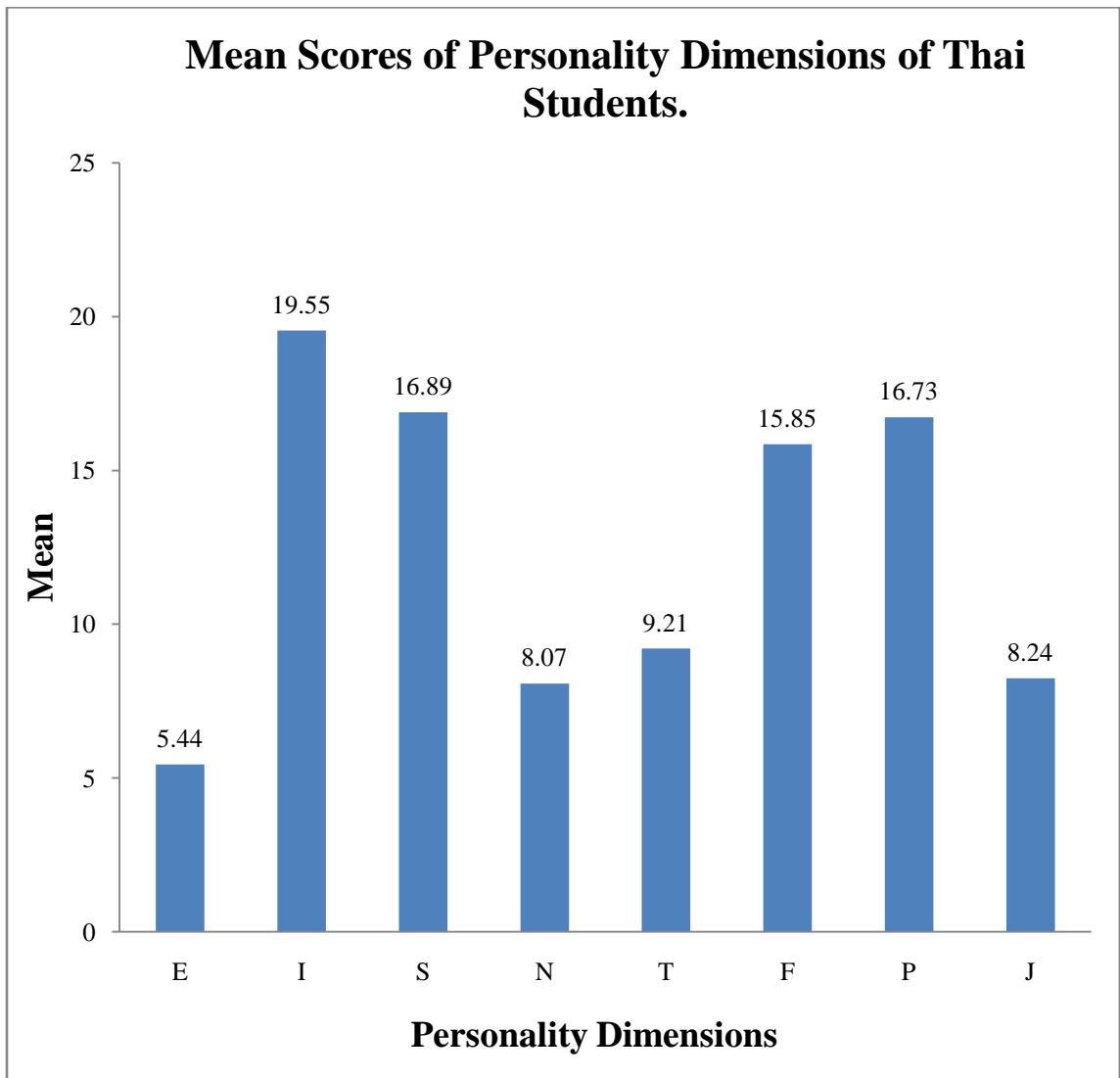
19 students were identified as Assimilators, followed by 10 Convergences and 4 Accommodators containing all working students. Majority of the students in Thailand were Divergers which contains 65 working and 282 non-working students as observed in graph 12(b). Thus, all non-working students were Accommodators.

Graph 12(b)*: Frequency Distribution and Chi-square between Age and Learning Styles of Thai students.



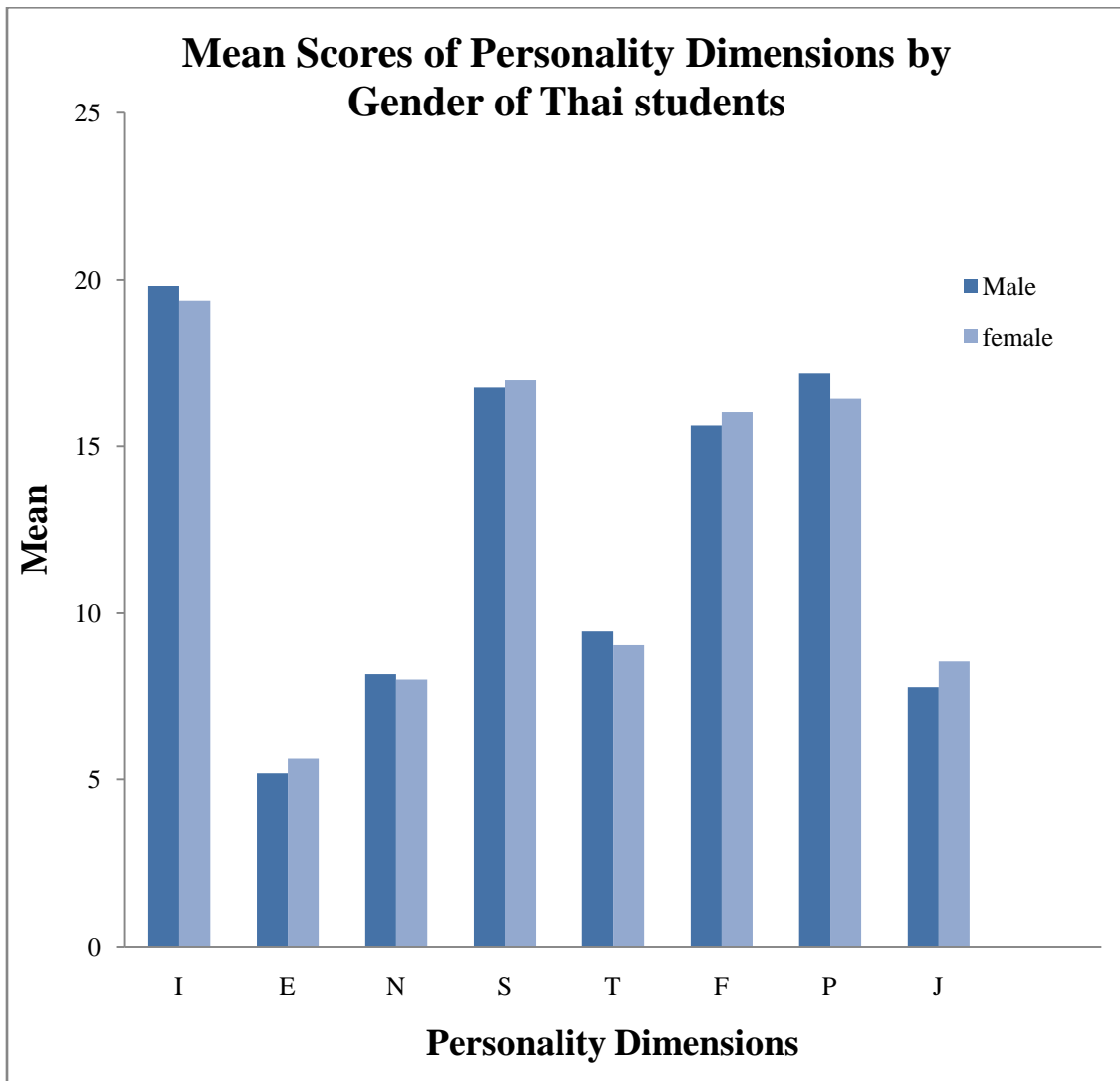
Graph shows distribution of Learning Styles of students for corresponding age. Example, out of 57 students of age 18, there were 50 Accomodators, 4 Assimilators and 3 Convergengers.

Graph 13(b): Mean Scores of Personality Dimensions of Thai students.



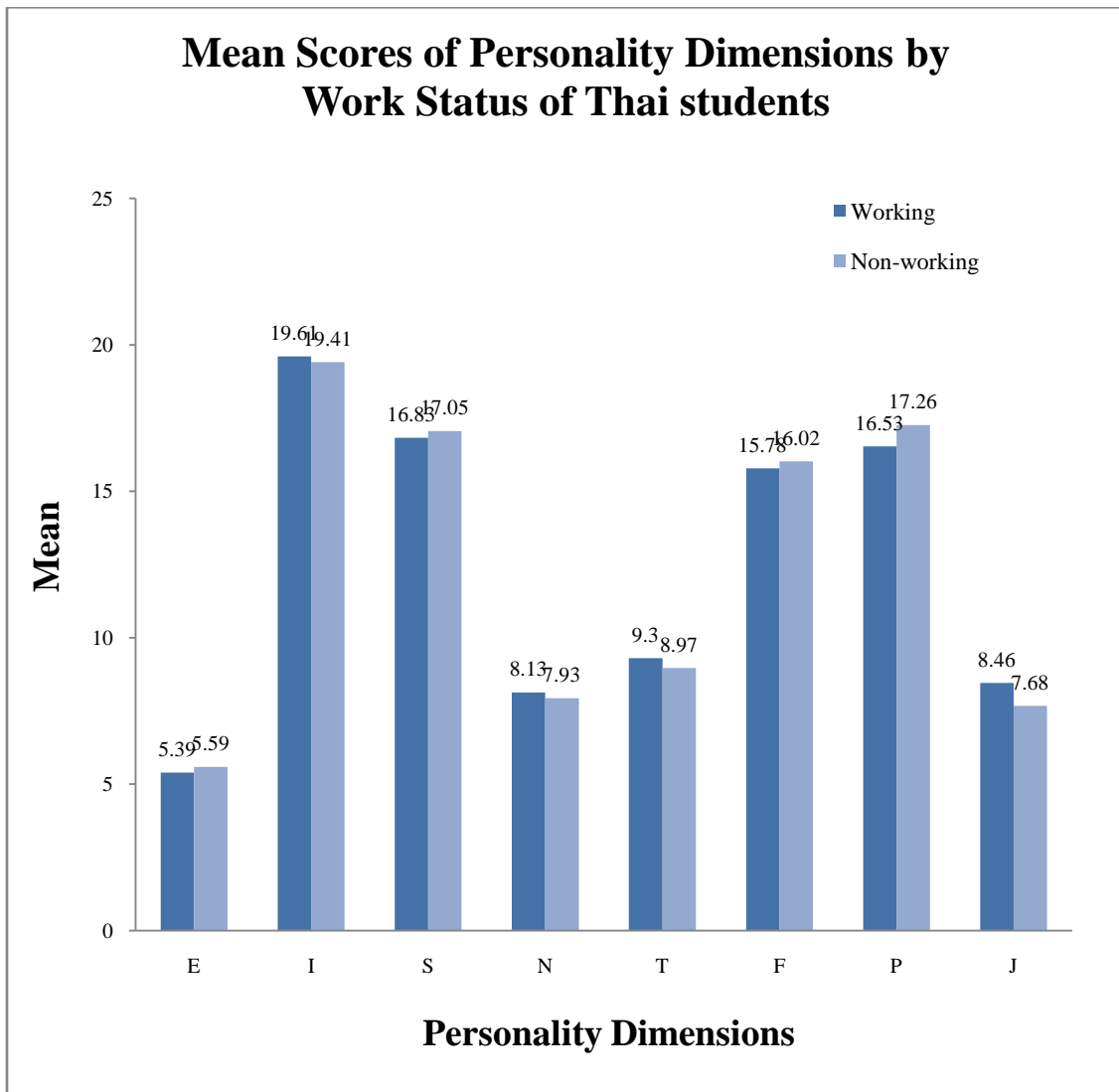
From graph 13(b), we observed that, mean score of Introversion (I) was highest i.e. 19.55 followed by 16.73 for Perceiving (P), 16.89 for Sensing(S) and 15.85 for Feeling(F).

Graph 14(b): Mean Scores of Personality Dimensions by Gender of Thai students.



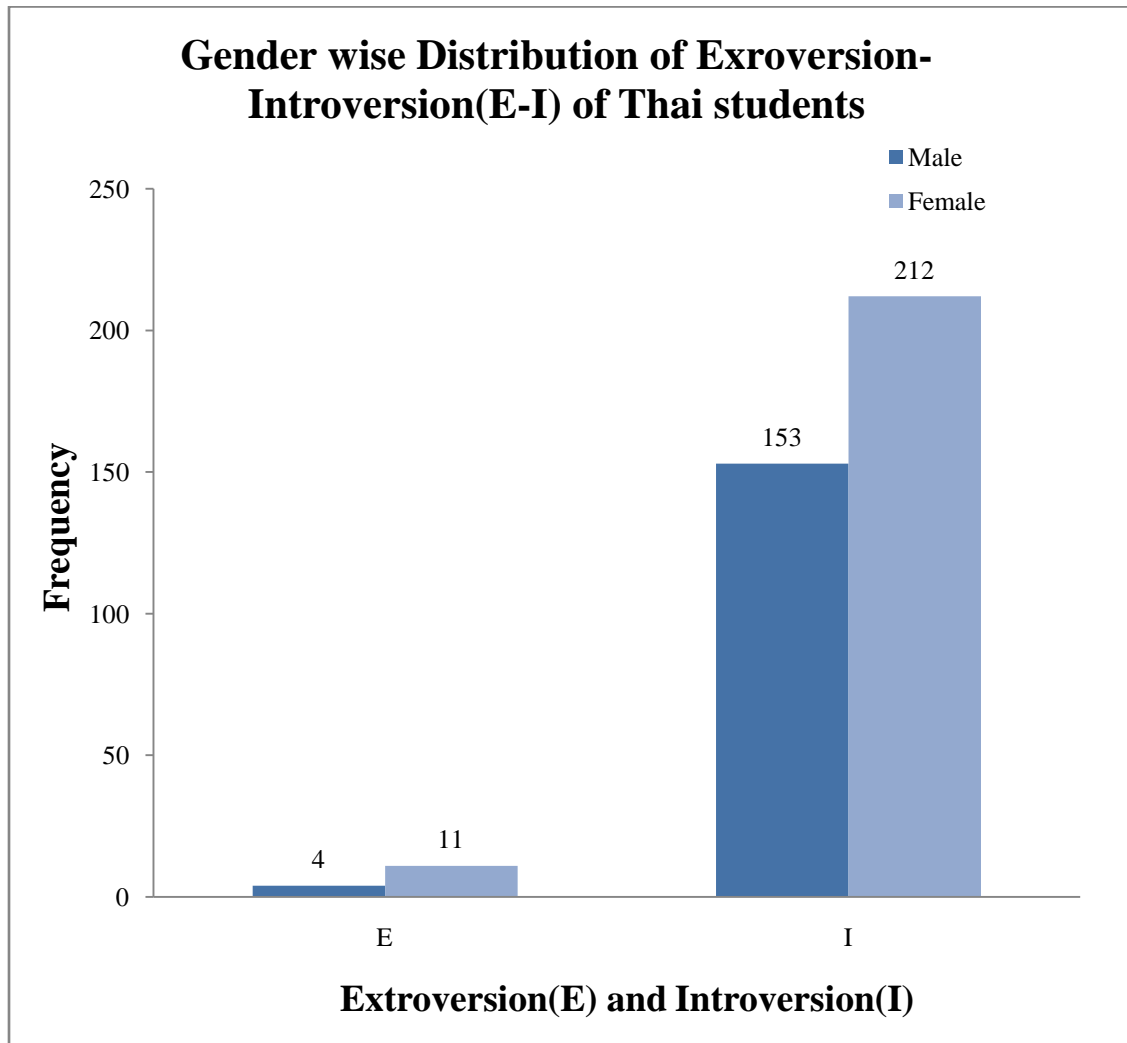
Graph 14(b) indicates that mean scores for personality dimensions for Introversion (I) Feeling (F), Sensing(S) and Perceiving (P) were higher, gender wise.

Graph 15(b): Mean Scores of Personality Dimensions by Work Status of Thai students.



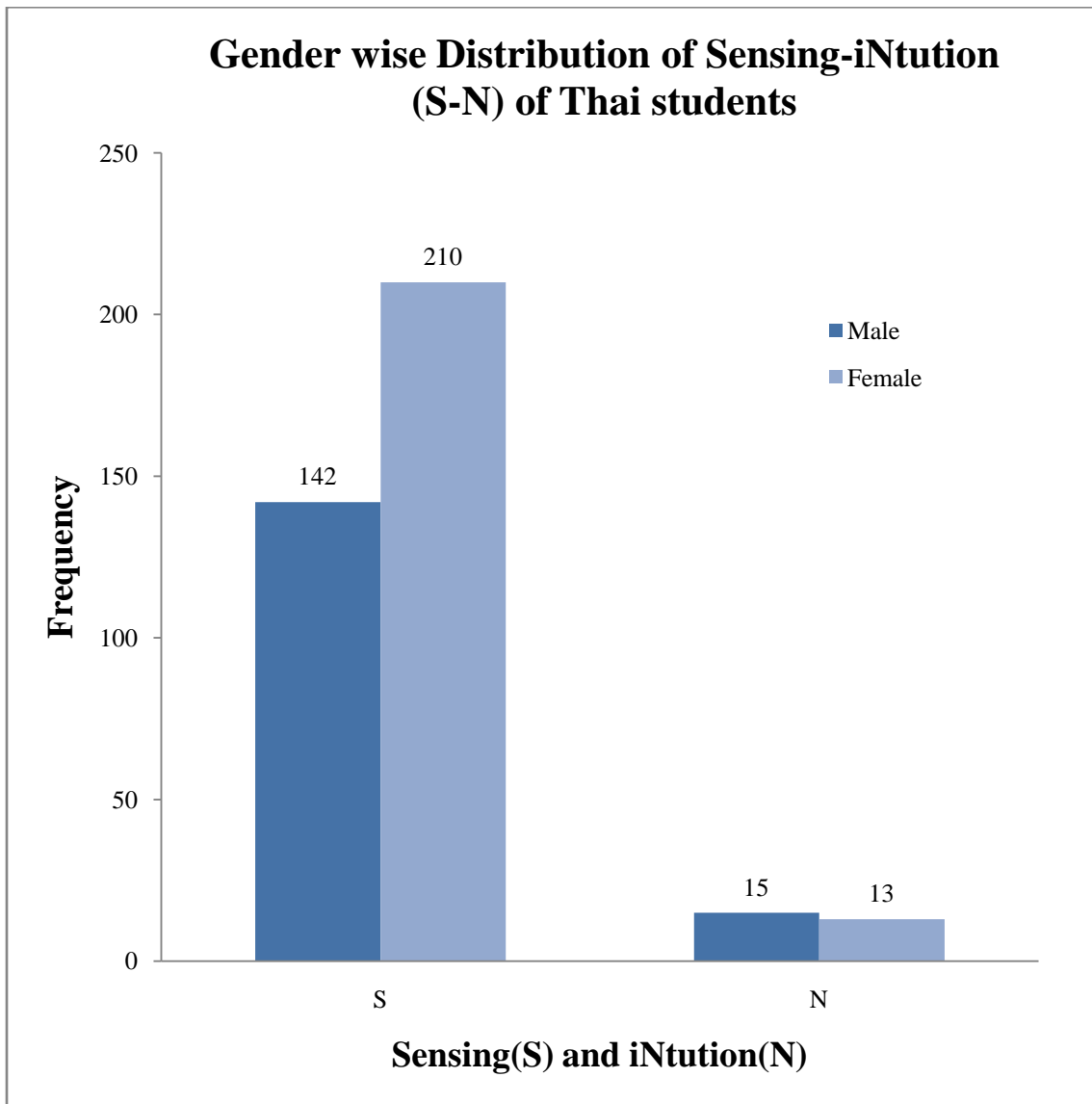
Graph 15(b) indicates that mean scores for personality dimensions for Introversion (I) Feeling (F), Sensing(S) and Perceiving (P) were higher, gender wise.

Graph 16(b): Gender wise Distribution of Extroversion-Introversion (E-I) of Thai students.



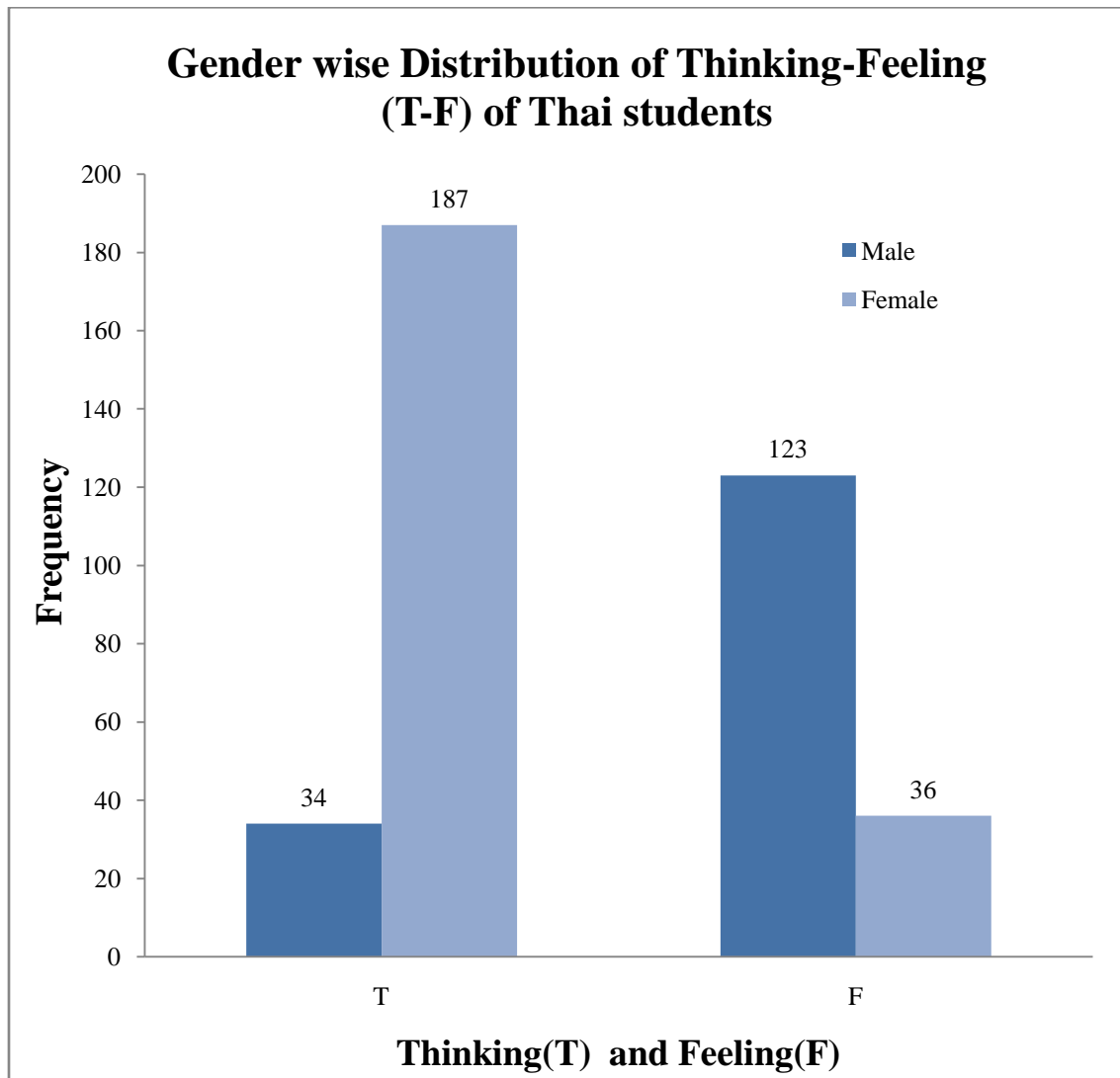
Graph 16(b) represents Gender wise distributions of the 2 personality dimensions Extroversion (E)-Introversion (I) which indicates that majority of the students (male and female both) were from Introversion (I) Dimension.

Graph 17(b): Gender wise Distribution of Sensing-iNtuition (S-N) of Thai students.



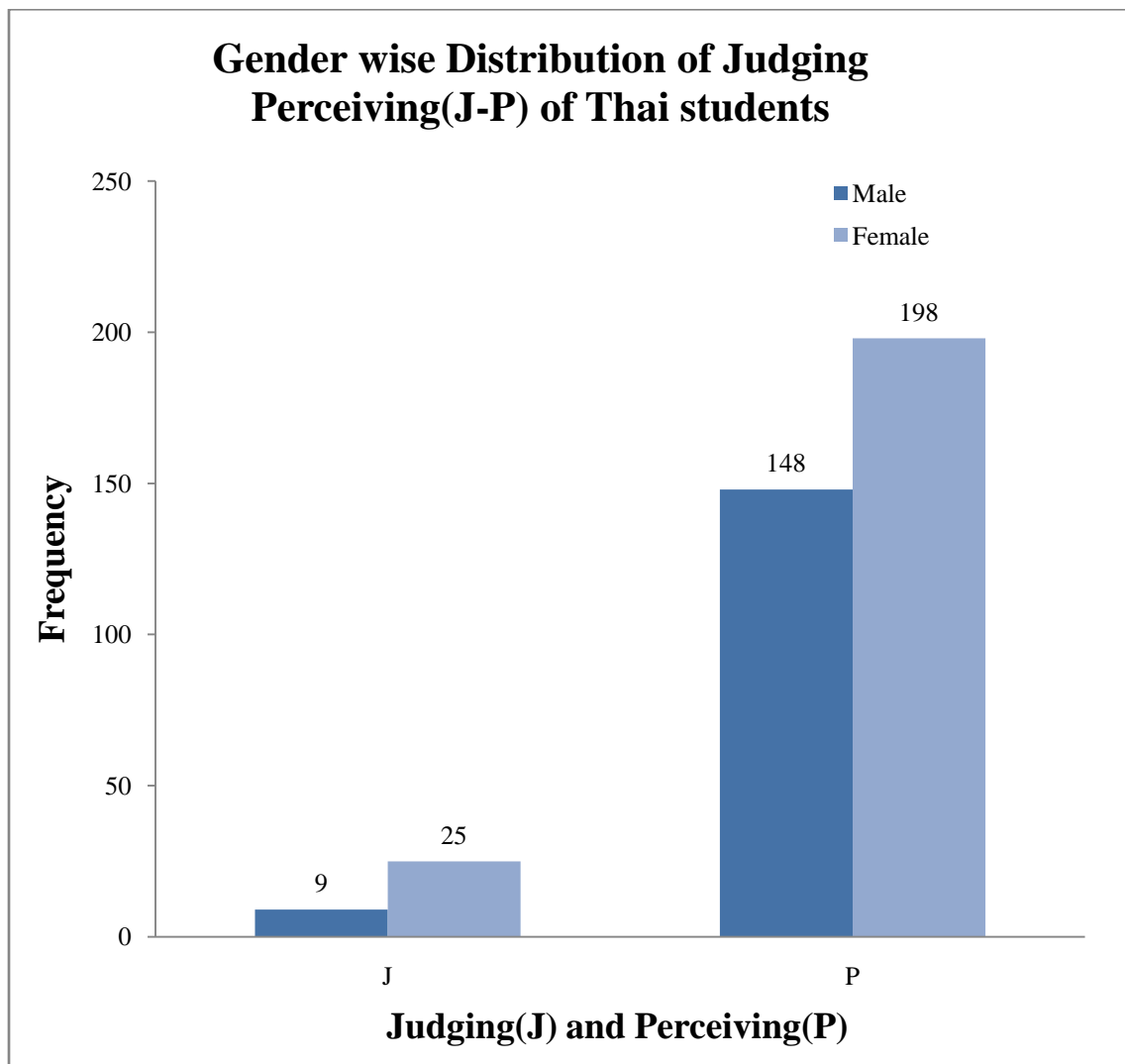
Graph 17(b) represents the distributions of the 2 personality dimensions Sensing(S) – iNtuition (N) by gender which shows that majority of the students (male and female both) were from Sensing(S) Dimension.

Graph 18(b): Gender wise Distribution of Thinking-Feeling (T-F) of Thai students.



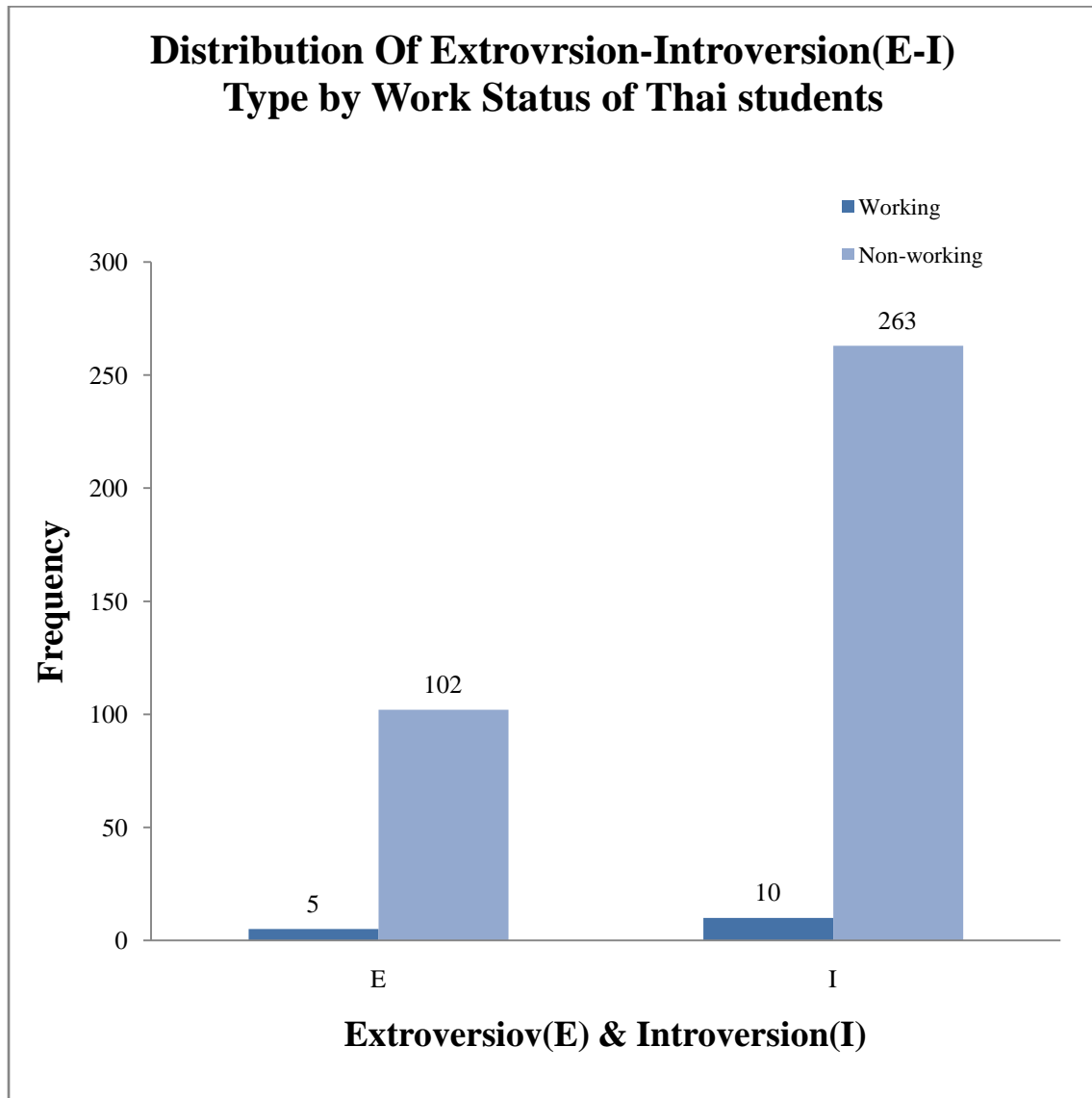
Graph 18(b) represents the distributions of the 2 personality dimensions Thinking (T) – Feeling (F) by gender which shows that majority of the students (male and female both) were from Thinking (T) Dimension.

Graph 19(b): Gender wise Distribution of Judging-Perceiving (J-P) of Thai students.



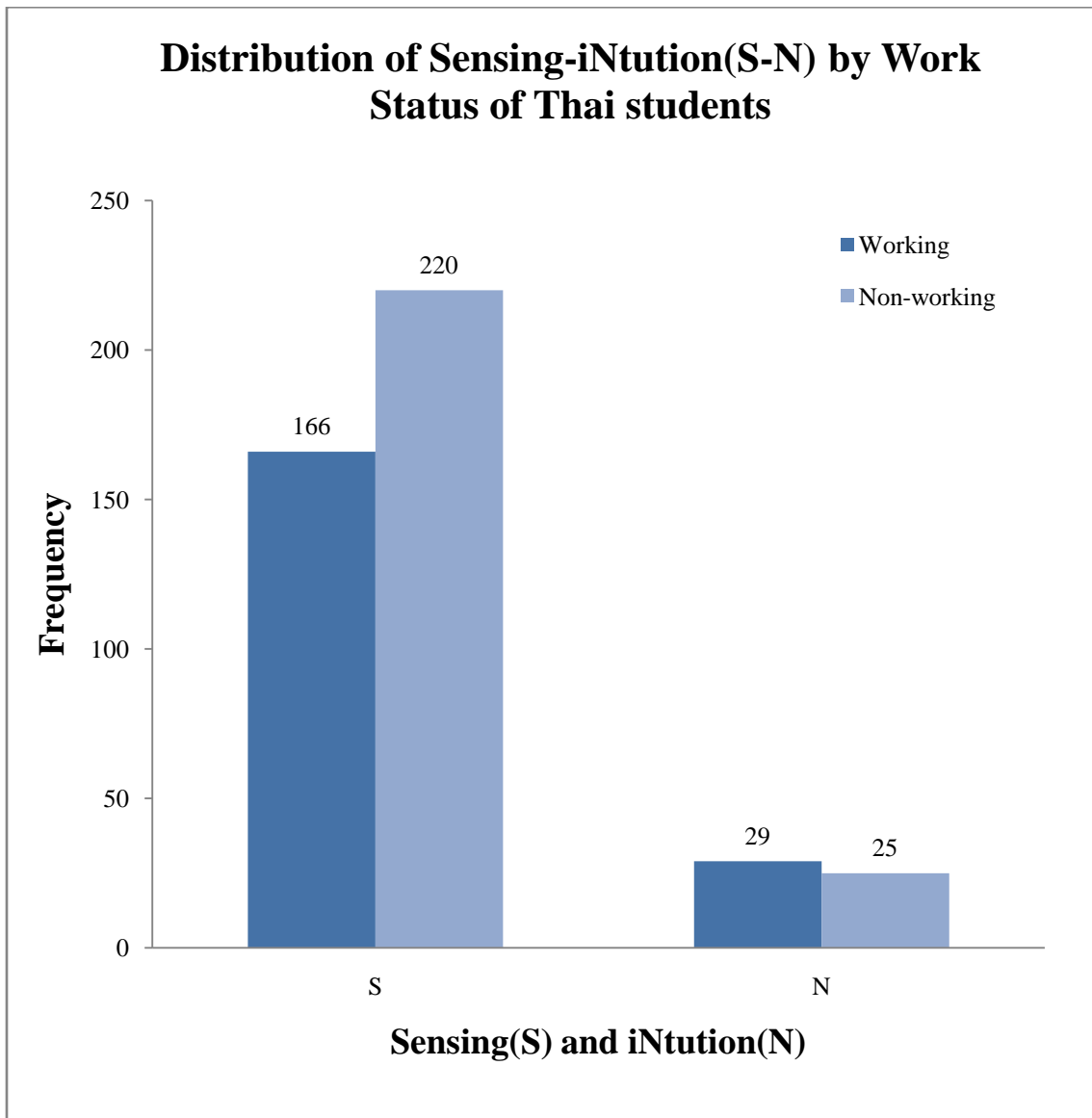
Graph 19 (b) represents the distributions of the 2 personality dimensions Judging (J) – Perceiving (P) by gender which shows that majority of the students (male and female both) were from Perceiving (P) Dimension.

Graph 20(b): Distribution of Extroversion-Introversion (E-I) by Work Status of Thai students.



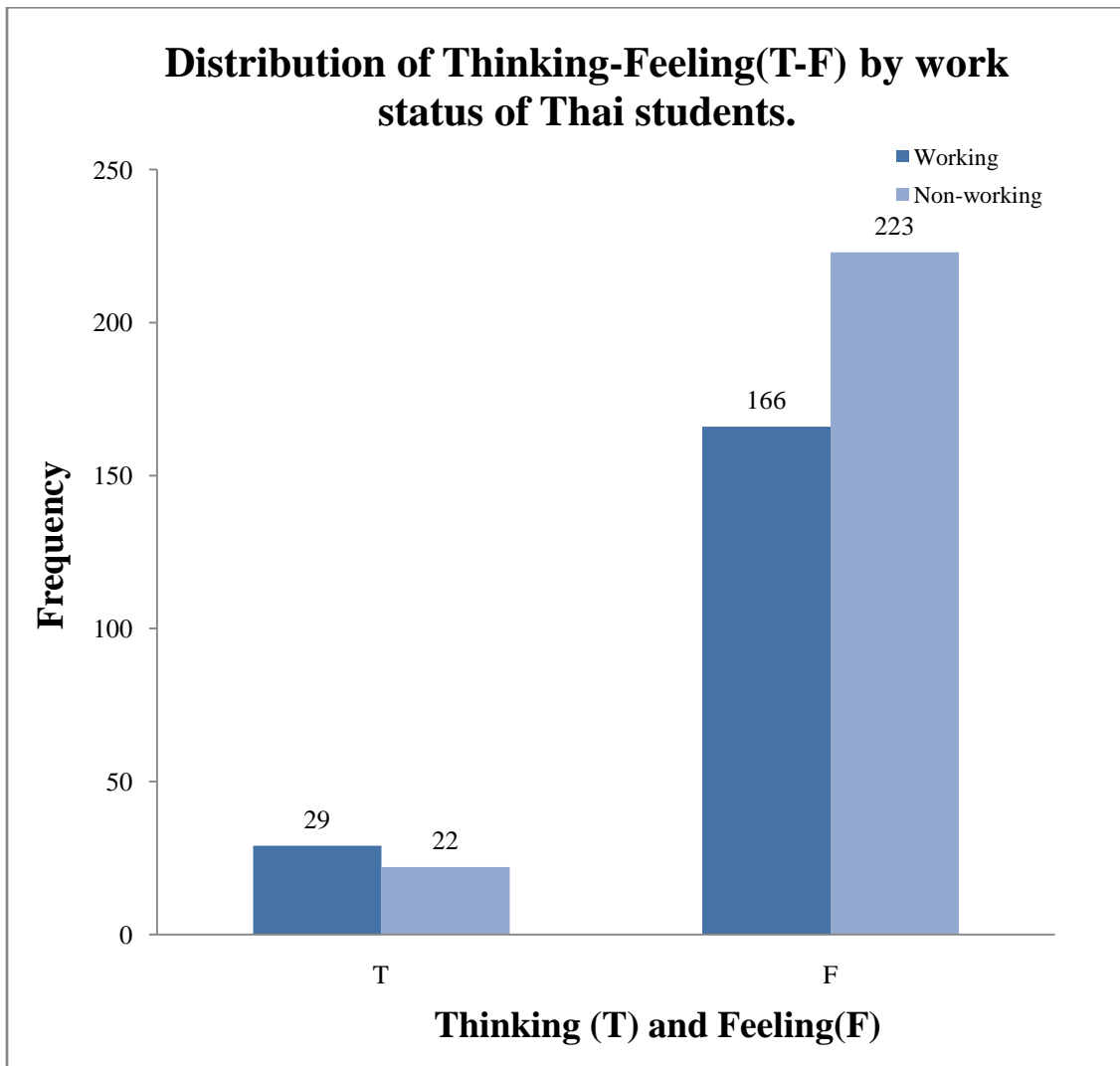
Graph 20 (b) represents the distributions of the 2 personality dimensions Extroversion (E)-Introversion (I) by work status which shows that majority of the students (working and non-working both) were from Introversion (E) Dimension.

Graph 21(b): Distribution of Sensing-iNtuition (S-N) by Work Status of Thai students.



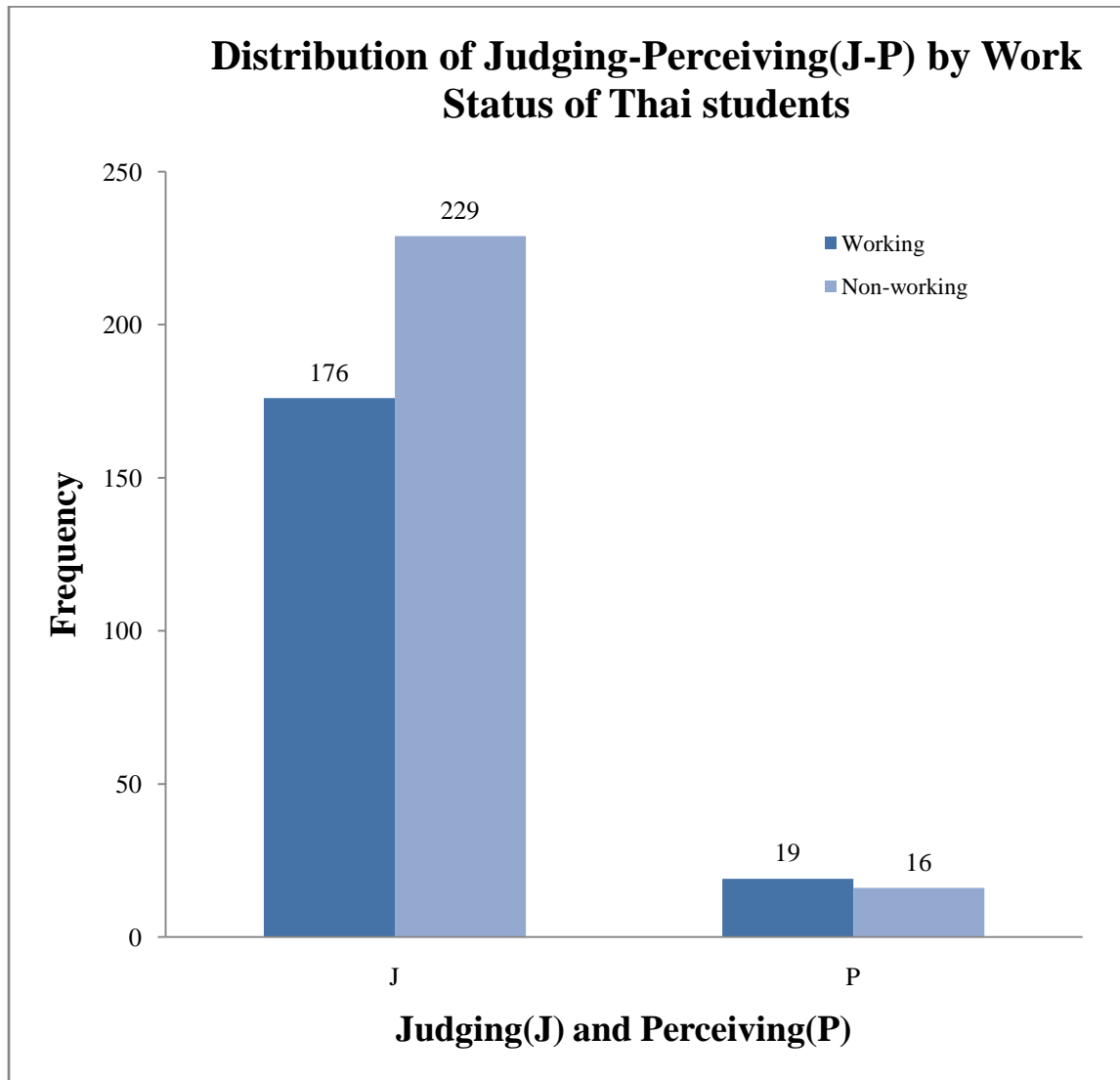
Graph 21(b) represents the distributions of the 2 personality dimensions Sensing(S) – iNtuition (N) by work status which shows that majority of the students (working and non-working both) were from Sensing(S) Dimension.

Graph 22(b): Distribution of Thinking-Feeling (T-F) by Work Status of Thai students.



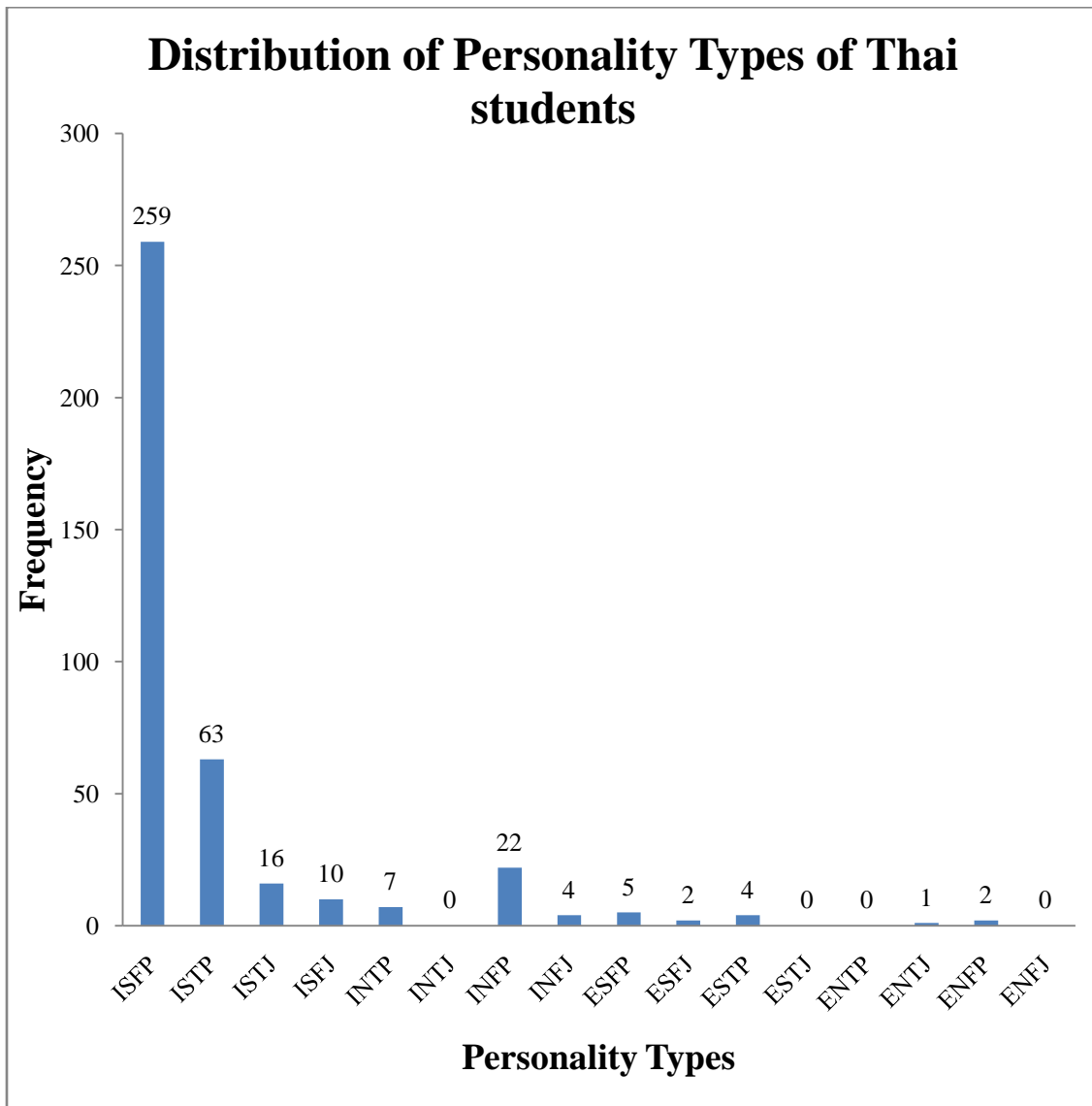
Graph 22(b) represents the distributions of the 2 personality dimensions Thinking (T) – Feeling (F) by work status which shows that majority of the students (working and non-working both) were from Feeling (F) Dimension.

Graph 23(b): Distribution of Judging-Perceiving (J-P) by Work Status of Thai students.



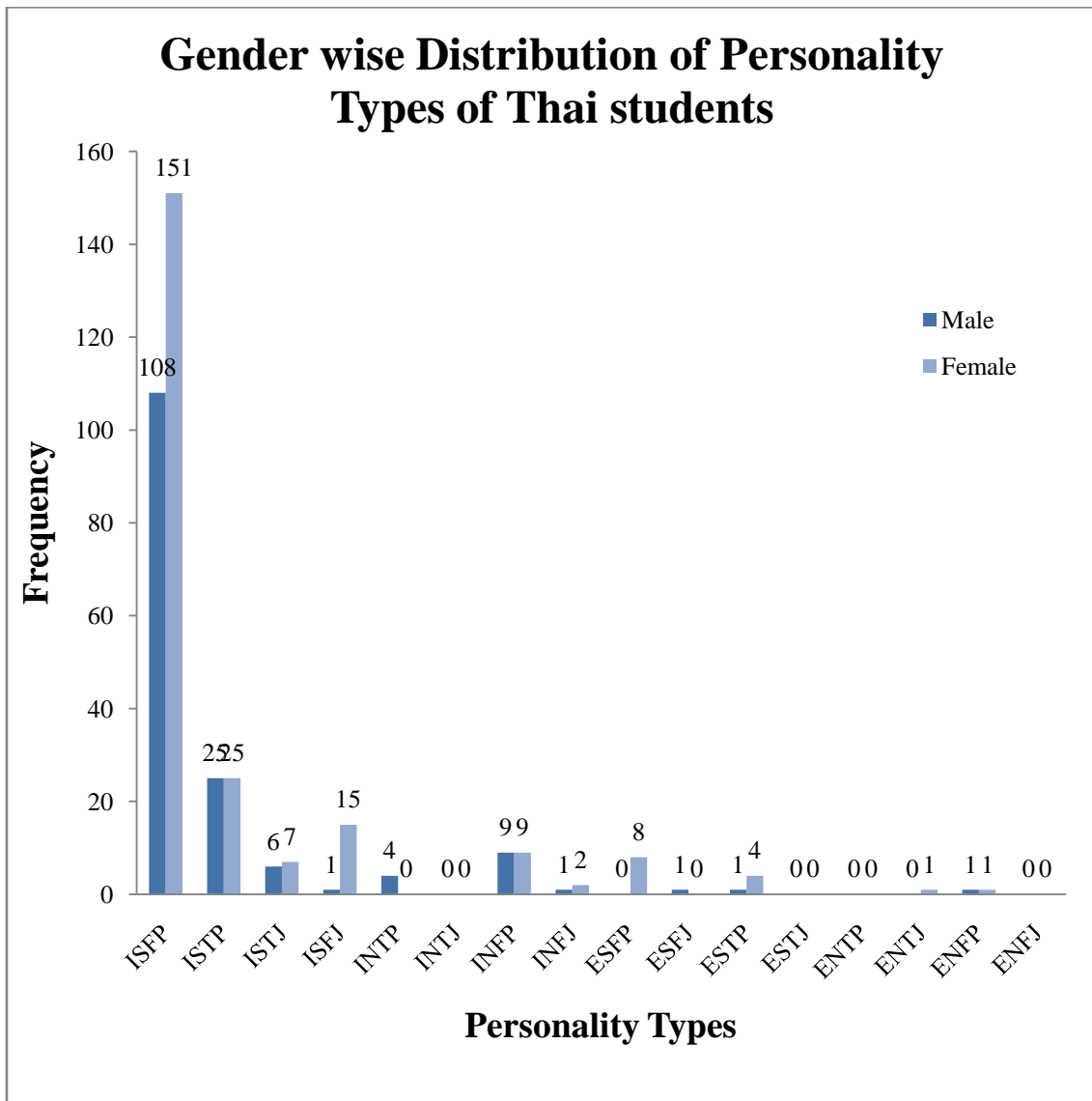
Graph 23(b) represents the distributions of the 2 personality dimensions Judging (J) – Perceiving (P) by gender which shows that majority of the students (working and non-working both) were from Judging (J) Dimension.

Graph 24(b): Distribution of Personality Types of Thai students.



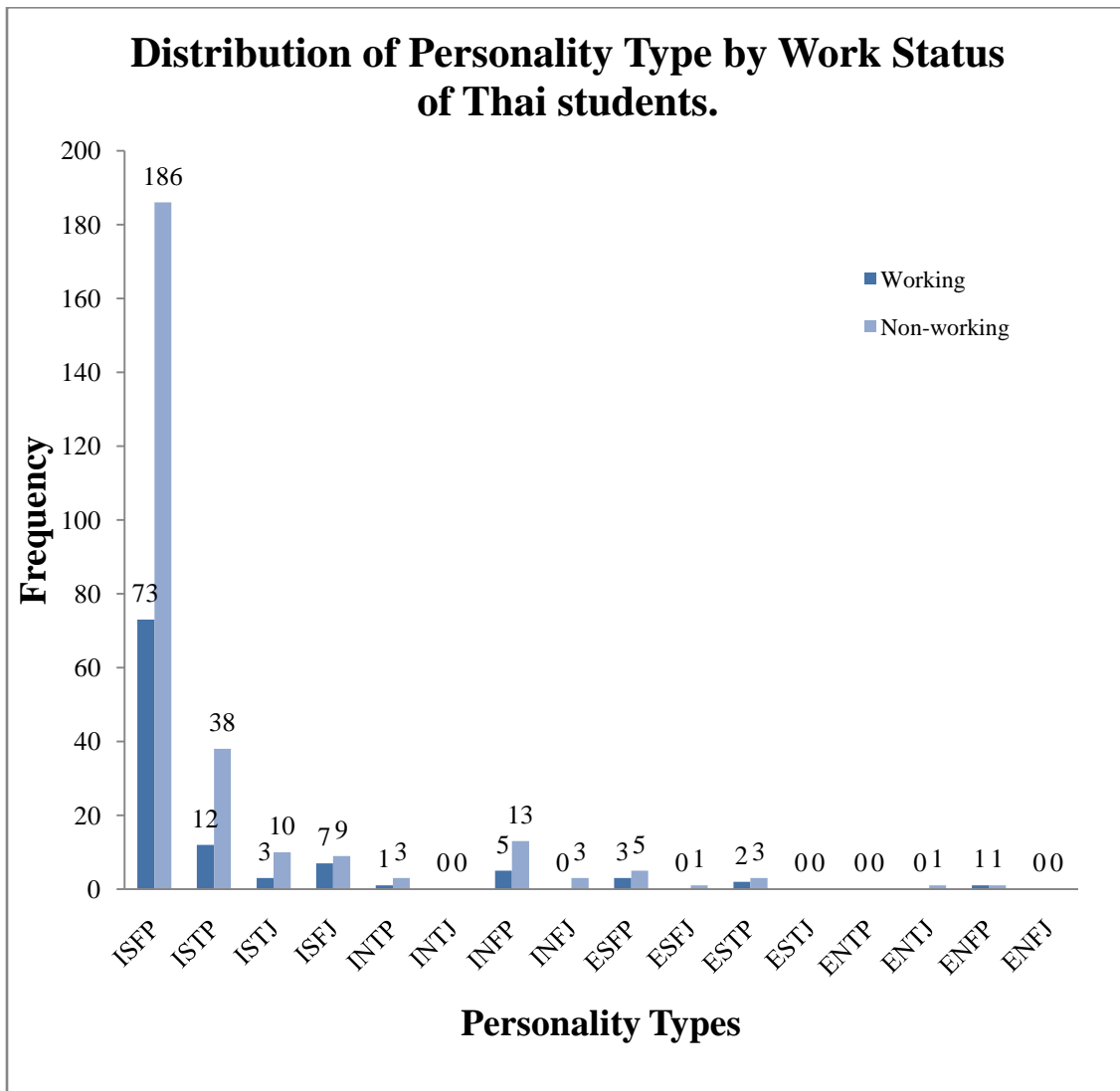
Graph 24(b) shows the distribution of 16 Personality Types and it was easily observed that Personality Type ISFP is highest i.e.259 (68.16%) among 380 Thailand students.

Graph 25(b): Gender wise Distribution of Personality Types of Thai students.



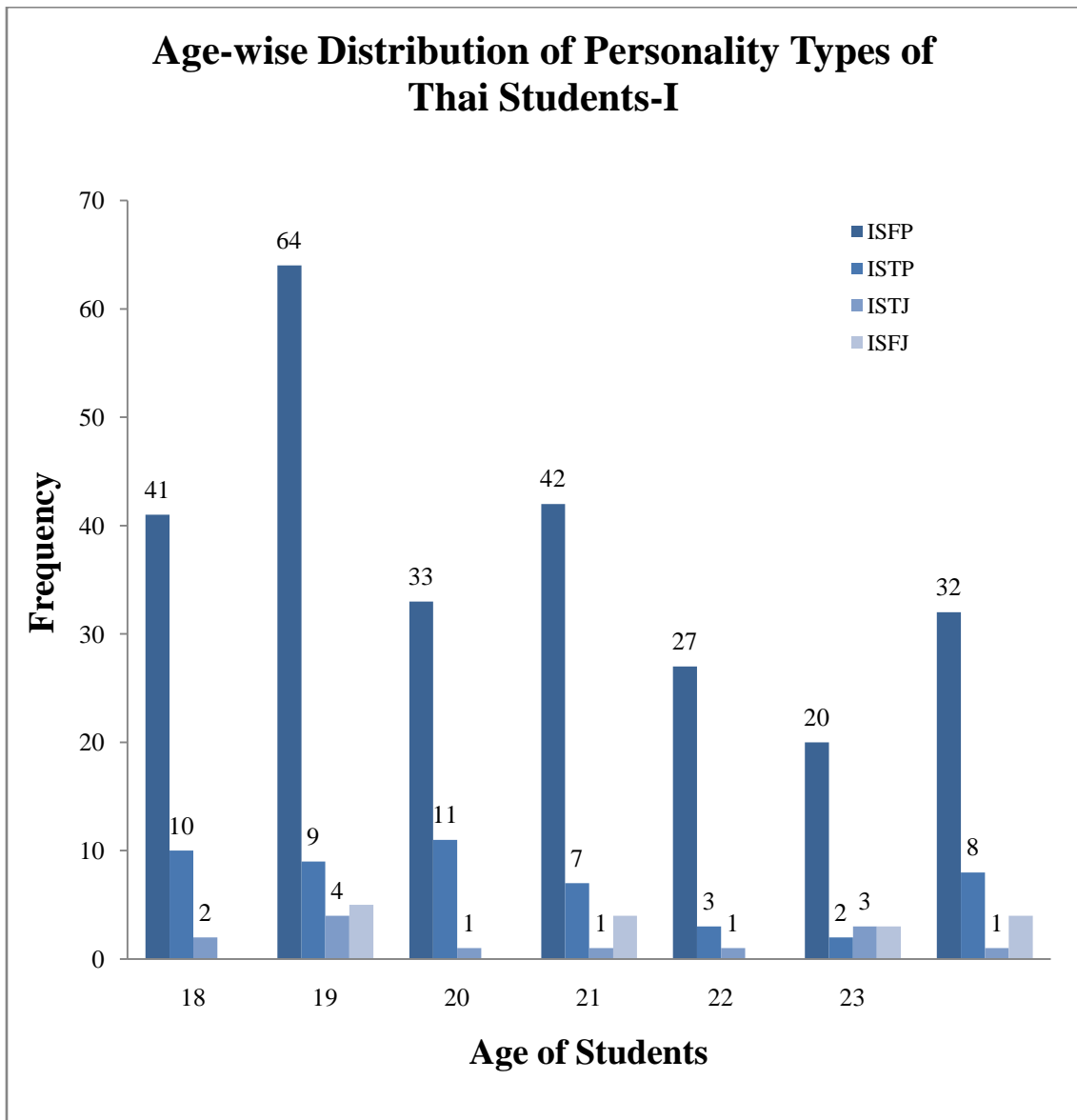
Graph 25(b) shows the Gender wise distribution of 16 Personality Types of students and it was observed that ISFP (Introversion – Sensing – Feeling – Perceiving) was highest i.e. 108 male (28.42%) and 151 female (39.74%) among 380 Thailand students.

Graph 26(b): Distribution of Personality Type by Work Status of Thai students.



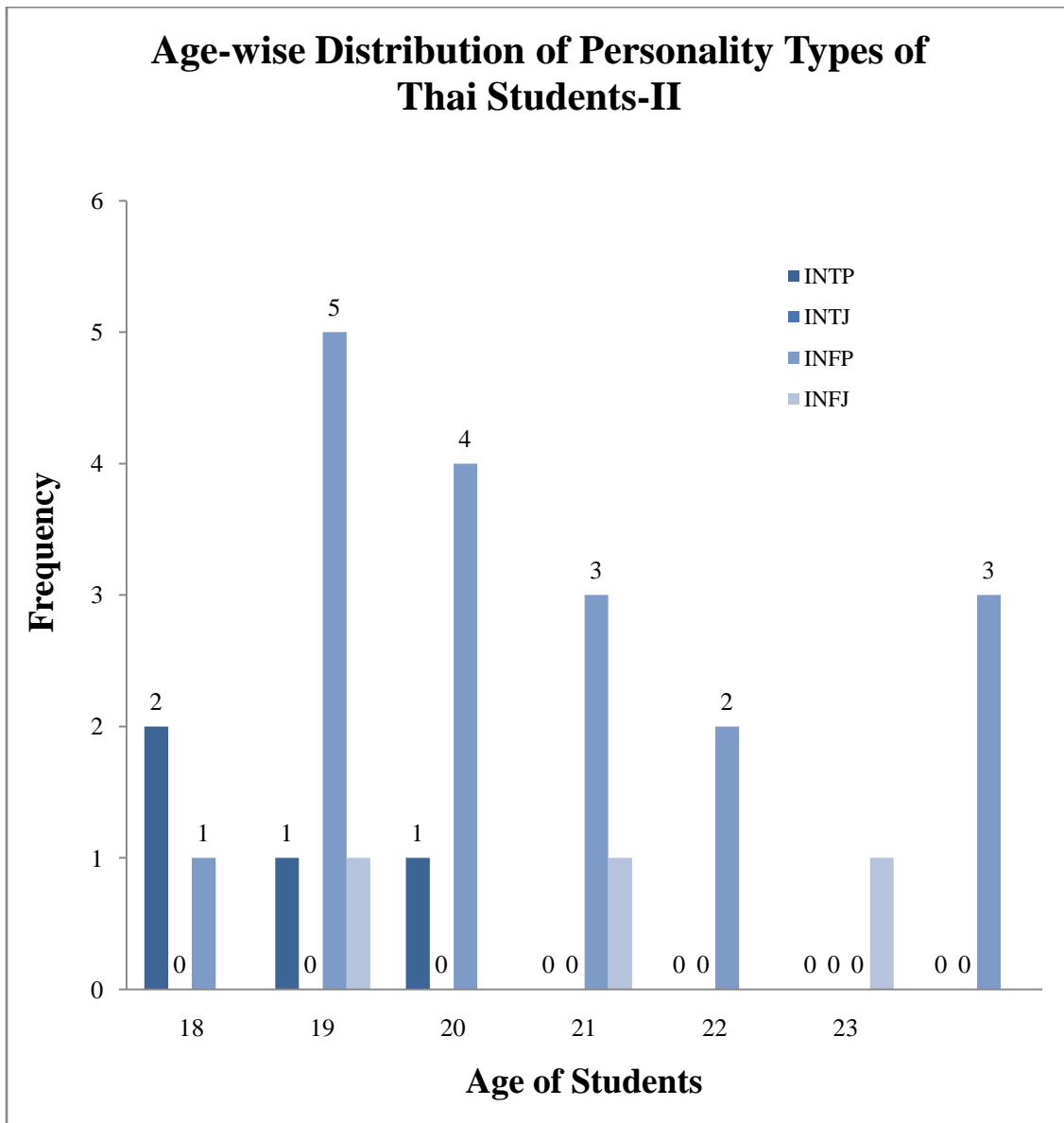
Graph 26(b) shows the distribution of 16 Personality Types in context with work status of students and it was observed that ISFP (Introversion – Sensing – Feeling – Perceiving) was highest i.e. 73 working students (19.22%) and 186 non-working students (48.95%) among 380 Thailand students showed the qualities of being ISFP.

Graph 27(b): Age-wise Distribution of Personality Types-I of Thai students.



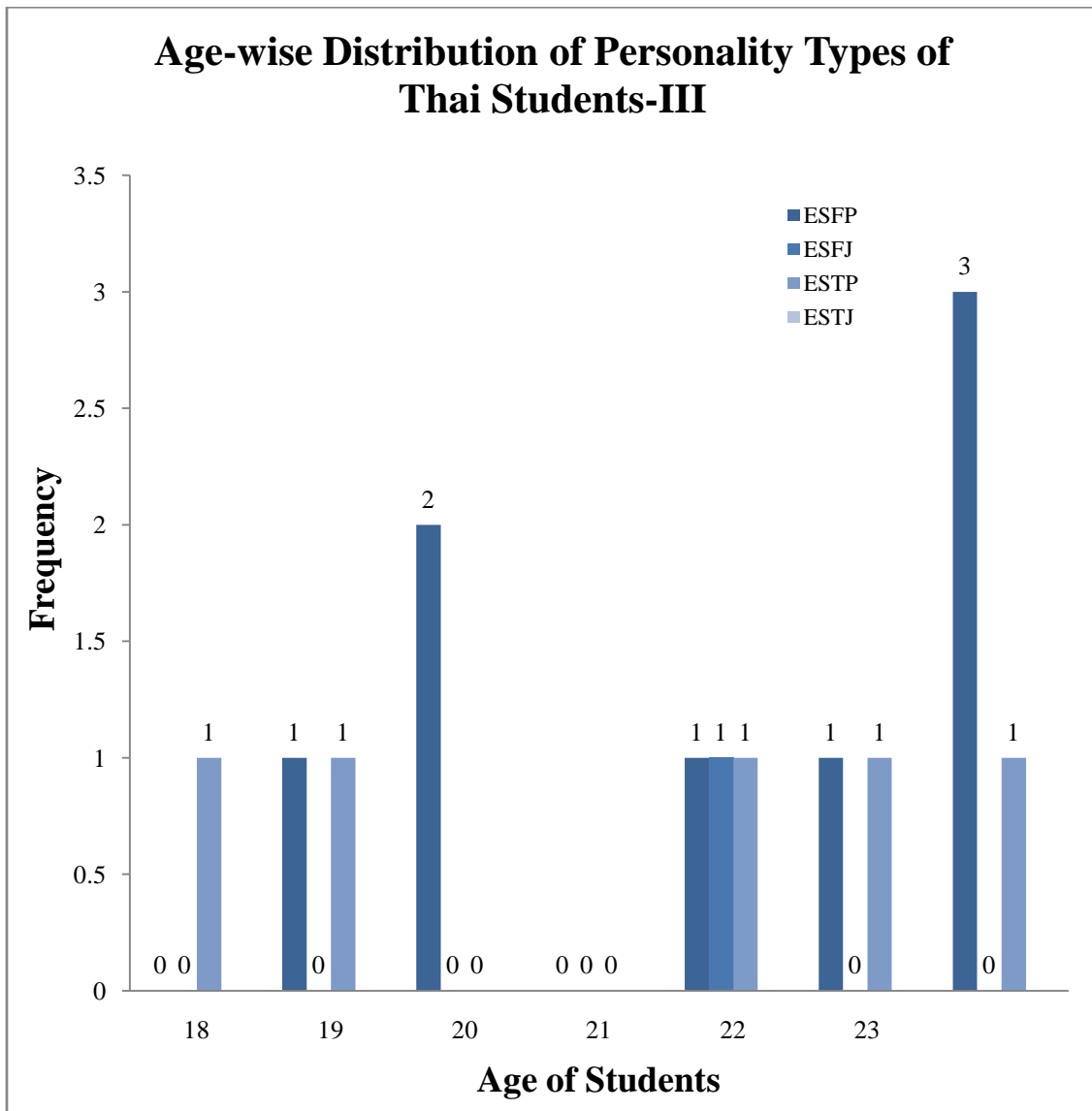
Graph 27(b) shows Age wise distribution of 4 Personality Types ISFP,ISTP,ISTJ and ISFJ which indicated that ISFP was highest among above mentioned 4 Personality Types ISFP,ISTP,ISTJ and ISFJ for age 19.

Graph 28(b): Age-wise Distribution of Personality Types-II of Thai students.



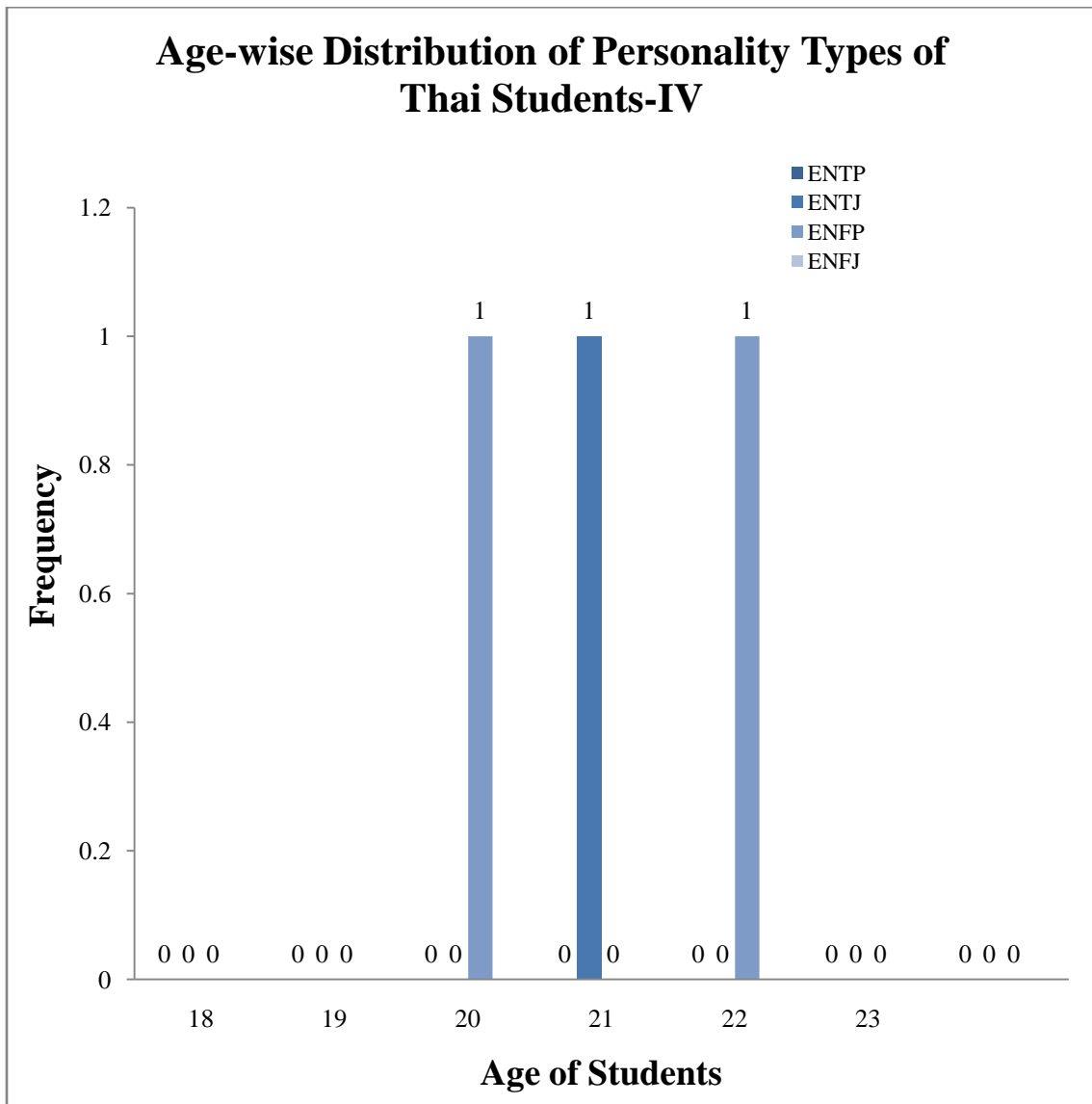
Graph 28(b) shows Age wise distribution of 4 Personality Types INTJ,INTP,INFJ and INFP which indicated that INTJ was highest among the above mentioned 4 all Personality Types INTJ,INTP,INFJ and INFP for the age 19.

Graph 29(b): Age-wise Distribution of Personality Types-III of Thai students.



Graph 29(b) shows Age wise distribution of Personality Types ESTJ, ESTP, ESFJ and ESFP which indicated that ESFP was highest among above mentioned 4 Personality Types ESTJ, ESTP, ESFJ and ESFP for the age of 24.

Graph 30(b): Age-wise Personality Types-IV of Thai students.



Graph 30(b) shows Age wise distribution of Personality Types ENTJ, ENTP, ENFJ and ENFP which indicated that INFJ is highest among the above mentioned 4 Personality Types ENTJ, ENTP, ENFJ and ENFP for the age 24.

Comparison between Lao PDR and Thailand Students

Demographic Information

Respondents in this study were asked to provide demographic information related to their gender, age and work status. The summary of general demographic information of the samples in the study is represented in the following tables.

Table1(c): Demographic Characteristics between Lao and Thai students. (Comparison)

	Lao		Thailand		Chi-Square	P-value
Gender	N	%	N	%	61.76	0.000
Male	302	68.64	157	41.32		
Female	138	31.36	223	58.68		
Total	440	100	380	100		

Table 1(c) shows the gender-wise information of the two countries Lao and Thailand. As shown in table, among 440 Lao students and 380 Thailand students surveyed, Lao students had higher proportion of males than Thailand students (68.64% vs. 41.32%; $\chi^2=61.76$, $p =0.000$) while Thailand students had higher proportion of females than Lao students.

As p-value is significant in this case we reject the hypothesis I of no difference and conclude that significant differences were detected based on gender of student between Lao and Thailand.

Table 2(c): Sample Description with Work Status and Gender of Lao and Thai students. (Comparison)

Gender & Work Status	Lao		Thailand		Chi-square	P-value
	N	%	N	%		
Working Male	132	30	37	9.74	85.17	0.000
Working Female	63	16.58	70	18.42		
Non-working Male	170	38.64	120	31.58		
Non-working Female	75	17.05	153	40.26		
Total	440	100	380	100		

Table 2(c) shows the sample description of students in context with Gender and Work status of the two countries Lao and Thailand. As shown in table, among 440 Lao students and 380 Thailand students surveyed, Lao students had higher proportions of working males (30% vs 9.74%) than working Thailand students but Thailand student had higher proportion of non-working female students (17.05% vs 40.26%) as compared to non-working females from Lao.

As p-value is significant ($\chi^2=85.17.7$, $p = 0.000$) in this case we reject the hypothesis I of no difference and conclude that significant differences were detected based on gender and work status of students between Lao and Thailand.

Table 3(c): Work Status wise Sample Description of Lao and Thai students. (Comparison)

Work Status	Lao		Thailand		Chi-square	P-value
	N	%	N	%		
Working	195	44.32	107	28.16	22.88	0.000
Non-working	245	55.68	273	71.84		
Total	440	100	380	100		

Table 3(c) shows the work status information of the two countries Lao and Thailand. As shown in table, among 440 Lao students and 380 Thailand students surveyed, Lao students had higher proportion of working students than Thailand students (44.32% vs 28.16% $\chi^2=22.88$, $p =0.000$). And Thailand students had more proportion of non working students than Lao non working students (71.84% vs 55. 68%, $\chi^2=22.88$, $p =0.000$).

As p-value is significant in this case we reject the hypothesis I of no difference and conclude that significant differences were detected based on work status of student between Lao and Thailand.

Table 4(c): Age wise Sample Description of Lao and Thai students. (Comparison)

Age	Lao		Thailand		Chi-square	P-value
	N	%	N	%		
18	54	12.27	57	15	28.07	0.000
19	66	15	91	23.95		
20	38	8.64	53	13.95		
21	79	17.95	59	15.53		
22	77	17.5	37	9.74		
23	47	10.68	31	8.16		
24+	79	17.95	52	13.68		
Overall	440	100	380	100		

Table 4(c) indicates age-wise sample description of students in Lao and Thailand. It is observed that, % of students in the age range 18 to 22 was more in Thailand than Lao PDR (82% vs 86%) ($\chi^2=28.07$, $p = 0.000$).

As p-value is significant in this case we reject the hypothesis I of no difference and conclude that significant differences were detected based on Age of student between Lao and Thailand.

Learning Styles:

Kolb's Learning Style Inventory (LSI) generates six scores: four learning stage scores and two learning dimension scores. Each respondent was identified to be one of the four learning styles (Converger, Diverger, Assimilator, or Accommodator) according to the respondent's scores on Kolb's Learning Style Inventory (LSI). Table 5(c) presented the learning stage and learning dimension mean scores for Lao and Thailand respondents. The learning stages are Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). The dimension abstract conceptualization minus concrete experience (AC-CE) represents the vertical axis and the dimension active experimentation minus reflective observation (AE-RO) represents the horizontal axis.

The possible scoring range was between 12 and 48 for each learning stage and between -36 and 36 for each learning dimension. The learning-dimension means scores pairs were plotted on the learning style typing grid to determine the learning style type preferences of respondents. The learning style preference of all respondents was presented in Table 5(c).

Of the four learning stages, there were differences between Lao and Thailand students at each Learning stage i.e. RO (27.38 vs 33.69), AC (26.04 vs 27.31), CE (34.11 vs 34.52), AE (32.47 vs 24.46) . also there were differences were detected for learning dimensions between Lao and Thailand students i.e. AC-CE (-8.07 vs -7.22) and AE-RO (5.83 vs 4.17).

Table 5(c): Learning Stage and Learning Dimension Mean Scores of Lao and Thai students. (Comparison)

	Lao		Thailand		F-value	P-value
	Mean	SD	Mean	SD		
AC ¹	26.04	1.49	27.31	2.65	3.189	0.000
CE ²	34.11	2.86	34.52	3.48	0.676	0.000
AE ³	32.47	3.16	24.46	1.95	2.603	0.000
RO ⁴	27.38	0.76	33.69	3.05	0.057	0.000
AC-CE ⁵	-8.07	3.47	-7.22	5.41	0.411	0.000
AE-RO ⁶	5.83	3.96	-9.23	4.17	0.701	0.000

1= Abstract Conceptualization, Thinking (Expected Range 12-48)

2 = Concrete Experience, Feeling (Expected Range 12-48)

3 = Active Experimentation, Doing (Expected Range 12-48)

2=Reflective Observation, Watching (Expected Range 12-48)

5= Abstract Conceptualization/ Concrete Experience (Expected Range -36 to +36)

6= Active Experimentation/ Reflective Observation (Expected Range -36 to +36)

As p-value is significant in this case, we reject the hypothesis II of no difference for Learning stages and Learning Dimensions between Lao and Thailand students and conclude that significant differences were detected based on Learning stages and Learning Dimensions of students between Lao and Thailand.

Regarding learning style distributions (Table 6(c)), 99% (n = 436) of the Lao students were Accommodators, followed by 1 % (n = 4) Divergers and remaining were zero percent. On the other hand, 92% of the Thailand students were Divergers (n = 347), 1% Accommodators (n=4), followed by 5% Assimilators (n=19) and finally 2% Convergents (n=10).

**Table 6(c): Frequency Distribution on the Learning Styles of Lao and Thai students.
(Comparison)**

	Lao		Thailand	
	N	%	N	%
Accommodator	436	99.09	4	1.05
Assimilator	0	0	19	5
Converger	0	0	10	2.63
Diverger	4	0.91	347	91.32
Total	440	100	380	100

$$\chi^2=788.15, DF=3, p=0.000$$

As p-value is significant in all these cases we reject the hypothesis II of no difference for the Learning styles of the students between Lao and Thailand and conclude that significant differences were detected based on Learning Styles of student between Lao and Thailand.

Personality Type

The Personality Style Inventory (PSI) generates 4 pairs (8 individual scores) of dimension indices that characterizing an individual's personality traits. Extroversion (E)-Introversion (I), Sensing (S)- iNtuition (N), Thinking (T)- Feeling (F), and Judging (J)-Perceiving (P) (Hogan & Champagne, 1979). Each subject was further classified as one of 16 possible personality types according to the subject's tendency toward each personality trait on the Personal Style Inventory (PSI). The combined score of each dimension should be 25. The possible scoring range of each component of the dimension should be between 0 and 25.

Table 7(c) and Table 8(c) presented mean scores and their standard deviation of eight personality traits classified by the respondents and the personality trait distributions of hospitality students in both countries respectively. As suggested by the data in Table 7(c), both Lao and the Thailand showed stronger tendencies toward Extroversion (E), Sensing (S), Feeling (F) and Judging (J) characteristics related to their corresponding traits. In addition, Table 8(c) showed that the proportions distributions of personal dimensions S-N and T-F differ between Lao and Thailand hospitality undergraduate students.

able 7(c): Four Personal Dimensions Mean Scores of Personality Type of Lao and Thai students. (Comparison)

	Lao		Thailand		F-value	P-value
	Mean	SD	Mean	SD		
E ¹	17.85	3.29	5.44	2.73	1.455	0.000
I ²	7.31	3.307	19.5	2.73	1.471	0.000
N ³	7.88	4.07	16.89	3.42	1.359	0.002
S ⁴	17.13	4.06	9.21	4.31	1.409	0.001
T ⁵	8.15	3.95	8.08	3.49	0.844	0.086
F ⁶	16.8	3.96	15.85	4.22	0.877	0.186
P ⁷	7.48	3.51	16.73	3.82	0.848	0.096
J ⁸	17.5	3.51	8.25	3.83	0.838	0.075

As p-value is significant in for E, I, S and N we reject the hypothesis of no difference and conclude that significant differences were detected based on these personality types of student between Lao and Thailand. But, as p-value is not significant in for T,F,P and J we accept the hypothesis of no difference and conclude that there were no significant differences based on these personality types of student between Lao and Thailand.

So keeping the fact in mind that 4 Personality Dimensions showed significant differences (Based on Mean Score) and 4 Personality Dimensions did not show the significant differences, we partially reject the hypothesis III of no difference for Personality Dimensions of students between Lao and Thailand.

Table 8(c): Frequency Distribution on Personality Dimensions between Lao and Thailand students. (Comparison)

	Lao		Thailand		Chi-square	P-value
	N	%	N	%		
Extroversion-Introversion Dimension						
E	413	93.86	15	3.95	660.689	0.000
I	27	6.14	365	96.05		
Sensing-iNtuition Dimension						
S	386	87.73	352	92.63	5.449	0.02
N	54	12.27	28	7.37		
Thinking-Feeling Dimension						
T	51	11.59	221	58.16	199.461	0.000
F	389	88.41	159	41.84		
Judging- Perceiving Dimension						
J	405	92.05	34	8.95	566.034	0.000
P	35	7.95	346	91.05		
Total	440	100	380	100		

$$\chi^2=1431.633, DF=7, p=0.000$$

As p-value is significant in all these cases we reject the hypothesis III of no difference between Personality Dimensions of students between Lao and Thailand and conclude that significant differences were detected based on Personality Dimensions of student between Lao and Thailand.

Table 9 (c) Presents the differences in distribution of personality types of the hospitality students in the two countries i.e. Thailand and Lao. Among the 16 personality types, higher proportions of Lao students had ESFJ (67.95% vs. 0.26%), ESFP (5.45% vs. 2.12%), ESTJ (9.09% vs. 0%), ISFJ (3.86% vs. 4.21%) personality types than their Thailand students. **Students in Lao had highest proportions of ESFJ personality type and students in Thailand had highest proportions of ISTP personality type.**

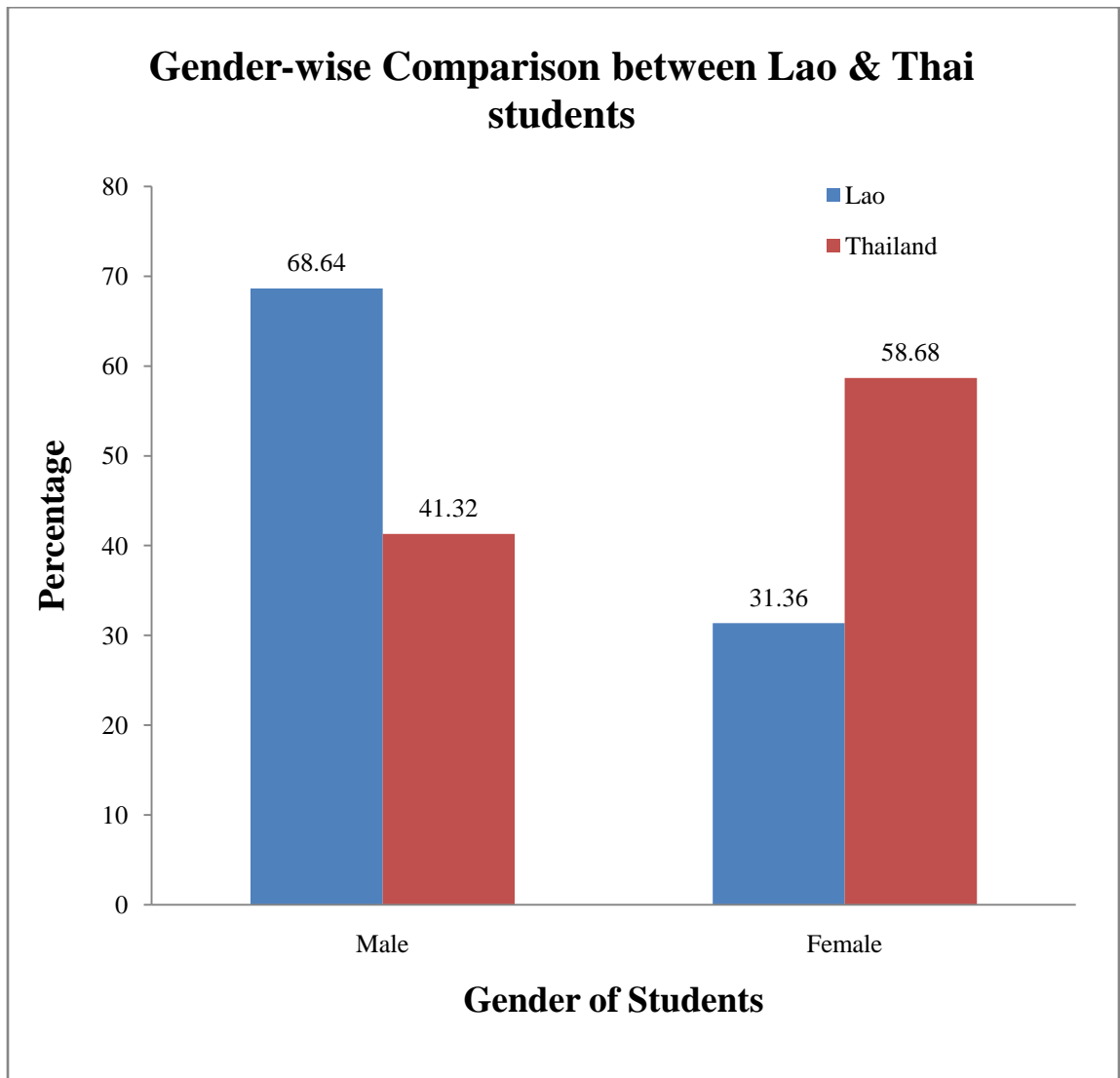
Table 9(c): Frequency Distributions on Personality Types between Lao and Thailand Students. (Comparison)

Personality Type	Lao		Thailand	
	N	%	n	%
ESTJ	40	9.09	0	0
ESTP	5	1.14	5	1.32
ESFJ	299	67.95	1	0.26
ESFP	24	5.45	8	2.12
ENTJ	6	1.36	1	0.26
ENTP	0	0	0	0
ENFJ	39	8.86	0	0
ENFP	2	0.45	2	0.53
ISTJ	0	0	13	3.42
ISTP	1	0.23	259	68.16
ISFJ	17	3.86	16	4.21
ISFP	1	0.23	50	13.16
INFJ	4	0.91	3	0.78
INFP	0	0	18	4.73
INTJ	2	0.45	0	0
INTP	0	0	4	1.05
Overall	440	100	380	100

$$\chi^2=717.176, DF=11, p=0.000$$

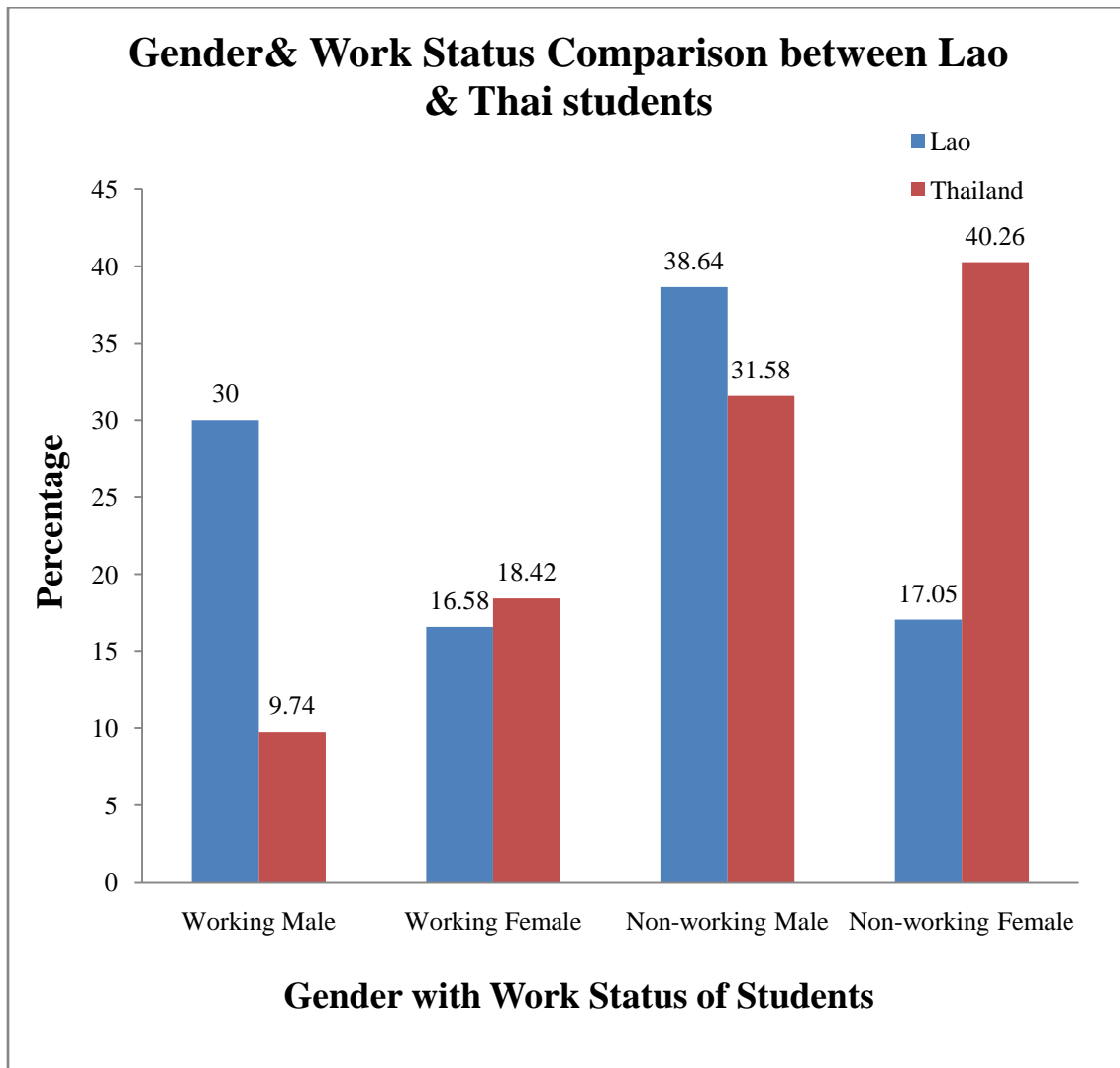
As p-value is significant in all these cases we reject the hypothesis III of no difference between 16 personality types of students from Lao and Thailand and conclude that significant differences were detected based on 16 Personality Types of students between Lao and Thailand.

Graph 1(c): Gender-wise Comparison between Lao and Thai students.



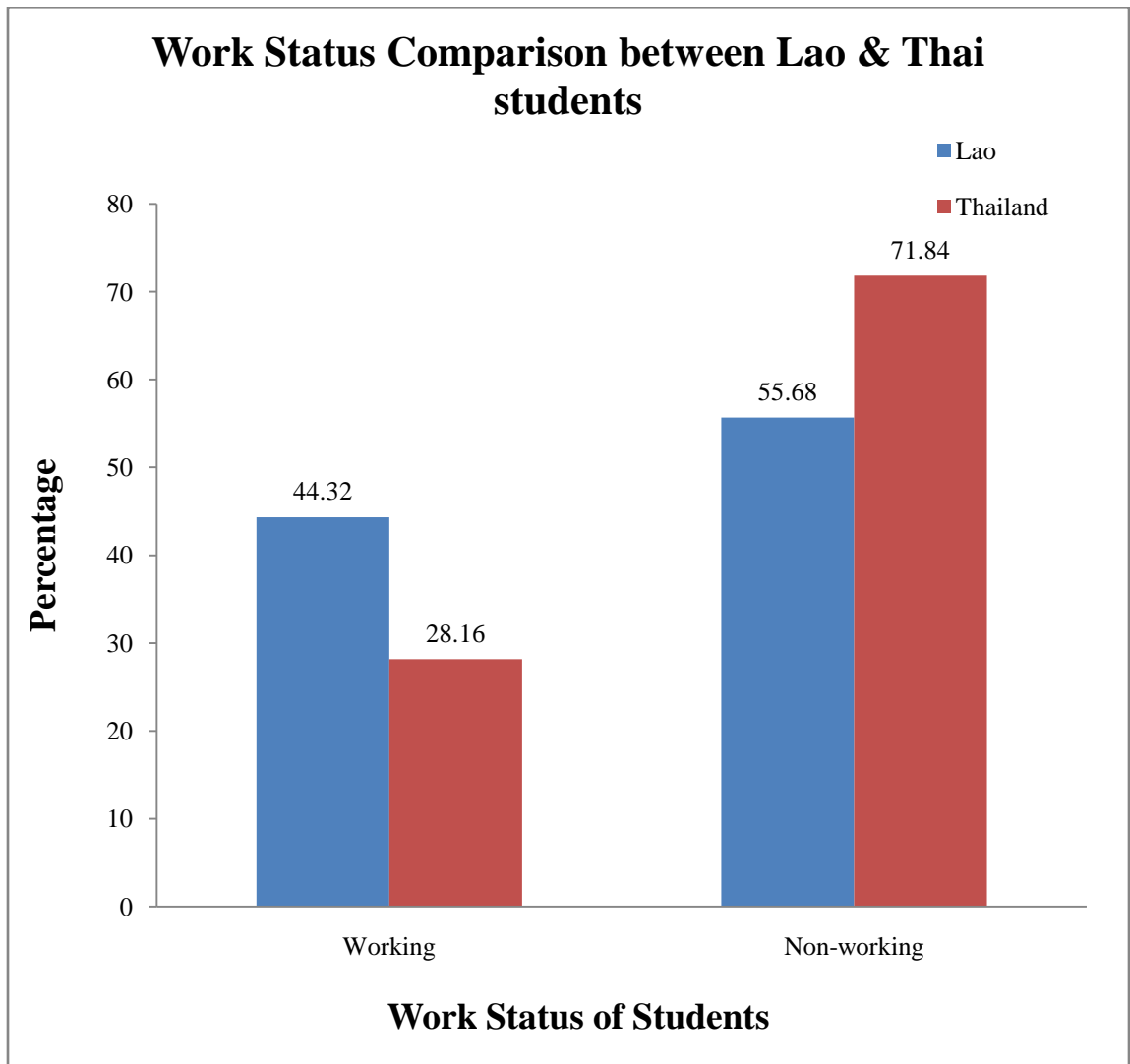
Graph 1(c) shows the gender-wise information of the two countries Lao PDR and Thailand. As shown in table, among 440 Lao students and 380 Thai students, Lao students had higher proportion of males than Thailand students by 37.28% while Thailand students had higher proportion of females than Lao students by 17.36%.

Graph 2(c): Gender and Work Status Comparison between Lao and Thai students.



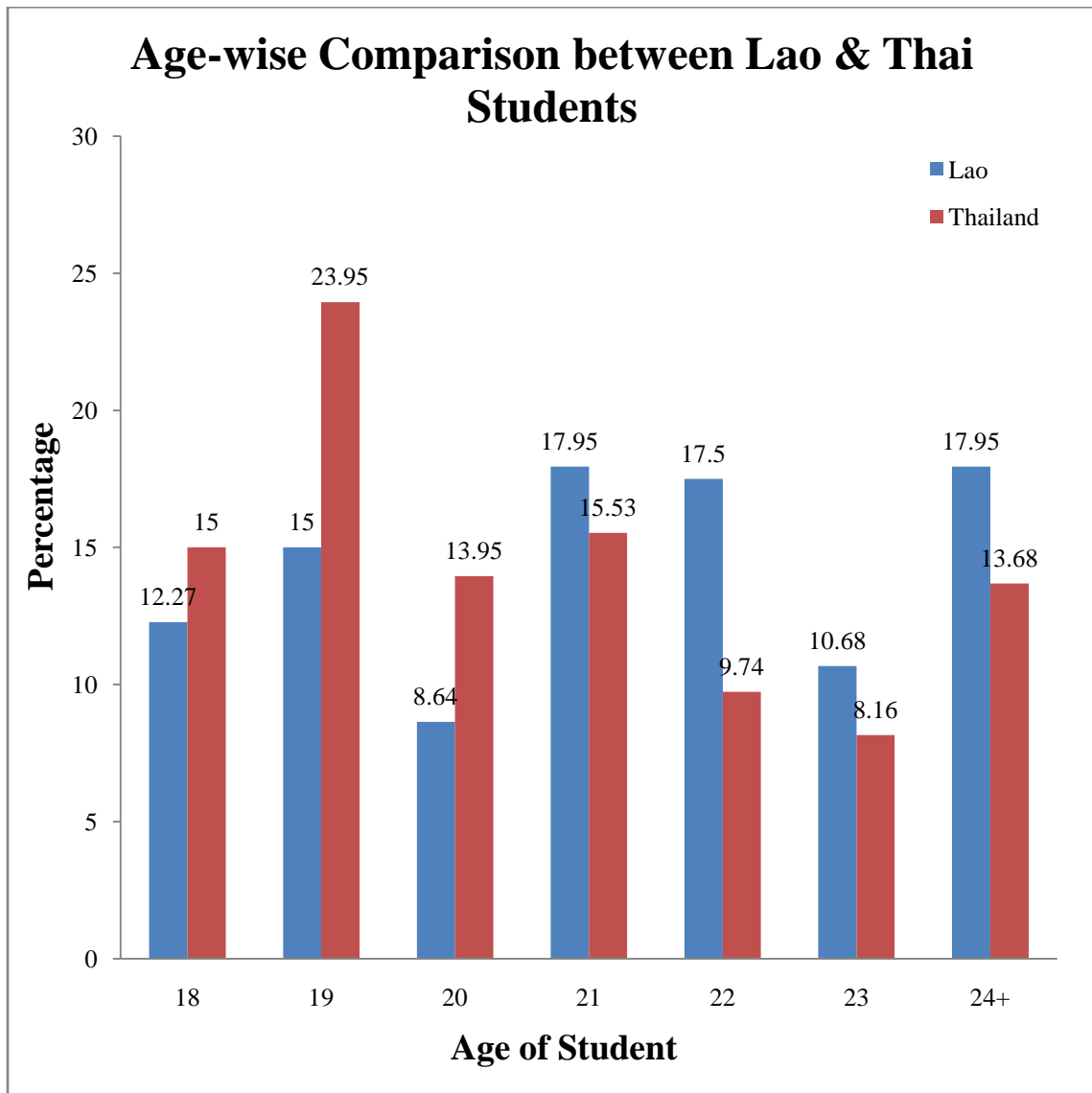
As shown in Graph 2(c), Lao student had higher percentage of working males and non-working males than Thailand students by 20.24% and 7.06% but Thailand student had higher percentage of working and non-working female students than Lao by 1.84% and 23.21%.

Graph 3(c): Comparison of Work Status between Lao and Thai students.



Graph 3(c) gives description of work status among the two countries Lao and Thailand which shows that percentage of working students is more in Lao students by 16.16%. But percentage of non-working students is more in Thailand by 16.16%.

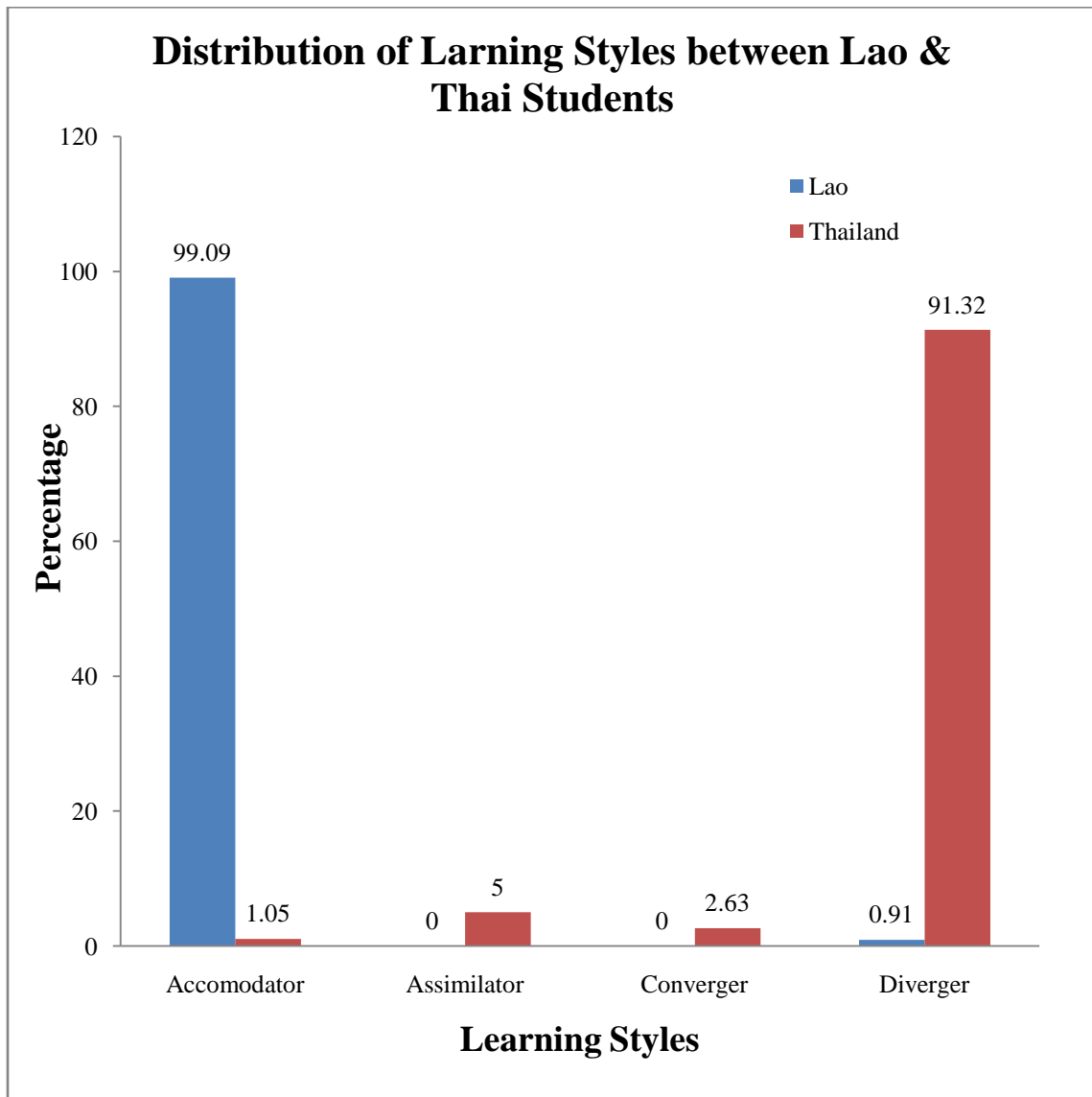
Graph 4(c):Age-wise Comparison between Lao and Thai students.



Graph 4(c) indicates age-wise sample description of students in Lao and Thailand. It is easily observed that, Thailand had higher percentage of students in age 18-20 years than Lao but Lao had higher percentage of students in age 22 and above than Thailand.

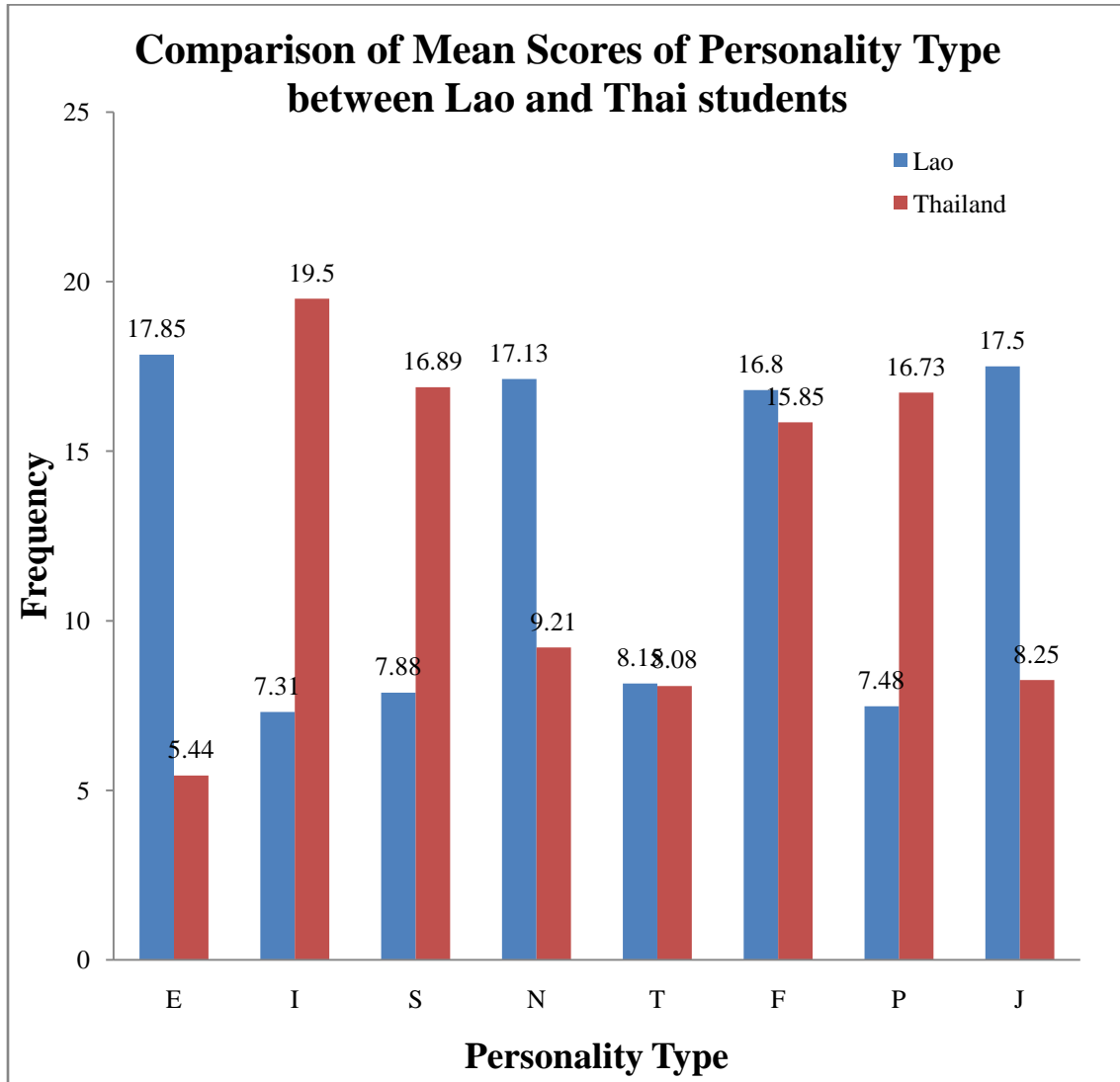
For the age 18, 19 and 20 Thailand had more students than Lao by 2.73%, 8.95% and 5.31 respectively. For the age 21, 22 , 23 and 24+ Lao had more students than Thailand by 2.42%, 7.76%, 2.52% and 4.27%.

Graph 5(c): Distribution of Learning Styles between Lao and Thai students.



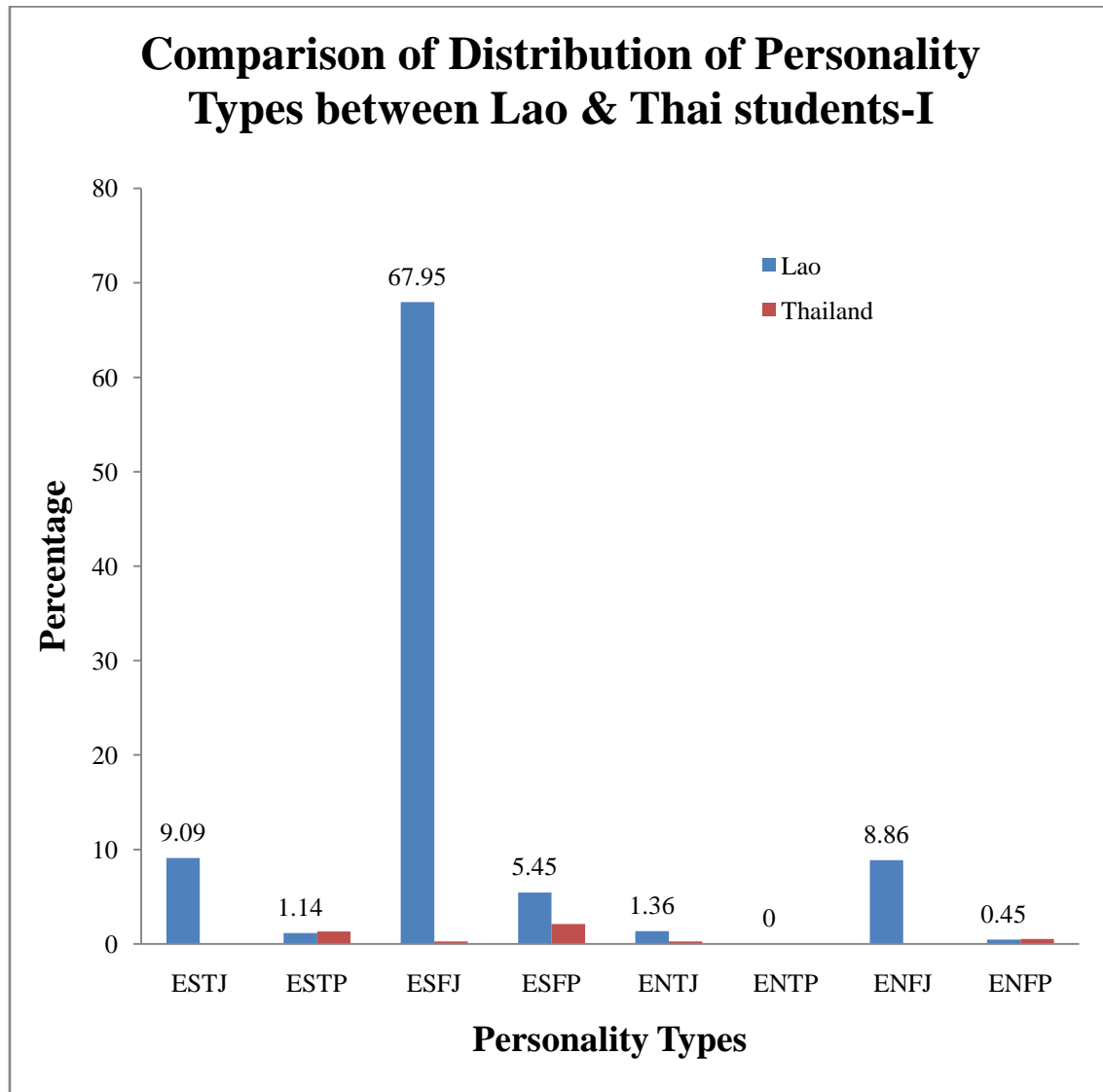
Regarding learning style distributions, 99% of the Lao students were Accommodators followed by 1% Divergers and remaining were zero percent. On the other hand, 91.32% of the Thailand students were Divergers followed by 5% Assimilators, 1.05% Accommodators and finally 2.63% Convergers.

Graph 6(c): Comparison of Mean Scores of Personality Types between Lao and Thai students.



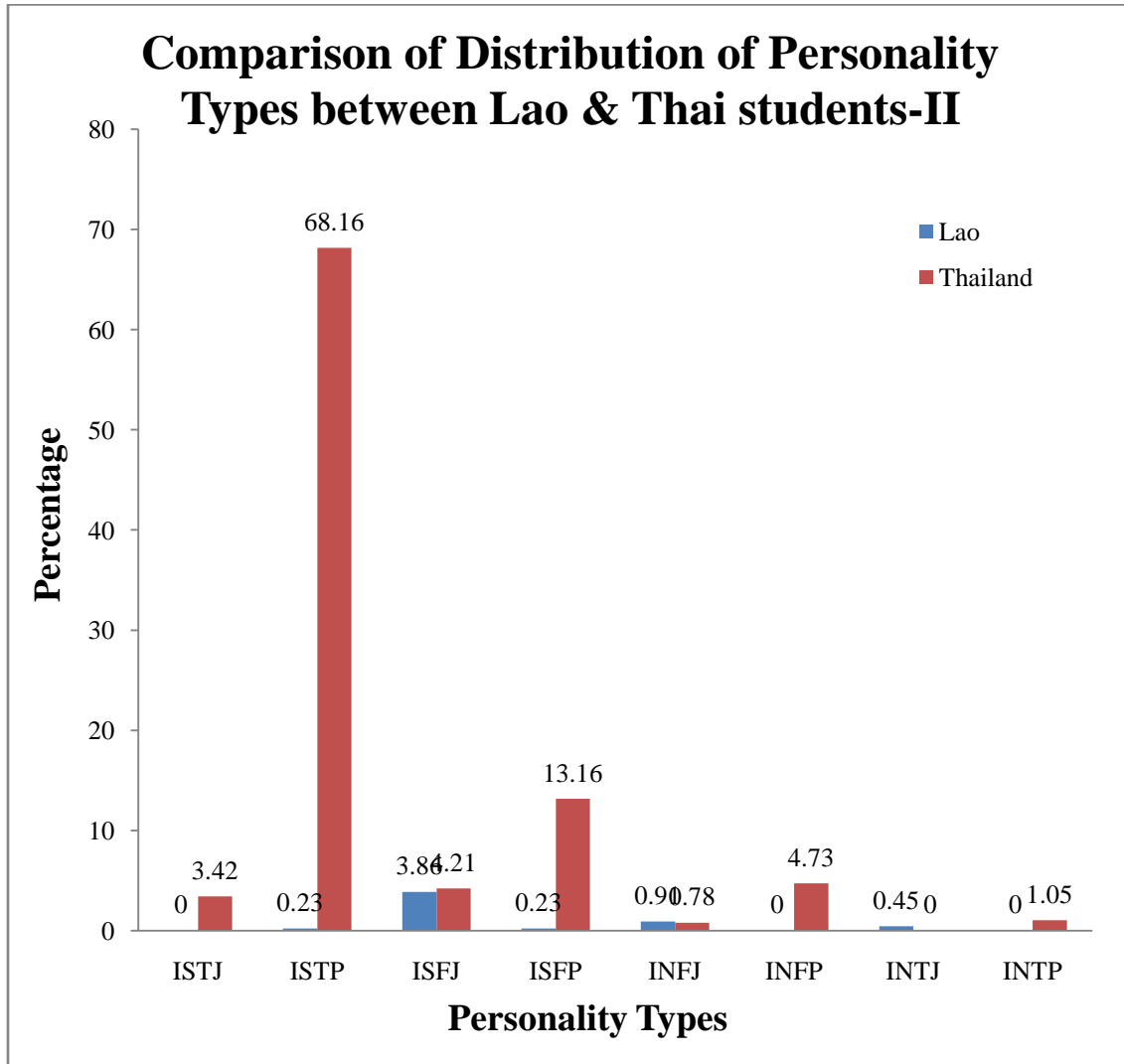
As mentioned by the data in Graph 6(c), both Lao students showed stronger tendencies toward Extroversion (E), Sensing (S), Feeling (F) and Judging (J) characteristics and Thai students showed stronger tendencies towards Introversion (I), Sensing (S), Feeling (F), Perceiving (P).

Graph 7(c): Comparison of Distribution of Personality Types-I between Lao and Thai students.



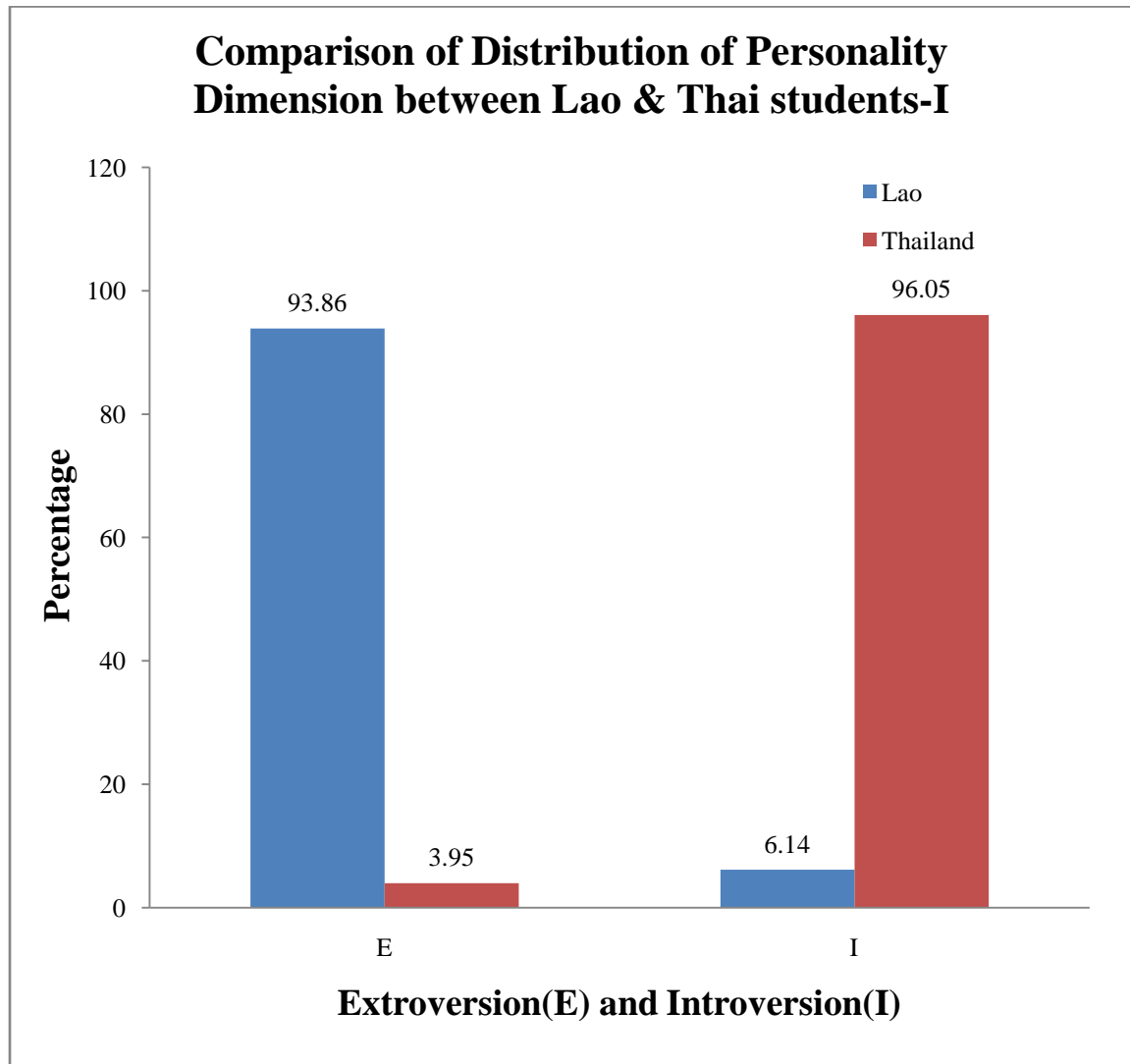
Graph 7(c) indicates that distribution of 8 Personality types and it is highest for ESFJ for Lao students.

Graph 8(c): Comparison of Distribution of Personality Types-II between Lao and Thai students.



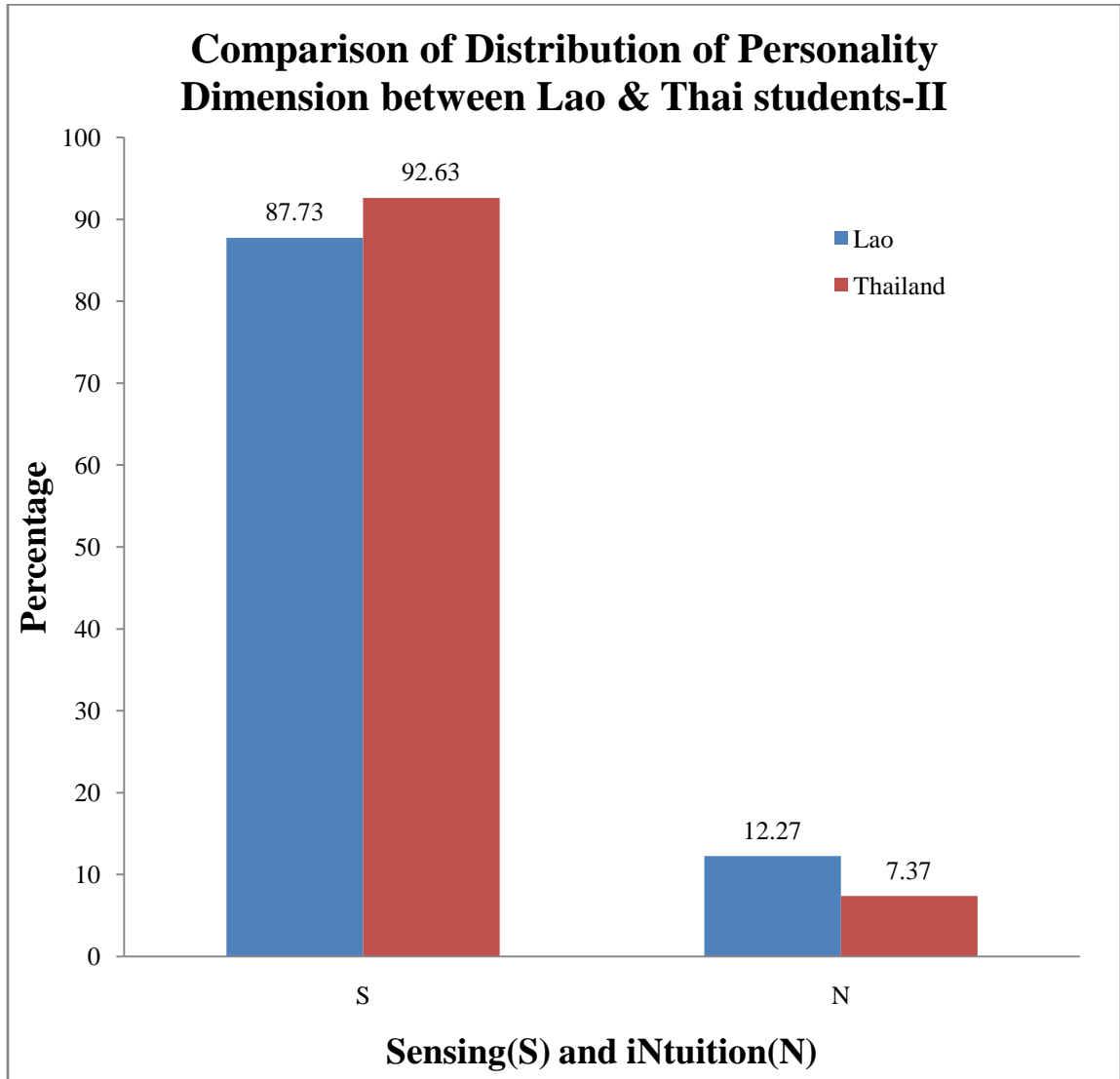
Graph 8(c) indicates that distribution of remaining 8 Personality types and it is highest for ISFP for Thailand students.

Graph 9(c): Comparison of Distribution of Personality Dimension-I between Lao and Thai students.



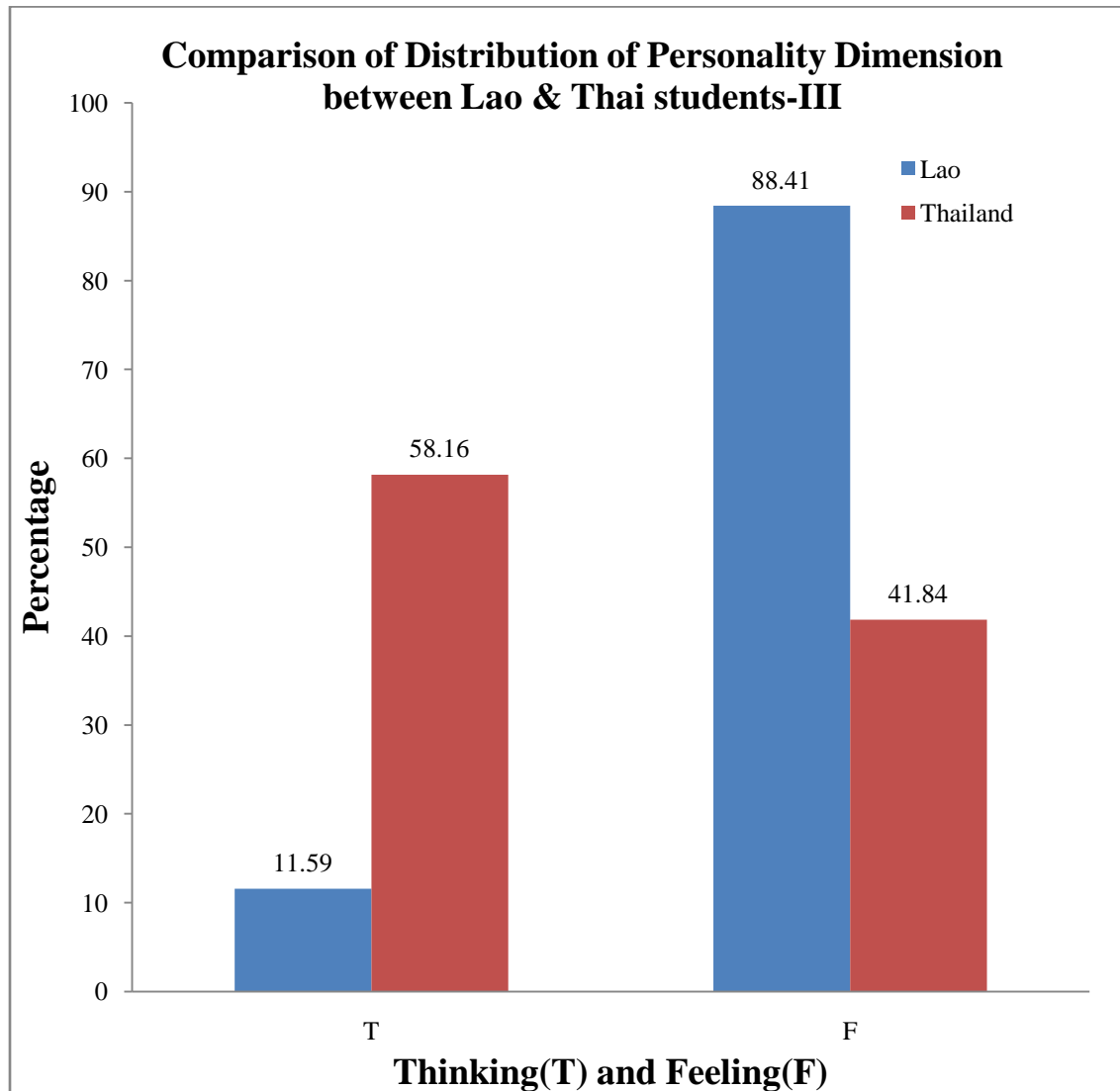
Graph 9(c) indicates the distribution of Personality Dimensions for Extroversion (E) and Introversion (I) type. In Lao, percentage of Extroversion (E) is more and in Thailand, percentage of Introversion (I) is more.

Graph 10(c): Comparison of Distribution of Personality Dimensions between Lao and Thai students-II.



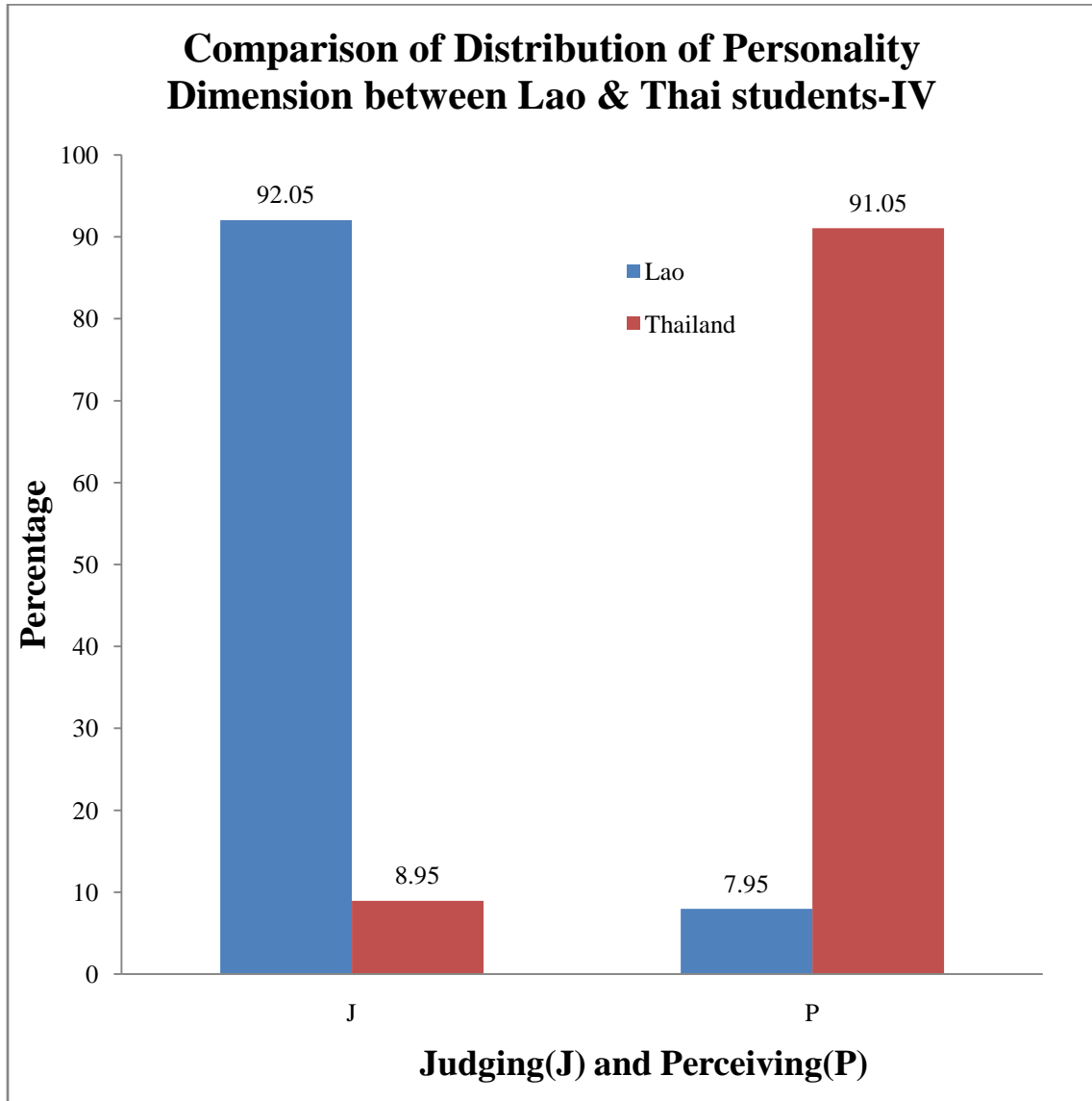
Graph 10(c) indicates the distribution of Personality Dimensions for Sensing (S) and iNtuition (N) type. Percentage of Sensing(S) is more both in Thailand and Lao. But again percentage of Sensing(S) is more in Thailand As compared to that of in Lao.

Graph 11(c): Comparison of Distribution of Personality Types between Lao and Thai students-III.



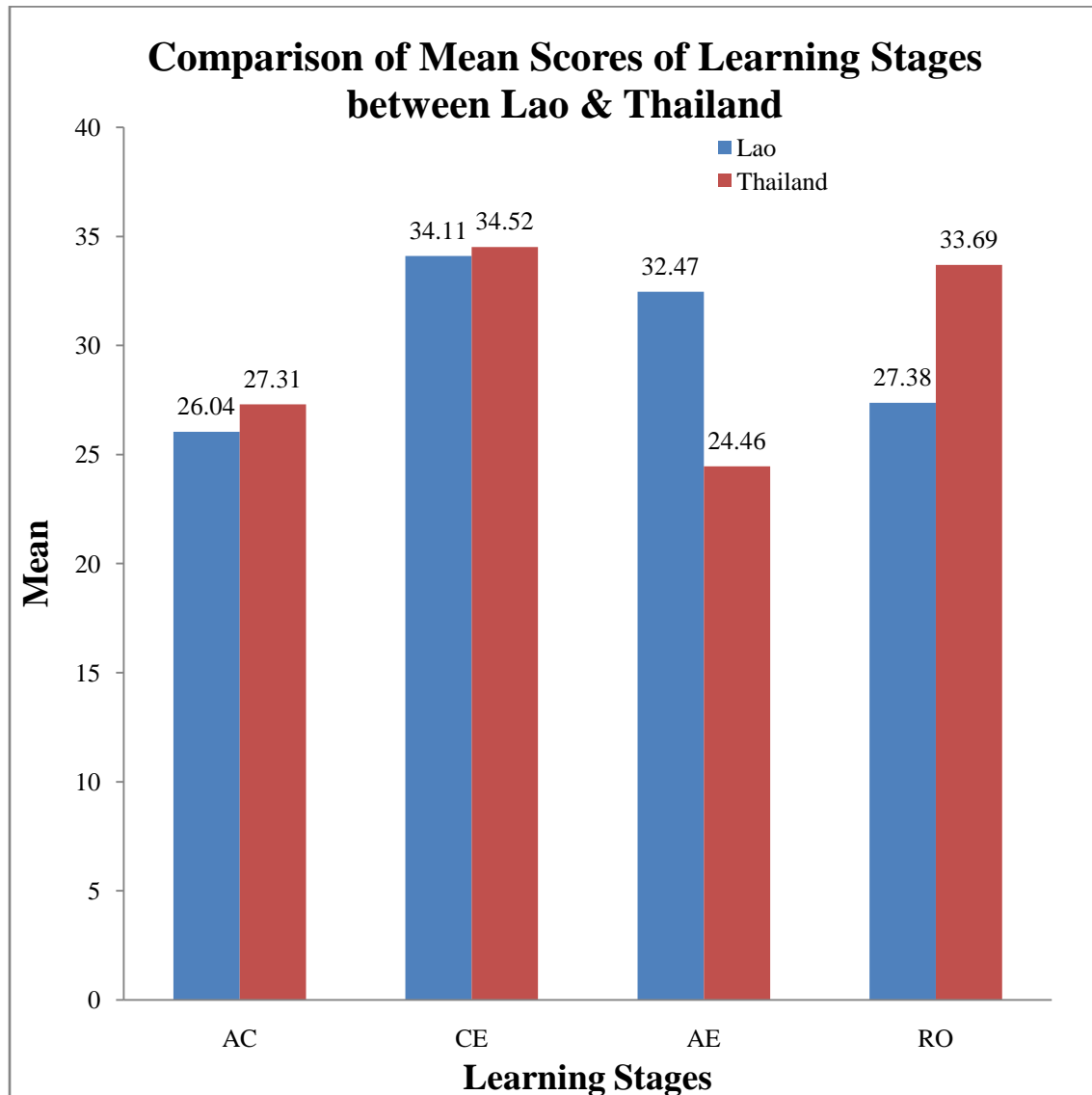
Graph 11(c) indicates the distribution of Personality Types for Thinking (T) and Feeling (F) type. In Lao, percentage of Feeling (F) is more and in Thailand, percentage of Thinking (T) is more .

Graph 12(c): Comparison of Distribution of Personality Types-IV between Lao and Thai students.



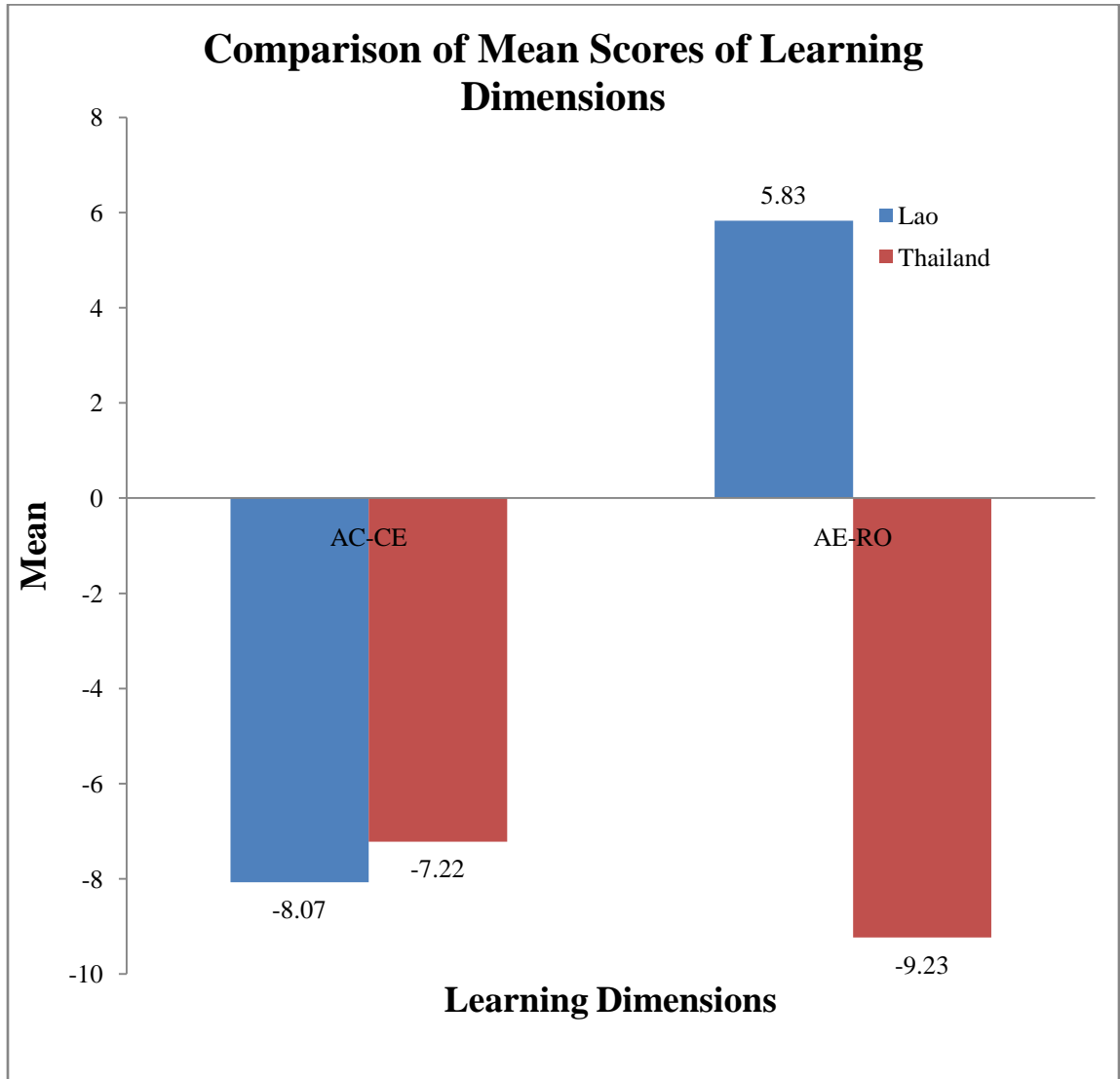
Graph 12(c) indicates the distribution of Personality Types for Judging (J) and Perceiving (P) type. In Lao, percentage of Judging (J) is more and in Thailand, Perceiving (P) is more.

Graph 13(c): Comparison of Mean Scores of Learning Stages between Lao and Thai students.



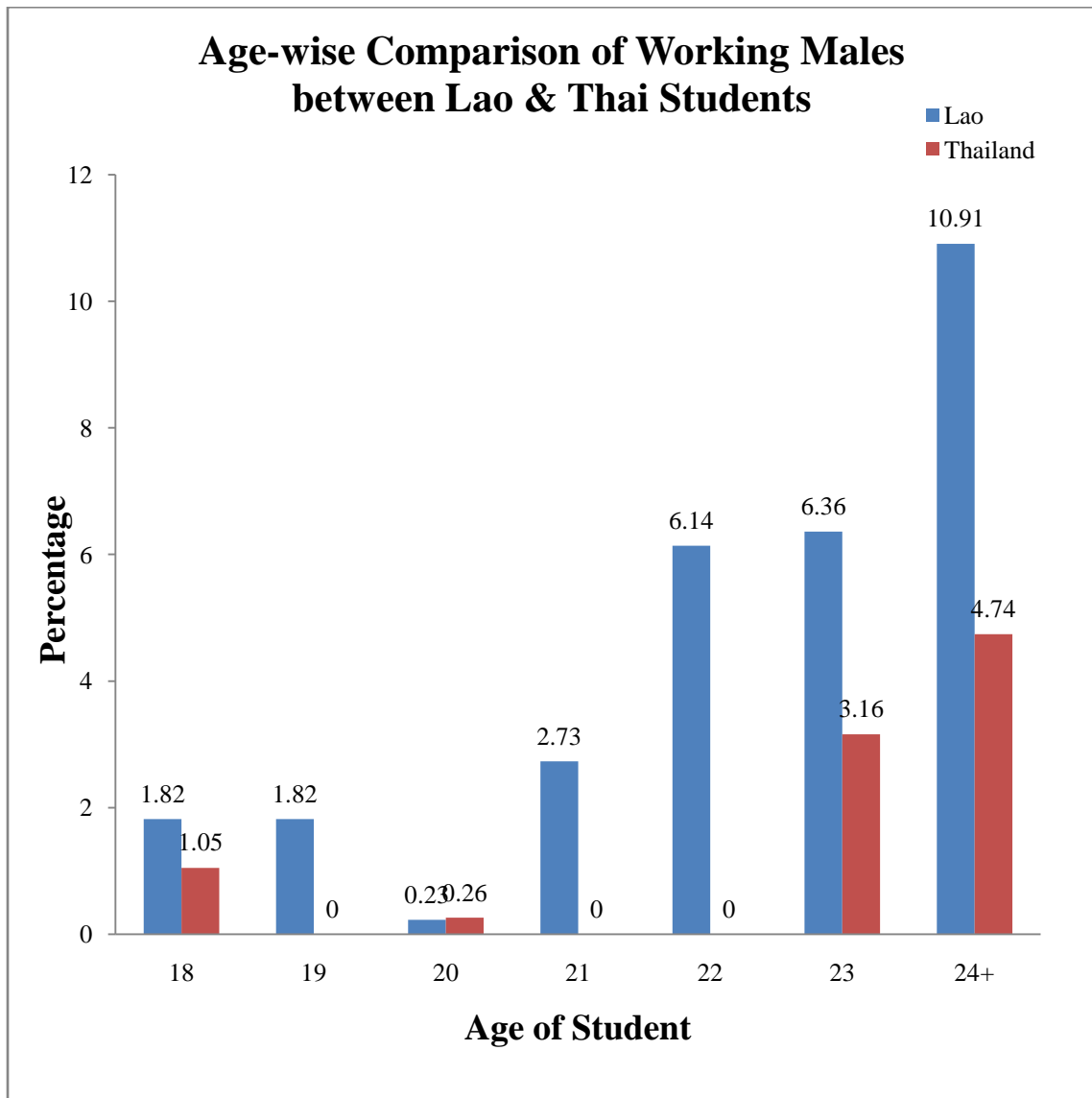
Graph 13(c) gives the comparison of mean scores of 4 learning stages, Abstract Conceptualization (AC), Concrete Experience (CE), Active Experimentation (AE) and Reflective Observation (RO) between Lao and Thailand. It can be seen from above graph that mean scores of AC, CE and RO are higher for Thailand than that of Lao but mean score of AE is higher in case of Lao.

Graph 14(c): Comparison of Mean Scores of Learning Dimensions between Lao and Thai students.



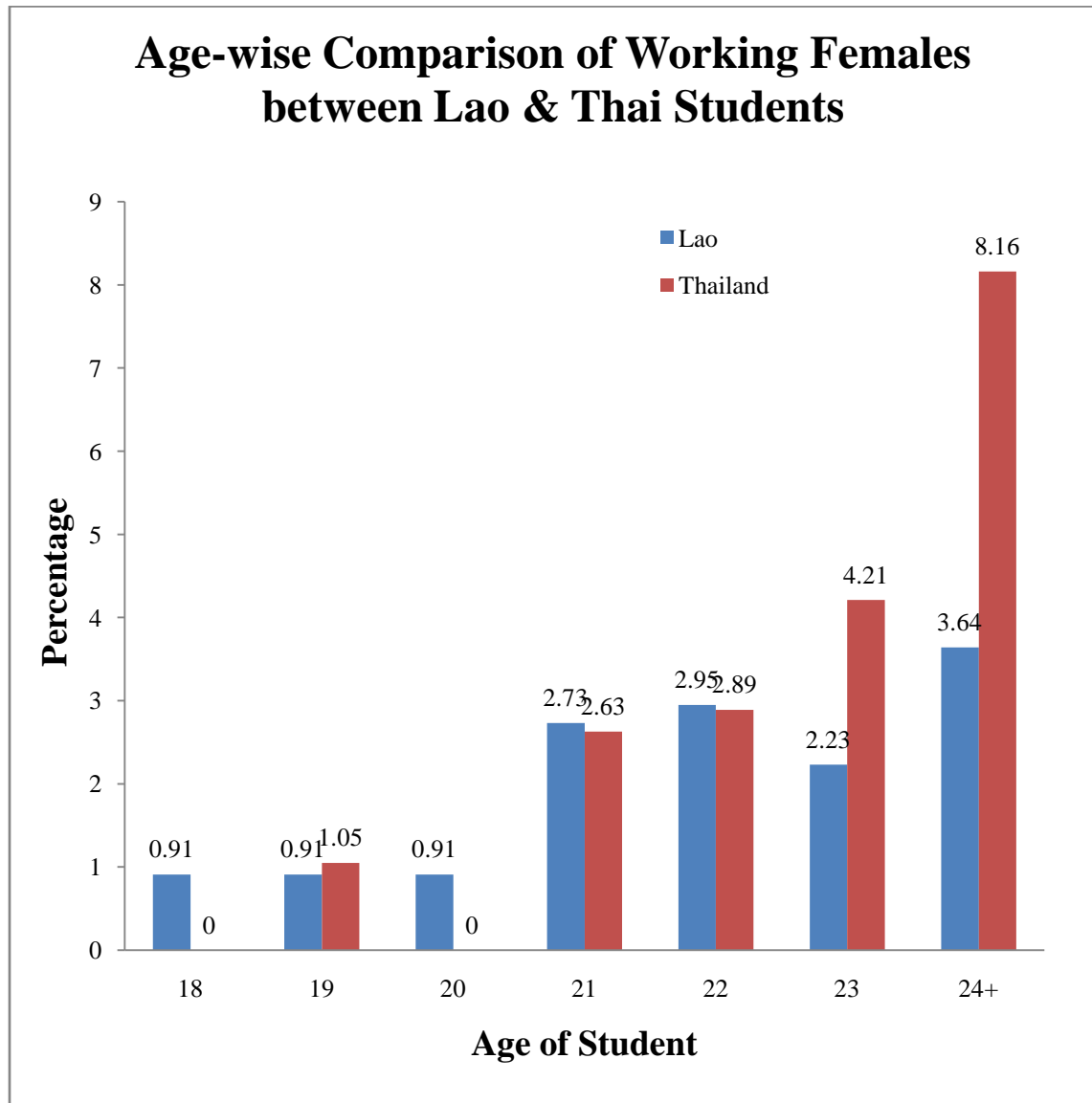
Graph 14(c) gives the comparison of mean scores of 2 learning dimensions, Abstract Conceptualization/Concrete Experience (AC-CE), Active Experimentation/Reflective Observation (AE-RO) between Lao and Thailand. It can be seen from above graph that mean score of AC-CE is higher for Thailand than that of Lao but mean score of AE-RO is higher in case of Lao.

Graph 15(c): Age-wise Comparison of Working Males between Lao and Thai students.



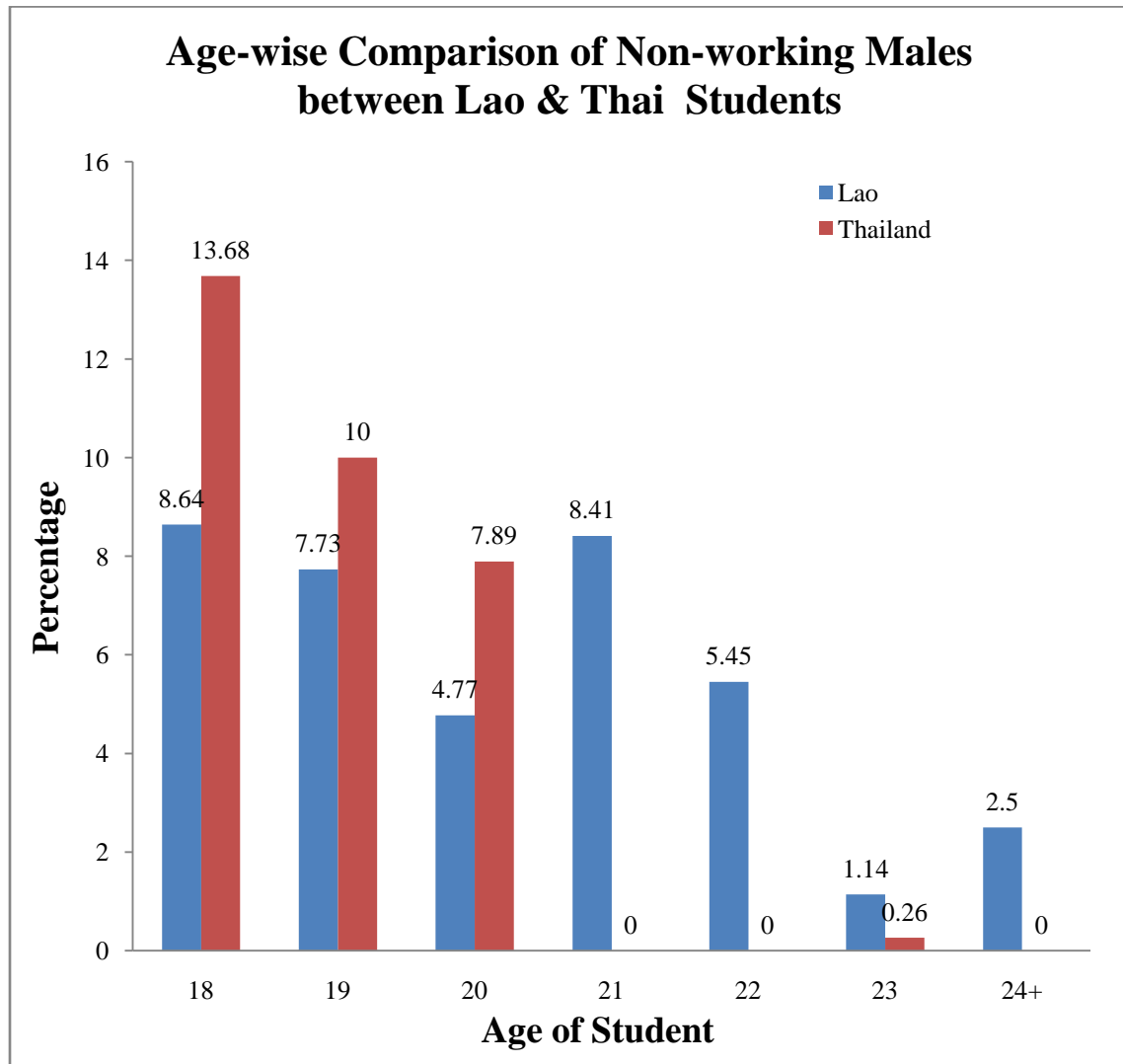
Graph 15(c) gives age-wise comparison of percentage of working males in Lao and Thailand. Percentage of working males is more in Lao than Thailand as observed in above graph.

Graph 16(c): Age-wise Comparison of Working Females between Lao and Thai students.



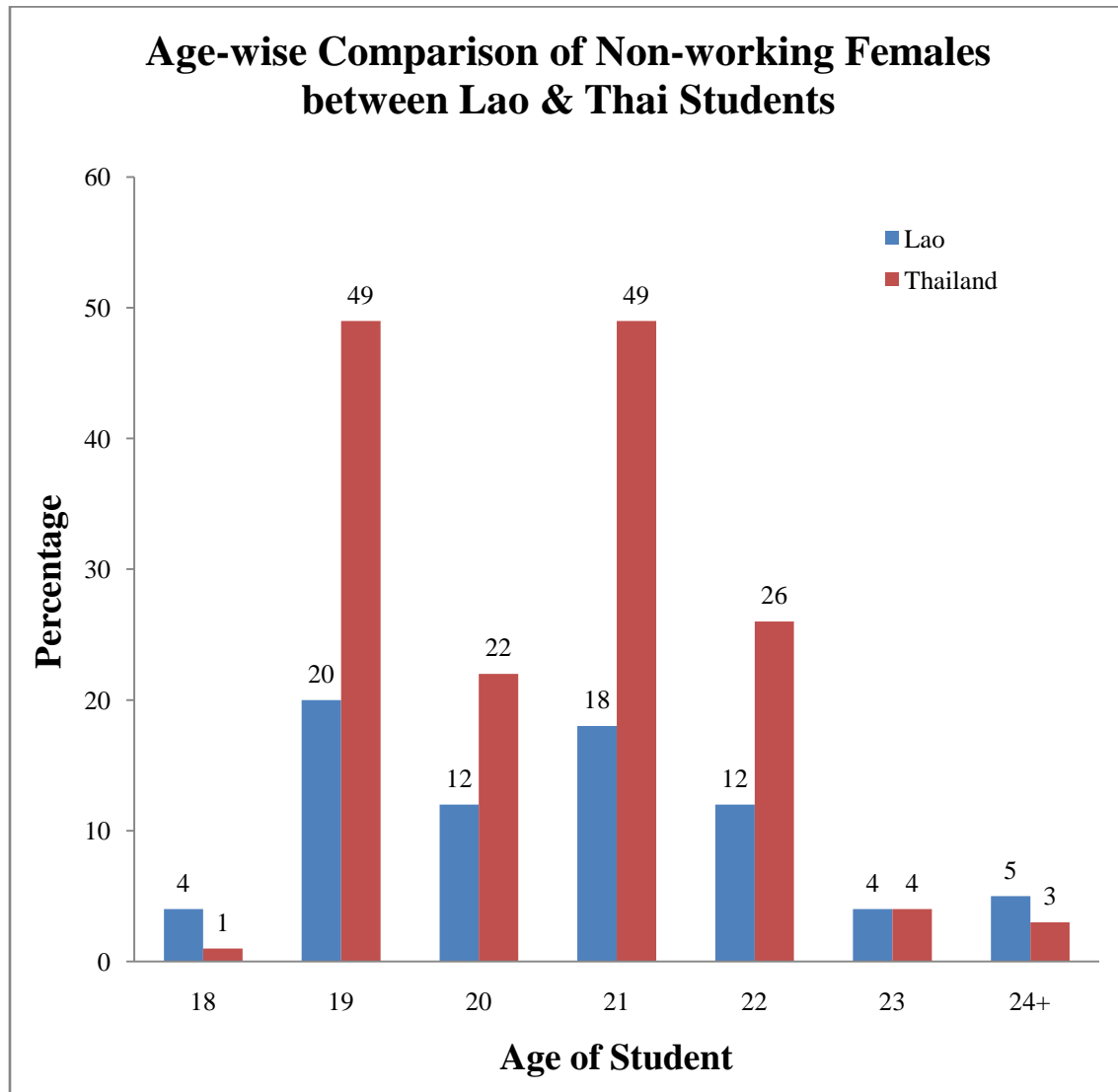
Graph 16(c) gives age-wise comparison of percentage of working females in Lao and Thailand. Percentage of working females is more in Thailand than Lao as observed in above graph.

Graph 17(c): Age-wise Comparison of Non-Working Males between Lao and Thai students.



Graph 17(c) gives age-wise comparison of percentage of non-working males in Lao and Thailand. Percentage of non-working males is more in Thailand than Lao as observed in above graph.

Graph 18(c): Age-wise Comparison of Non-Working Females between Lao and Thai students.



Graph 18(c) gives age-wise comparison of percentage of non-working females in Lao and Thailand. Percentage of non-working females is more in Thailand than Lao as observed in above graph.

Chapter 7

Conclusion

Chapter Seven Outline

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Table 2.25(a): Summary of Hypothesis for Lao

Hypothesis I	There were no significant differences in learning styles of Lao hospitality students based on following background variables:	
	Gender of Student	Failed to Reject
	Age of Student	Failed to Reject
	Work Status of Student	Rejected
Hypothesis II	There were no significant differences in personality Types of Lao hospitality students based on following background variables:	
	Gender of Student	Failed to Reject
	Age of Student	Failed to Reject
	Work Status of Student	Failed to Reject
Hypothesis III	There were no significant differences in learning styles of Lao hospitality undergraduate students based on following four personality dimensions and personality types:	
	Extroversion-Introversion Dimension	Failed to Reject
	Sensing-iNtuition Dimension	Failed to Reject
	Thinking-Feeling Dimension	Filed to Reject
	Judging-Perceiving Dimension	Failed to Reject
	16 Personality Types	Failed to Reject

Conclusion for Lao PDR

This study found that there were no significant differences in learning styles of the Lao students based on Gender and Age however there were differences in leading styles of Lao students based on work status (working / non working). Study also indicated that there were no significant differences in personality Types of Lao hospitality students based on Gender, Age and Work status. There were no significant differences in learning styles of Lao hospitality undergraduate students based on four personality dimensions, was another result

of the study. An increased understanding and awareness of learning styles and personality types has been seen as a possible factor in improving students' academic success and achievements. Awareness about learning styles and personality types could equip the hospitality educators in achieving higher educational goals and assist students in understanding their own personality types and learning styles leading to higher academic achievements. Hospitality education is a learning experience in which an individual is taught to handle complex situations in the real world and knowing the learning styles and personality types of a student or a group of students can be useful in promoting and managing effectiveness of teaching and this also can lead to effective education environment. Lao hospitality educators may find these results as the guide lines for designing their curricula and teaching strategies.

Conclusions for Hypothesis I for Lao PDR

As P-value (0.174) is not significant (ns) for rejecting hypothesis I of no difference, between gender and learning styles of the students, we conclude that no differences were detected on learning styles proportion distribution based on the gender of the students.

As P-value (0.614) is not significant for rejecting hypothesis I of no difference, between age and learning styles of the students, we conclude that no differences were detected on learning styles proportion distribution based on the age of the students in Lao.

As P-value (0.024) is significant for rejecting hypothesis I of no difference, between work status and learning styles of the students, we conclude that differences were detected on learning styles proportion distribution based on the work status of the students.

Conclusions for Hypothesis II for Lao PDR

As P-value (0.113) is not significant (ns) for rejecting hypothesis II of no difference, between Gender and Personality Types of the students, we conclude that no differences were detected on Personality Types based on the Gender of the students.

As P-value is not significant (ns) for rejecting hypothesis II of no difference, between Work Status and Personality Types of the students, we conclude that no differences were detected on Personality Types based on the Work Status of the students.

As P-value is not significant (ns) for rejecting hypothesis II of no difference, between Age and Personality Types of the students, we conclude that no differences were detected on 16 Personality Types based on the Age of the students.

Conclusions for Hypothesis III for Lao PDR

there were no statistically significant differences in students' four learning styles based on Extroversion-Introversion dimension ($\chi^2 = 0.254$, $p = 0.614$), Sensing –iNtuition Dimension ($\chi^2 = 0.553$, $p = 0.457$) Thinking-Feeling dimension ($\chi^2 = 0.529$, $p = 0.467$) and Judging-Perceiving dimension ($\chi^2 = 1.602$, $p = 0.206$) of personality types since P value (0.117) is not significant for rejecting the hypothesis III of no difference between personality types and learning styles.

Considering Jung’s Personality Style Inventory majority of Lao students were identified as ‘ESFJ’ (67.95 %). Considering Kolb’s Learning style inventory majority (99.09%) Lao students were identified to be Accommodators.

Learning occurs through the active extension and grounding of ideas and experiences in the external world and through internal reflection about the attributes of these experiences and ideas (Kolb, 1984). **Based on his findings, Kolb further explained that the extraverted sensing type of personality is associated with the accommodative learning style, the introverted intuitive type of personality is associated with the assimilative learning style, the introverted feeling type of personality is associated with the divergent learning style, and the extraverted thinking type of personality is associated with the convergent learning style.**

Portrait of an Accommodator

Accommodator - Those with highest scores in **Concrete Experience (CE) and Active Experimentation (AE)**. Accommodators are polar opposites from Assimilators. Their greatest strengths lie in carrying out plans and experiments and involving themselves in new experiences. They are risk-takers and excel in those situations requiring quick decisions and adaptations. In situations where a theory or plan does not fit the "facts," they tend to discard it and try something else. They often solve problems in an intuitive trial and error manner, relying heavily on other people for information. Accommodators are at ease with people but may be seen as impatient and "pushy." Their educational background is often in practical fields such as business or education. They prefer "action-oriented" jobs such as nursing, teaching, marketing, or sales.

Portrait of an ESFJ - Extraverted Sensing Feeling Judging (Extraverted Feeling with Introverted Sensing)

The Caregiver

As an ESFJ, your primary mode of living is focused externally, where you deal with things according to how you feel about them, or how they fit in with your personal value system. Your secondary mode is internal, where you take things in via your five senses in a literal, concrete fashion.

ESFJs are people persons - they love people. They are warmly interested in others. They use their Sensing and Judging characteristics to gather specific, detailed information about others, and turn this information into supportive judgments. They want to like people, and have a special skill at bringing out the best in others. They are extremely good at reading others, and understanding their point of view. The ESFJ's strong desire to be liked and for

everything to be pleasant makes them highly supportive of others. People like to be around ESFJs, because the ESFJ has a special gift of invariably making people feel good about them.

The ESFJ takes their responsibilities very seriously, and is very dependable. They value security and stability, and have a strong focus on the details of life. They see before others do what needs to be done, and do whatever it takes to make sure that it gets done. They enjoy these types of tasks, and are extremely good at them.

ESFJs are warm and energetic. They need approval from others to feel good about them. They are hurt by indifference and don't understand unkindness. They are very giving people, who get a lot of their personal satisfaction from the happiness of others. They want to be appreciated for who they are, and what they give. They're very sensitive to others, and freely give practical care. ESFJs are such caring individuals, that they sometimes have a hard time seeing or accepting a difficult truth about someone they care about.

With Extraverted Feeling dominating their personality, ESFJs are focused on reading other people. They have a strong need to be liked, and to be in control. They are extremely good at reading others, and often change their own manner to be more pleasing to whoever they're with at the moment.

The ESFJ's value system is defined externally. They usually have very well-formed ideas about the way things should be, and are not shy about expressing these opinions. However, they weigh their values and morals against the world around them, rather than against an internal value system. They may have a strong moral code, but it is defined by the community that they live in, rather than by any strongly felt internal values.

ESFJs who have had the benefit of being raised and surrounded by a strong value system that is ethical and centered around genuine goodness will most likely be the kindest, most generous souls who will gladly give you the shirt off of their back without a second thought. For these individuals, the selfless quality of their personality type is genuine and pure.

ESFJs who have not had the advantage of developing their own values by weighing them against a good external value system may develop very questionable values. In such cases, the ESFJ most often genuinely believes in the integrity of their skewed value system. They have no internal understanding of values to set them straight. In weighing their values against our society, they find plenty of support for whatever moral transgression they wish to justify. This type of ESFJ is a dangerous person indeed. Extraverted Feeling drives them to control and manipulate, and their lack of Intuition prevents them from seeing the big picture. They're usually quite popular and good with people, and good at manipulating them. Unlike their ENFJ cousin, they don't have Intuition to help them understand the real consequences of their actions. They are driven to manipulate other to achieve their own ends, yet they believe that they are following a solid moral code of conduct.

All ESFJs have a natural tendency to want to control their environment. Their dominant function demands structure and organization, and seeks closure. ESFJs are most comfortable with structured environments. They're not likely to enjoy having to do things which involve abstract, theoretical concepts, or impersonal analysis. They do enjoy creating order and structure, and are very good at tasks which require these kinds of skills. ESFJs should be careful about controlling people in their lives who do not wish to be controlled.

ESFJs respect and believe in the laws and rules of authority, and believe that others should do so as well. They're traditional, and prefer to do things in the established way, rather than venturing into uncharted territory. Their need for security drives their ready acceptance and adherence to the policies of the established system. This tendency may cause them to sometimes blindly accept rules without questioning or understanding them.

An ESFJ who has developed in a less than ideal way may be prone to being quite insecure, and focus all of their attention on pleasing others. He or she might also be very controlling, or overly sensitive, imagining bad intentions when there weren't any.

ESFJs incorporate many of the traits that are associated with women in our society. However, male ESFJs will usually not appear feminine at all. On the contrary, ESFJs are

typically quite conscious about gender roles and will be most comfortable playing a role that suits their gender in our society. Male ESFJs will be quite masculine (albeit sensitive when you get to know them), and female ESFJs will be very feminine.

ESFJs at their best are warm, sympathetic, helpful, cooperative, tactful, down-to-earth, practical, thorough, consistent, organized, enthusiastic, and energetic. They enjoy tradition and security, and will seek stable lives that are rich in contact with friends and family.

Jungian functional preference ordering:

Dominant: Extraverted Feeling

Auxiliary: Introverted Sensing

Tertiary: Extraverted Intuition

Inferior: Introverted Thinking

Table 2.25(b): Summary of Hypothesis for Thailand

Hypothesis I	There were no significant differences in learning styles of Thailand hospitality students based on following background variables:	
	Gender of Student	Failed to Reject
	Age of Student	Failed to Reject
	Work Status of Student	Rejected
Hypothesis II	There were no significant differences in personality Types of Thailand hospitality students based on following background variables:	
	Gender of Student	Rejected
	Age of Student	Failed to Reject
	Work Status of Student	Failed to Reject
Hypothesis III	There were no significant differences in learning styles of Thailand hospitality undergraduate students based on following four personality dimensions and personality types:	
	Extroversion-Introversion Dimension	Failed to Reject
	Sensing-iNtuition Dimension	Failed to Reject
	Thinking-Feeling Dimension	Failed to Reject
	Judging-Perceiving Dimension	Failed to Reject
	16 Personality Types	Failed to Reject

Conclusion for Thailand

This study found that there were no significant differences in learning styles of the Thai students based on Gender and Age however there were differences in leading styles of Thai students based on work status (working / non working). Study also indicated that there were no significant differences in personality Types of Thai hospitality students based Age and Work status however there were differences in Personality types of Thai students based on

Gender. There were no significant differences in learning styles of Lao hospitality undergraduate students based on four personality dimensions, was another result of the study. An increased understanding and awareness of learning styles and personality types has been seen as a possible factor in improving students' academic success and achievements. Awareness about learning styles and personality types could equip the hospitality educators in achieving higher educational goals and assist students in understanding their own personality types and learning styles leading to higher academic achievements. Hospitality education is a learning experience in which an individual is taught to handle complex situations in the real world and knowing the learning styles and personality types of a student or a group of students can be useful in promoting and managing effectiveness of teaching and this also can lead to effective education environment. Lao hospitality educators may find these results as the guide lines for designing their curricula and teaching strategies.

Conclusions for Hypothesis I for Thailand

As P-value (0.823) is not significant (ns) for rejecting hypothesis I of no difference, between gender and learning styles of the students, we conclude that no differences were detected on learning styles proportion distribution based on the gender of the student.

As P-value (0.964) is not significant for rejecting hypothesis I of no difference, between age and learning styles of the students, we conclude that no differences were detected on learning styles proportion distribution based on the age of the students in Thailand.

As P-value (0.024) is significant for rejecting hypothesis I of no difference, between work status and learning styles of the students, we conclude that differences were detected on learning styles proportion distribution based on the work status of the students.

Conclusions for Hypothesis II for Thailand

As P-value (0.01) is significant for rejecting hypothesis II of no difference, between Gender and Personality Types of the students, we conclude that differences were detected on Personality Types based on the Gender of the students

As P-value (0.915) is not significant (ns) for rejecting hypothesis II of no difference, between Work Status and Personality Types of the students, we conclude that no differences were detected on Personality Types based on the Work Status of the students.

As P-value (0.376) is not significant (ns) for rejecting hypothesis II of no difference, between Age and Personality Types of the students, we conclude that no differences were detected on 16 Personality Types based on the Age of the students.

Conclusions for Hypothesis III for Thailand

There were no statistically significant differences in students' four learning styles based on Extroversion-Introversion dimension ($\chi^2 = 0.08$, $p = 0.77$), Sensing- iNtution dimensions ($\chi^2 = 0.132$, $p = 0.936$), Thinking-Feeling dimension ($\chi^2 = 0.032$, $p = 0.984$) and Judging-Perceiving dimension ($\chi^2 = 1.424$, $p = 0.491$) of personality types since P value (0.781) is not significant for rejecting the hypothesis III of no difference between personality types and learning styles.

Considering Jung's Personality Style Inventory, majority of Thai students were identified as 'ISFP' (68. 16%). Considering Kolb's Learning style inventory majority (91.32%) Lao students were identified to be 'Divergers'.

Learning occurs through the active extension and grounding of ideas and experiences in the external world and through internal reflection about the attributes of these experiences and ideas (Kolb, 1984). Based on his findings, Kolb further explained that the extraverted sensing type of personality is associated with the accommodative learning style, the introverted intuitive type of personality is associated with the assimilative learning style, **the**

introverted feeling type of personality is associated with the divergent learning style, and the extraverted thinking type of personality is associated with the convergent learning style.

Portrait of a Divergers

Divergers - Those with highest scores in **Concrete Experience (CE) and Reflective Observation (RO)**. Divergers have characteristics opposite from convergers. Their greatest strengths lie in creativity and imaginative ability. A person with this learning style excels in the ability to view concrete situations from many perspectives and generate many ideas such as in a "brainstorming" session. Research shows that Divergers are interested in people and tend to be imaginative and emotional. They tend to be interested in the arts and often have humanities or liberal arts backgrounds. Counselors, organizational development specialists, and personnel managers tend to be characterized by this learning style.

Portrait of an ISFP - Introverted Sensing Feeling Perceiving (Introverted Feeling with Extraverted Sensing)

The Artist

As an ISFP, your primary mode of living is focused internally, where you deal with things according to how you feel about them, or how they fit into your value system. Your secondary mode is external, where you take things in via your five sense in a literal, concrete fashion.

ISFPs live in the world of sensation possibilities. They are keenly in tune with the way things look, taste, sound, feel and smell. They have a strong aesthetic appreciation for art, and are likely to be artists in some form, because they are unusually gifted at creating and composing things which will strongly affect the senses. They have a strong set of values, which they strive to consistently meet in their lives. They need to feel as if they're living

their lives in accordance with what they feel is right, and will rebel against anything which conflicts with that goal. They're likely to choose jobs and careers which allow them the freedom of working towards the realization of their value-oriented personal goals.

ISFPs tend to be quiet and reserved, and difficult to get to know well. They hold back their ideas and opinions except from those who they are closest to. They are likely to be kind, gentle and sensitive in their dealings with others. They are interested in contributing to people's sense of well-being and happiness, and will put a great deal of effort and energy into tasks which they believe in.

ISFPs have a strong affinity for aesthetics and beauty. They're likely to be animal lovers, and to have a true appreciation for the beauties of nature. They're original and independent, and need to have personal space. They value people who take the time to understand the ISFP, and who support the ISFP in pursuing their goals in their own, unique way. People who don't know them well may see their unique way of life as a sign of carefree light-heartedness, but the ISFP actually takes life very seriously, constantly gathering specific information and shifting it through their value systems, in search for clarification and underlying meaning.

ISFPs are action-oriented individuals. They are "doers", and are usually uncomfortable with theorizing concepts and ideas, unless they see a practical application. They learn best in a "hands-on" environment, and consequently may become easily bored with the traditional teaching methods, which emphasize abstract thinking. They do not like impersonal analysis, and are uncomfortable with the idea of making decisions based strictly on logic. Their strong value systems demand that decisions are evaluated against their subjective beliefs, rather than against some objective rules or laws.

ISFPs are extremely perceptive and aware of others. They constantly gather specific information about people, and seek to discover what it means. They are usually penetratingly accurate in their perceptions of others.

ISFPs are warm and sympathetic. They genuinely care about people, and are strongly service-oriented in their desire to please. They have an unusually deep well of caring for those who are close to them, and are likely to show their love through actions, rather than words.

ISFPs have no desire to lead or control others, just as they have no desire to be led or controlled by others. They need space and time alone to evaluate the circumstances of their life against their value system, and are likely to respect other people's needs for the same.

The ISFP is likely to not give themselves enough credit for the things which they do extremely well. Their strong value systems can lead them to be intensely perfectionist, and cause them to judge themselves with unnecessary harshness.

The ISFP has many special gifts for the world, especially in the areas of creating artistic sensation, and selflessly serving others. Life is not likely to be extremely easy for the ISFP, because they take life so seriously, but they have the tools to make their lives and the lives of those close to them richly rewarding experiences.

Jungian functional preference ordering:

Dominant: Introverted Feeling

Auxilliary: Extraverted Sensing

Tertiary: Introverted Intuition

Inferior: Extraverted Thinking

Table 10 (c): Summary of Hypotheses (Comparison between Lao & Thailand)

Hypothesis I	There are no significant differences between Lao and Thailand hospitality students when compared by the following demographic variables:	
	Gender of Student	Rejected
	Age of Student	Rejected
	Work Status of Student	Rejected
Hypothesis II	There are no significant differences between Lao and Thailand hospitality students when compared by the following Learning Stage, dimension and Learning style variables:	
	Learning Stage	Rejected
	Learning Dimension	Rejected
	Learning style	Rejected
Hypothesis III	There are no significant differences between Lao and Thailand hospitality students when compared by the following personality types' variables:	
	Mean of four Personal Dimensions	Partially Rejected
	Extroversion-Introversion Dimension	Rejected
	Sensing-iNtuition Dimension	Rejected
	Thinking-Feeling Dimension	Rejected
	Judging-Perceiving Dimension	Rejected
	16 Personality Types	Rejected

For Hypothesis I (Comparison between Lao PDR and Thailand) - Among 440 Lao students and 380 Thailand students surveyed, Lao students had higher proportion of males than Thailand students (68.64% vs. 41.32%; $\chi^2=61.76$, $p=0.000$) while Thailand students had higher proportion of females than Lao students. As p-value is significant in this case we reject the hypothesis I of no difference and conclude that significant differences were detected based on gender of student between Lao and Thailand.

It is observed that, % of students in the age range 18 to 22 was more in Thailand than Lao PDR (82% vs 86%) ($\chi^2=28.07$, $p = 0.000$). As p-value is significant in this case we reject the hypothesis I of no difference and conclude that significant differences were detected based on Age of student between Lao and Thailand.

Lao students had higher proportion of working students than Thailand students (44.32% vs 28.16% $\chi^2=22.88$, $p =0.000$). And Thailand students had more proportion of non working students than Lao non working students (71.84% vs 55. 68%, $\chi^2=22.88$, $p =0.000$). As p-value is significant in this case we reject the hypothesis I of no difference and conclude that significant differences were detected based on work status of student between Lao and Thailand. Lao students had higher proportions of working males (30% vs 9.74%) than working Thailand students but Thailand student had higher proportion of non-working female students (17.05% vs 402.26%) as compared to non-working females from Lao. As p-value is significant ($\chi^2=85.17.7$, $p = 0.000$) in this case we reject the hypothesis I of no difference and conclude that significant differences were detected based on gender and work status of students between Lao and Thailand.

For Hypothesis II (Comparison between Lao PDR and Thailand) - Of the four learning stages, there were differences between Lao and Thailand students at each Learning stage i.e. RO (27.38 vs 33.69) , AC (26.04 vs 27.31), CE (34.11 vs 34.52), AE (32.47 vs 24.46) . Also there were differences were detected for learning dimensions between Lao and Thailand students i.e. AC-CE (-8.07 vs -7.22) and AE-RO (5.83 vs 4.17). As p-value is significant in this case, we reject the hypothesis II of no difference for Learning stages and Learning Dimensions between Loas and Thailand students and conclude that significant differences were detected based on Learning stages and Learning Dimensions of students between Lao and Thailand.

Regarding learning style distributions, 99% ($n = 436$) of the Lao students were Accommodators, followed by 1 % ($n = 4$) Divergers and remaining were zero percent. On the other hand, 92% of the Thailand students were Divergers ($n = 347$), 1% Accommodators

(n=4), followed by 5% Assimilators (n=19) and finally 2% Convergents (n=10). As p-value is significant in all these cases we reject the hypothesis II of no difference for the Learning styles of the students between Lao and Thailand and conclude that significant differences were detected based on Learning Styles of student between Lao and Thailand.

For the Hypothesis III (Comparison between Lao PDR and Thailand) - As p-value is significant () in for E, I, S and N we reject the hypothesis of no difference and conclude that significant differences were detected based on these personality types of student between Lao and Thailand. But, as p-value is not significant in for T,F,P and J we accept the hypothesis of no difference and conclude that there were no significant differences based on these personality types of student between Lao and Thailand. So keeping the fact in mind that 4 Personality Dimensions showed significant differences (Based on Mean Score) and 4 Personality Dimensions did not show the significant differences, we partially reject the hypothesis III of no difference for Personality Dimensions of students between Lao and Thailand.

As p-value (0.000)is significant in all these cases we reject the hypothesis III of no difference between Personality Dimensions of students between Lao and Thailand and conclude that significant differences were detected based on Personality Dimensions of student between Lao and Thailand.

As p-value (0.000) is significant we reject the hypothesis III of no difference between 16 personality types of students from Lao and Thailand and conclude that significant differences were detected based on 16 Personality Types of students between Lao and Thailand.

Hospitality managers have different personality traits from those of managers in general (Stone 1988). Stuart (1992) highlighter several factors that have an impact on how effectively people can learn. These factors include age or generation, education, culture,

language fluencies and types of intelligence, learning environment, beliefs and attitudes, learning strategies and source of motivation as well as learning styles and personality types.

Yet to date there has been minimal research that addresses the basic question of what kind of learning style and personality types Lao and Thai hospitality undergraduate have. There for this study attempted to answer the question of what distinguishes the hospitality undergraduate students by examining their learning style and personality type.

Furthermore this study looked at how gender, age and work status differences might play a role in the differences among hospitality under graduate students from Lao and Thailand.

Knowing the learning style of a particular hospitality undergraduate student or group of students can be useful in choosing the compatible method of learning since it is essentially a learning experience where an individual is taught to handle complex situations. For hospitality educators and hospitality program administrators knowing the learning styles of their students can be useful for designing more effective teaching plans based upon student's learning style distribution to enhance student's strengths and compensate for their weakness. It also would benefit program administrators to know if they can more effectively recruit transfer students by understanding which learning styles would have better opportunities to be successful in the hospitality careers. This could lead to better advisement from faculty to their students in developing learning strategies and career plans. Personality traits make a difference in how individuals learn and what they learn according to Myer and McCauley (1985b). Considering Jung's Personality Style Inventory, majority of Thai students were identified as 'ISFP' . Considering Kolb's Learning style inventory majority Thai students were identified to be 'Divergers'.

ISFP could be described in brief as - Quiet, serious, sensitive and kind. Do not like conflict, and not likely to do things which may generate conflict. Loyal and faithful. Extremely well-developed senses, and aesthetic appreciation for beauty. Not interested in leading or controlling others. Flexible and open-minded. Likely to be original and creative. Enjoy the present moment.

Divergers could be described briefly as - Those with highest scores in Concrete Experience (CE) and Reflective Observation (RO). Divergers have characteristics opposite from convergers. Their greatest strengths lie in creativity and imaginative ability. A person with this learning style excels in the ability to view concrete situations from many perspectives and generate many ideas such as in a "brainstorming" session. Research shows that Divergers are interested in people and tend to be imaginative and emotional. They tend to be interested in the arts and often have humanities or liberal arts backgrounds. Counselors, organizational development specialists, and personnel managers tend to be characterized by this learning style.

Considering Jung's Personality Style Inventory majority of Lao students were identified as 'ESFJ'. Considering Kolb's learning style inventory majority Lao students were identified to be Accommodators.

ESFJ could be described in brief as - Warm-hearted, popular, and conscientious. Tend to put the needs of others over their own needs. Feel strong sense of responsibility and duty. Value traditions and security. Interested in serving others. Need positive reinforcement to feel good about themselves. Well-developed sense of space and function.

Accommodators can be described briefly as - Those with highest scores in Concrete Experience (CE) and Active Experimentation (AE). Accommodators are polar opposites from Assimilators. Their greatest strengths lie in carrying out plans and experiments and involving themselves in new experiences. They are risk-takers and excel in those situations

requiring quick decisions and adaptations. In situations where a theory or plan does not fit the "facts," they tend to discard it and try something else. They often solve problems in an intuitive trial and error manner, relying heavily on other people for information. Accommodators are at ease with people but may be seen as impatient and "pushy." Their educational background is often in practical fields such as business or education. They prefer "action-oriented" jobs such as nursing, teaching, marketing, or sales.

Chapter 8

Future Research

Future Research

This benchmark study has provided an initial exploration of learning styles and personality types of hospitality undergraduate students in Lao PDR and Thailand. This study also provided the initial comparison of learning styles and personality types of undergraduate hospitality / tourism management students from Lao PDR and Thailand. There is certainly a scope and need for further research regarding hospitality / tourism management students, educators, and administrators. The following areas are suggested:

1. Conduct research to identify, relate, and compare learning styles and personality types between hospitality and tourism students and hospitality and tourism educators.
2. Consider research to identify students' learning styles and personality types using the concept of student's academic achievement.
3. Consider doing a four-year longitudinal tracking study on the learning styles and personality types of hospitality students from freshman to senior year.
4. Replicate the current study using random samples; consider all hospitality programs in Lao PDR and in Thailand and try to establish population norms of Learning styles and Personality types.
5. Consider research to identify students' learning styles and personality types using the concept of effect of culture.
6. Further investigate the differences between undergraduate and post graduate hospitality and tourism students regarding learning styles and personality types.
7. Replicate the current study in other South East Asian countries.

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LAO PEOPLE'S DEMOCRATIC REPUBLIC
PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY



Ministry of Education
National University of Laos
Faculty of Social Sciences

To,
Mr. Ameya Ghanekar,
Head of Department – Sripatum University,
PhD Scholar (Tilak Maharashtra University)

This is to certify that you are allowed to conduct a research on the below mentioned topic:

‘Identification of Learning Styles and Personality Types of Lao students at National University of Laos.’

His research results would be an important mile stone in the field of Hospitality and Tourism Education. I appreciate his enthusiasm, honesty and professionalism.

According to me this topic – Learning Styles and Personality Identification of Lao students studying Hospitality and Tourism Management is extremely unique topic and I am sure Mr. Ameya Ghanekar’s contribution will be very valuable for the Hospitality and Tourism teaching fraternity world wide.

I would like to wish you all the very best for the research.

Date April 2, 2009

Dean

Phout Simmalavong



มหาวิทยาลัยศรีปทุม
Sripatum University

Date – 20th April 2009

To,
Mr. Ameya Ghanekar
Lecturer – Hotel Management,
Sripatum University,
Bangkok, Thailand.

This is to certify that Mr. Ameya Ghanekar who is working at Sripatum University, Bangkok, Thailand as Full Time Lecture – Hotel Management, was allowed to do research as part of his doctoral dissertation ‘Personality Types and Learning Style preferences of Hospitality and Tourism students in South East Asian Counties (Thailand)’.

He conducted research at the University in Liberal Arts – Hotel and Tourism Faculty as well as at International College – Hotel Management Faculty and has been successful in collecting a sample size of 380 students. He has also taken interviews of lectures teaching Hotel and Tourism Management at the University.

Mr. Ameya Ghanekar’s research findings will be useful for the Hospitality and Tourism educators to understand the Learning Styles as well as Personality Types of students from South East Asian Countries (Thailand) and would lead to synchronization of teaching strategies and learning styles.

He is an extremely focused, consistent, hardworking and proactive researcher and I wish him all the best for his doctoral dissertation.

Sincerely

Dr. Piyakorn Whangmahaporn
Director of Research Bureau
Sripatum University



กรุงเทพฯ	61 ถนนพหลโยธิน แขวงสามยุคใหม่ เขตจตุจักร กรุงเทพมหานคร 10900	โทร. 0-2579-1111, 0-2561-2222 โทรสาร 0-2561-1721	www.spu.ac.th
วิทยาเขตชลบุรี	79 ถนนบางนา-ตราด ตำบลเนิน้อย จังหวัดชลบุรี 20000	โทร. 0-3874-3690-703 โทรสาร 0-3827-6590	www.east.spu.ac.th
วิทยาเขตพญาไท	979 SM Tower ชั้น 17 ถนนพหลโยธิน เขตพญาไท กรุงเทพมหานคร 10400	โทร. 0-2298-0181-3 โทรสาร 0-2298-0185	www.spu.ac.th
RANGKHEN	61 Phaholyothin Rd. Jaijok, Bangkok Thailand 10900	Tel: 0-2579-1111, 0-2561-2222 Fax: 0-2561-1721	
CHONBURI CAMPUS	79 Bangna-Trad Rd. Klonglamru, Muang Chonburi Thailand 20000	Tel: 0-3874-3690-703 Fax: 0-3827-6590	
PHAYATHAI CAMPUS	979 SM Tower Floor 17, Phaholyothin Rd. Payathai Bangkok Thailand 10400	Tel: 0-2298-0181-3 Fax: 0-2298-0185	

PERSONAL STYLE INVENTORY

The following items are arranged in pairs (a and b), and each member of the pair represents a preference. You may or may not hold. Rate your preference for each item by giving it a score of 0 to 5 (0 meaning you really feel negative about it or strongly about the other member of the pair, 5 meaning you strongly prefer it or do not prefer the other member of the pair). The scores for a and b **MUST ADD UP TO 5** (0 and 5, 1 and 4, 2 and 3, etc.). *Do not use fractions such as 2 1/2.*

I prefer:

- 1a. _____ making decisions after finding out what others think.
- 1b. _____ making decisions without consulting others.

- 2a. _____ being called imaginative or intuitive.
- 2b. _____ being called factual and accurate.

- 3a. _____ making decisions about people in organizations based on available data and systematic analysis of situations.
- 3b. _____ making decisions about people in organizations based on empathy, feelings, and understanding of their needs and values.

- 4a. _____ allowing commitments to occur if others want to make them.
- 4b. _____ pushing for definite commitments to ensure that they are made.

- 5a. _____ quiet, thoughtful time alone.
- 5b. _____ active, energetic time with people.

- 6a. _____ using methods I know well that are effective to get the job done.
- 6b. _____ trying to think of new methods of doing tasks when confronted with them.

- 7a. _____ drawing conclusions based on unemotional logic and careful step-by-step analysis.
- 7b. _____ drawing conclusions based on what I feel about life and people from past experiences.

- 8a. _____ avoiding making deadlines.
- 8b. _____ setting a schedule and sticking to it.

- 9a. _____ inner thoughts and feeling others cannot see.
- 9b. _____ activities and occurrences in which others join.

- 10a. _____ the abstract or theoretical.
- 10b. _____ the concrete or real.

- 11a. _____ helping others explore their feelings.
11b. _____ helping others make logical decisions.
- 12a. _____ communicating little of my inner thinking and feelings.
12b. _____ communicating freely my inner thinking and feelings.
- 13a. _____ planning ahead based on projections.
13b. _____ planning as necessities arise, just before carrying out the plans.
- 14a. _____ meeting new people.
14b. _____ being alone or with one person I know well.
- 15a. _____ ideas.
15b. _____ facts.
- 16a. _____ convictions.
16b. _____ verifiable conclusions.
- 17a. _____ keeping appointments and notes about commitments in notebooks or in appointment books as much as possible.
17b. _____ using appointment books and notebooks as minimally as possible (although I may use them).
- 18a. _____ carrying out carefully laid, detailed plans with precision.
18b. _____ designing plans and structures without necessarily carrying them out.
- 19a. _____ being free to do things on the spur of the moment.
19b. _____ knowing well in advance what I am expected to do.
- 20a. _____ experiencing emotional situations, discussions, movies.
20b. _____ using my ability to analyze situations.

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PERSONAL STYLE INVENTORY

หัวข้อต่อไปนี้อาจเรียงเป็นคู่ (a และ b) และหัวข้อย่อยแต่ละคู่ใช้แทนความพึงพอใจ ระบุความพึงพอใจในแต่ละหัวข้อโดยให้คะแนนแต่ละหัวข้อตั้งแต่ 0 ถึง 5 (0 หมายถึง คุณไม่เห็นด้วยกับหัวข้อนั้นจริงๆ หรือเห็นด้วยอย่างมาในอีกหัวข้อในคู่เดียวกัน 5 หมายถึง คุณชอบหัวข้อนั้นมาก และไม่ชอบหัวข้อที่อยู่คู่กัน) คะแนนสำหรับ a และ b ในแต่ละคู่ต้องรวมกันได้ 5 คะแนน (0 และ 5, 1 และ 4, 2 และ 3 เป็นต้น) ห้ามใส่คะแนนเป็นเศษส่วน เช่น 2.5

1. a _____ ตัดสินใจหลังจากที่รู้ว่าผู้อื่นคิดอย่างไร
b _____ ตัดสินใจโดยไม่ปรึกษาผู้อื่น
2. a _____ คุณเรียกว่า เป็นคนที่มีจินตนาการหรือมีสัญชาตญาณ
b _____ คุณเรียกว่าเป็นคนที่อยู่กับความจริงและเที่ยงตรง
3. a _____ ตัดสินใจเกี่ยวกับคนบนพื้นฐานของข้อมูลที่มีอยู่และระบบวิเคราะห์สถานการณ์
b _____ ตัดสินใจเกี่ยวกับคนบนพื้นฐานของความเห็นอกเห็นใจ ความรู้สึก และความเข้าใจในความต้องการและคุณค่าของพวกเขา
4. a _____ อนุญาตให้มีข้อตกลงถ้าผู้อื่นต้องการให้มีข้อตกลง
b _____ สนับสนุนให้มีข้อตกลงที่แน่นอนเพื่อให้แน่ใจว่ามีการทำตามอย่างข้อตกลงนั้น
5. a _____ เงียบและช่างคิดเมื่ออยู่คนเดียว
b _____ กระตือรือร้น และเต็มไปด้วยพลังเมื่ออยู่กับผู้อื่น
6. a _____ ใช้วิธีการที่รู้ดีว่ามีประสิทธิภาพเพื่อที่จะทำให้งานสำเร็จลง
b _____ พยายามที่จะคิดหาวิธีการใหม่ ๆ ในการทำงานเมื่อเผชิญกับงาน
7. a _____ ตั้งข้อสรุปบนพื้นฐานของเหตุผลโดยไม่ใช้อารมณ์ความรู้สึก และระมัดระวังในการวิเคราะห์ทีละครั้ง
b _____ ตั้งข้อสรุปบนพื้นฐานของสิ่งที่ฉันรู้สึกเกี่ยวกับชีวิตและผ่านจากประสบการณ์ในอดีต
8. a _____ หลีกเลี่ยงการกำหนดเส้นตาย
b _____ ชอบจัดตารางเวลาและยึดติดกับตารางเวลานั้น ๆ
9. a _____ มีความคิดภายในและรู้สึกว่าผู้อื่นไม่สามารถมองเห็น
b _____ กิจกรรมและเหตุการณ์ ที่มีคนอื่น ๆ ร่วมด้วย
10. a _____ สิ่งที่เป็นนามธรรมหรือสิ่งที่เป็นทฤษฎี
b _____ สิ่งที่เป็นรูปธรรมหรือสิ่งที่เป็นจริง

11. a _____ ช่วยผู้อื่นสำรวจความรู้สึกของเขา ช่วยผู้อื่นตัดสินใจอย่างมีเหตุผล
b _____ ช่วยผู้อื่นตัดสินใจอย่างมีเหตุผล
12. a _____ สื่อสารความคิดและความรู้สึกภายในของตนอย่างจำกัด
b _____ สื่อสารความคิดและความรู้สึกภายในอย่างอิสระ
13. a _____ วางแผนอนาคตบนพื้นฐานของความมั่นใจ
b _____ วางแผนเกี่ยวกับสิ่งสำคัญที่จะเกิดขึ้น ก่อนที่จะนำแผนไปใช้
14. a _____ ชอบพบปะผู้คนใหม่ ๆ
b _____ ชอบอยู่คนเดียวหรืออยู่กับบุคคลที่ฉันรู้จักดี
15. a _____ ความคิด
b _____ ความจริง
16. a _____ ความมั่นใจ
b _____ ข้อสรุปที่พิสูจน์ได้
17. a _____ จากการนัดหมายหรือข้อความที่มีผลผูกพันในสมุดบันทึกหรือสมุดนัดหมายมาก
เท่าที่จะทำได้
b _____ ใช้สมุดนัดหมายหรือสมุดบันทึกน้อยที่สุดที่จะทำได้ (ถึงแม้ว่าฉันอาจใช้มัน)
18. a _____ ใส่ใจในการวางแผนงานที่มีรายละเอียดอย่างชัดเจน
b _____ ออกแบบแผนและโครงสร้างโดยไม่ได้ใส่ใจรายละเอียด
19. a _____ มีความเป็นอิสระในการทำงานในช่วงเวลาหนึ่ง
b _____ มีความรู้เป็นอย่างดีในสิ่งที่ฉันคาดว่าจะทำ
20. a _____ ใช้ประสบการณ์วิเคราะห์สถานการณ์ทางอารมณ์ต่าง ๆ, การอภิปรายต่าง ๆ
ภาพยนตร์ต่าง ๆ
b _____ ใช้ความสามารถของตนเองในการวิเคราะห์สถานการณ์

PERSONAL STYLE INVENTORY SCORING

Instructions: transfer your scores for each item of each pair to the appropriate blanks. Be careful to check the *a* and *b* letters to be sure you are recording scores in the right blank spaces. Then total the scores for each dimension.

Dimension		Dimension	
Introversion (I)	Extroversion (E)	iNtuition (N)	Sensing (S)
1b. _____	1a. _____	2a. _____	2b. _____
5a. _____	5b. _____	6b. _____	6a. _____
9a. _____	9b. _____	10a. _____	10b. _____
12a. _____	12b. _____	15a. _____	15b. _____
14b. _____	14a. _____	18b. _____	18a. _____
TOTALS: I _____	TOTALS: E _____	TOTALS: N _____	TOTALS: S _____

Dimension		Dimension	
Thinking (T)	Feeling (F)	Perceiving (P)	Judging (J)
3a. _____	3b. _____	4a. _____	4b. _____
7a. _____	7b. _____	8b. _____	8a. _____
11b. _____	11a. _____	13b. _____	13a. _____
16b. _____	16a. _____	17b. _____	17a. _____
20b. _____	20a. _____	19a. _____	19b. _____
TOTALS: T _____	TOTALS: F _____	TOTALS: P _____	TOTALS: J _____

YOUR PERSONALITY SIGNATURE IS:

Note: I + E Scores should = 25
 N + S Scores should = 25
 T + F Scores should = 25
 P + J Scores should = 25

If you score is:

12 - 13

14 - 15

16 - 19

20 - 25

The likely interpretation is:

balance in the strengths of the dimensions

some strength in the dimension; some weakness in the other member of the pair

definite strength in the dimension; definite weakness in the other member of the pair

considerable strength in the dimension; considerable weakness in the other member of the pair

Your typology is those four dimensions for which you had scores of 14 or more, although the relative strengths of all the dimensions actually constitute your typology. Scores of 12 or 13 show relative balance in a pair so that either member could be part of the typology.

ชื่อ.....นามสกุล.....

แบบสำรวจลักษณะนิสัยการเรียนรู้ (Learning Style Inventory)

1. เมื่อข้าพเจ้าเรียนรู้เรื่องหนึ่งเรื่องใด

A___ข้าพเจ้าให้ความสำคัญกับความรู้สึกรับรู้ของตัวเองต่อเรื่องนั้น	B___ข้าพเจ้าชอบที่จะเฝ้าดูและรับฟังเรื่องนั้น	C___ข้าพเจ้าชอบที่จะตรึงตรองหาเหตุผลและแนวคิดของเรื่องนั้น	D___ข้าพเจ้าชอบที่จะลงมือปฏิบัติในเรื่องนั้น
---	---	--	--
2. ข้าพเจ้าเรียนรู้ได้ดีที่สุดเมื่อ

A___ข้าพเจ้าเชื่อมั่นในความรู้สึกและความสันทัดใจของตนเอง	B___ข้าพเจ้าตั้งใจฟังและเฝ้าดูเรื่องนั้นอย่างระมัดระวัง	C___ข้าพเจ้าอาศัยการคิดที่เป็นเหตุเป็นผล	D___ข้าพเจ้าลงมือปฏิบัติอย่างหนักเพื่อทำงานนั้น ๆ สำเร็จลุล่วง
--	---	--	--
3. ในขณะที่ข้าพเจ้ากำลังศึกษาเรื่องหนึ่งเรื่องใด

A___ข้าพเจ้าจะมีความรู้สึกและปฏิกิริยาต่อเรื่องนั้น ๆ อย่างรุนแรง	B___ข้าพเจ้าจะนิ่งและสวางนท่าทีต่อเรื่องนั้น	C___ข้าพเจ้ามักจะหาคำตอบด้วยการคิดหาเหตุผล	D___ข้าพเจ้าจะรับผิดชอบดำเนินการในเรื่องนั้น ๆ
---	--	--	--
4. ข้าพเจ้าเรียนรู้เรื่องต่างๆ โดย

A___การใช้ความรู้สึกของตนเอง	B___การเฝ้าดู	C___การใช้ความคิด	D___การลงมือปฏิบัติ
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5. เมื่อข้าพเจ้าเรียนรู้เรื่องหนึ่งเรื่องใด

A___ข้าพเจ้าพร้อมที่จะรับประสบการณ์ใหม่ๆ	B___ข้าพเจ้าศึกษาเรื่องนั้นอย่างรอบด้าน	C___ข้าพเจ้าชอบที่จะวิเคราะห์และแยกแยะเรื่องนั้นออกเป็นประเด็นต่างๆ	D___ข้าพเจ้าชอบที่จะทดลองปฏิบัติ
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6. ในขณะที่ข้าพเจ้ากำลังศึกษาเรื่องหนึ่งเรื่องใด

A___ข้าพเจ้าเป็นคนที่มีความวิตกกังวล	B___ข้าพเจ้าเป็นคนช่างสังเกต	C___ข้าพเจ้าเป็นคนที่มีความผิดพลาด	D___ข้าพเจ้าเป็นนักปฏิบัติ
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7. ข้าพเจ้าเรียนรู้ได้ดีที่สุดจาก

A___การมีสัมพันธภาพส่วนบุคคล	B___การสังเกต	C___การใช้ทฤษฎีที่เป็นเหตุเป็นผล	D___การมีโอกาสได้ทดลองและลงมือปฏิบัติ
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8. เมื่อข้าพเจ้าเรียนรู้เรื่องหนึ่งเรื่องใด

A___ข้าพเจ้ารู้สึกว่าคุณค่ามีส่วนร่วมในเรื่องนั้น ๆ	B___ข้าพเจ้าใช้เวลาพิจารณาก่อนลงมือปฏิบัติ	C___ข้าพเจ้าสนใจศึกษาแนวคิดและทฤษฎีที่เกี่ยวข้อง	D___ข้าพเจ้าต้องการเห็นผลจากงานที่ข้าพเจ้าได้ลงมือปฏิบัติ
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9. ข้าพเจ้าเรียนรู้ได้ดีที่สุดเมื่อ

A___ข้าพเจ้าใช้ความรู้สึกของตนเอง	B___ข้าพเจ้าใช้การสังเกต	C___ข้าพเจ้าใช้ความคิดของตนเอง	D___ข้าพเจ้าสามารถทดลองปฏิบัติด้วยตนเอง
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10. ในขณะที่ข้าพเจ้ากำลังศึกษาเรื่องหนึ่งเรื่องใด

A___ข้าพเจ้าเป็นคนที่ยอมรับความคิดเห็นของผู้อื่น	B___ข้าพเจ้าเป็นคนที่ไม่ชอบแสดงออก	C___ข้าพเจ้าเป็นคนที่ใช้เหตุผลโดยตรง	D___ข้าพเจ้าเป็นคนที่มีความรับผิดชอบ
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11. เมื่อข้าพเจ้าเรียนรู้เรื่องหนึ่งเรื่องใด

A___ข้าพเจ้าจะเข้าไปมีส่วนร่วมในเรื่องนั้น ๆ	B___ข้าพเจ้าชอบสังเกตการณ์อยู่ภายนอก	C___ข้าพเจ้าชอบประเมินคุณค่าของเรื่องนั้น ๆ	D___ข้าพเจ้าชอบที่จะลงมือปฏิบัติ
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12. ข้าพเจ้าเรียนรู้ได้ดีที่สุดเมื่อ

A___ข้าพเจ้าเปิดใจรับความคิดเห็นของผู้อื่นต่อเรื่องนั้น ๆ	B___ข้าพเจ้าศึกษาเรื่องนั้นอย่างรอบคอบ	C___ข้าพเจ้าวิเคราะห์แนวคิดในเรื่องนั้น ๆ	D___ข้าพเจ้าสามารถปรับทฤษฎีไปสู่การปฏิบัติ
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คะแนนรวมในแต่ละคอลัมน์ คอลัมน์ A คอลัมน์ B คอลัมน์ C คอลัมน์ D

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LEARNING-STYLE INVENTORY

The Learning-Style Inventory describes the way you learn and how you deal with ideas and day-to-day situations in your life. Below are 12 sentences with a choice of endings. Rank the endings for each sentence according to how well you think each one fits with how you would go about learning something. Try to recall some recent situations where you had to learn something new, perhaps in your job or at school. Then, using the spaces provided, rank a "4" for the sentence ending that describes how you learn *best*, down to a "1" for the sentence ending that seems least like the way you learn. Be sure to rank all the endings for each sentence unit. Please do not make ties.

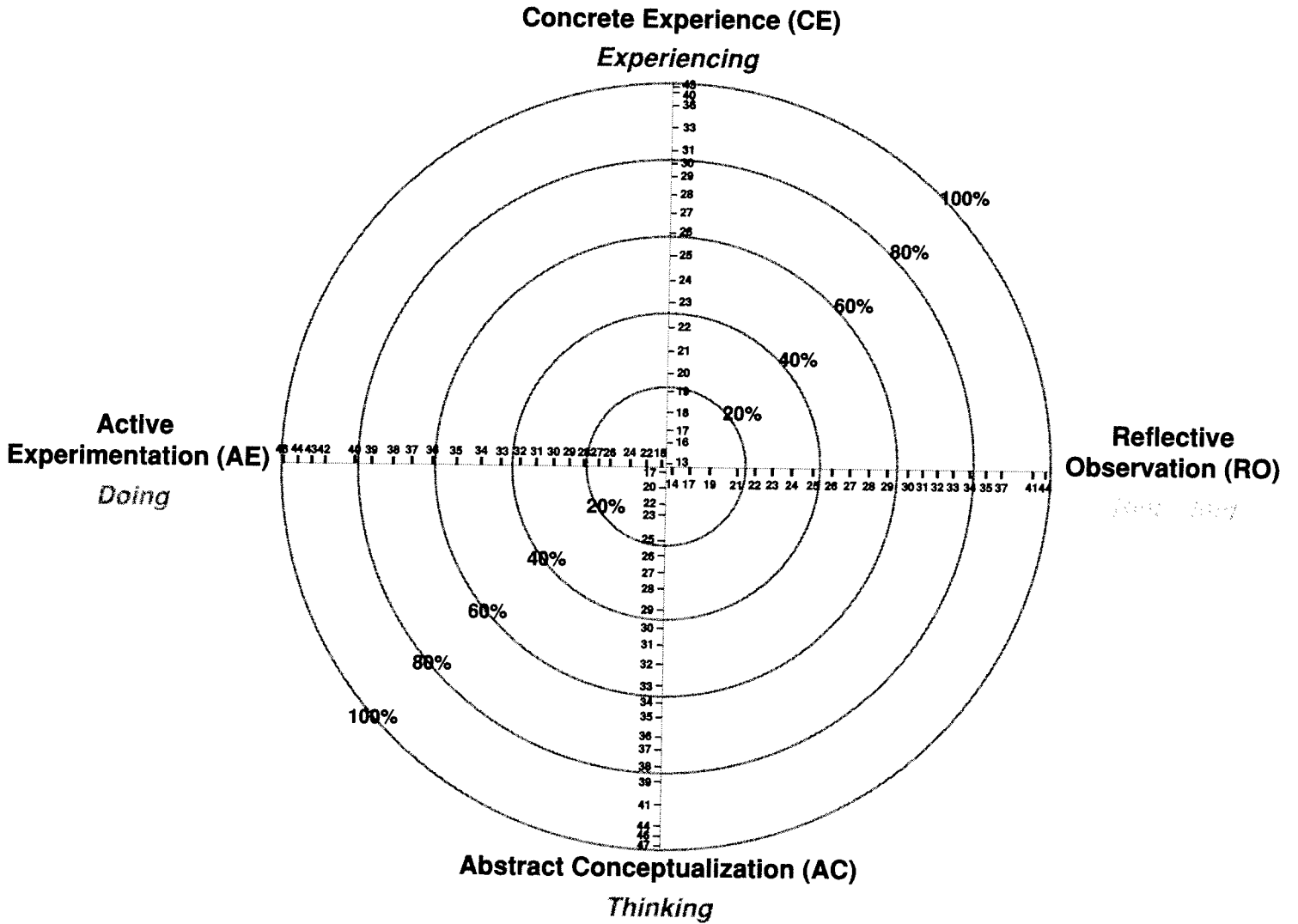
Example of completed sentence set:

1. When I learn: 2 I am happy. 1 I am fast. 3 I am logical. 4 I am careful.

Remember: 4 = most like you 3 = second most like you 2 = third most like you 1 = least like you

	A		B		C		D	
1. When I learn:	—	I like to deal with my feelings.	—	I like to think about ideas.	—	I like to be doing things.	—	I like to watch and listen.
2. I learn best when:	—	I listen and watch carefully.	—	I rely on logical thinking.	—	I trust my hunches and feelings.	—	I work hard to get things done.
3. When I am learning:	—	I tend to reason things out.	—	I am responsible about things.	—	I am quiet and reserved.	—	I have strong feelings and reactions.
4. I learn by:	—	feeling.	—	doing.	—	watching.	—	thinking.
5. When I learn:	—	I am open to new experiences.	—	I look at all sides of issues.	—	I like to analyze things, break them down into their parts.	—	I like to try things out.
6. When I am learning:	—	I am an observing person.	—	I am an active person.	—	I am an intuitive person.	—	I am a logical person.
7. I learn best from:	—	observation.	—	personal relationships.	—	rational theories.	—	a chance to try out and practice.
8. When I learn:	—	I like to see results from my work.	—	I like ideas and theories.	—	I take my time before acting.	—	I feel personally involved in things.
9. I learn best when:	—	I rely on my observations.	—	I rely on my feelings.	—	I can try things out for myself.	—	I rely on my ideas.
10. When I am learning:	—	I am a reserved person.	—	I am an accepting person.	—	I am a responsible person.	—	I am a rational person.
11. When I learn:	—	I get involved.	—	I like to observe.	—	I evaluate things.	—	I like to be active.
12. I learn best when:	—	I analyze ideas.	—	I am receptive and open-minded.	—	I am careful.	—	I am practical.

THE CYCLE OF LEARNING (version 3.1)



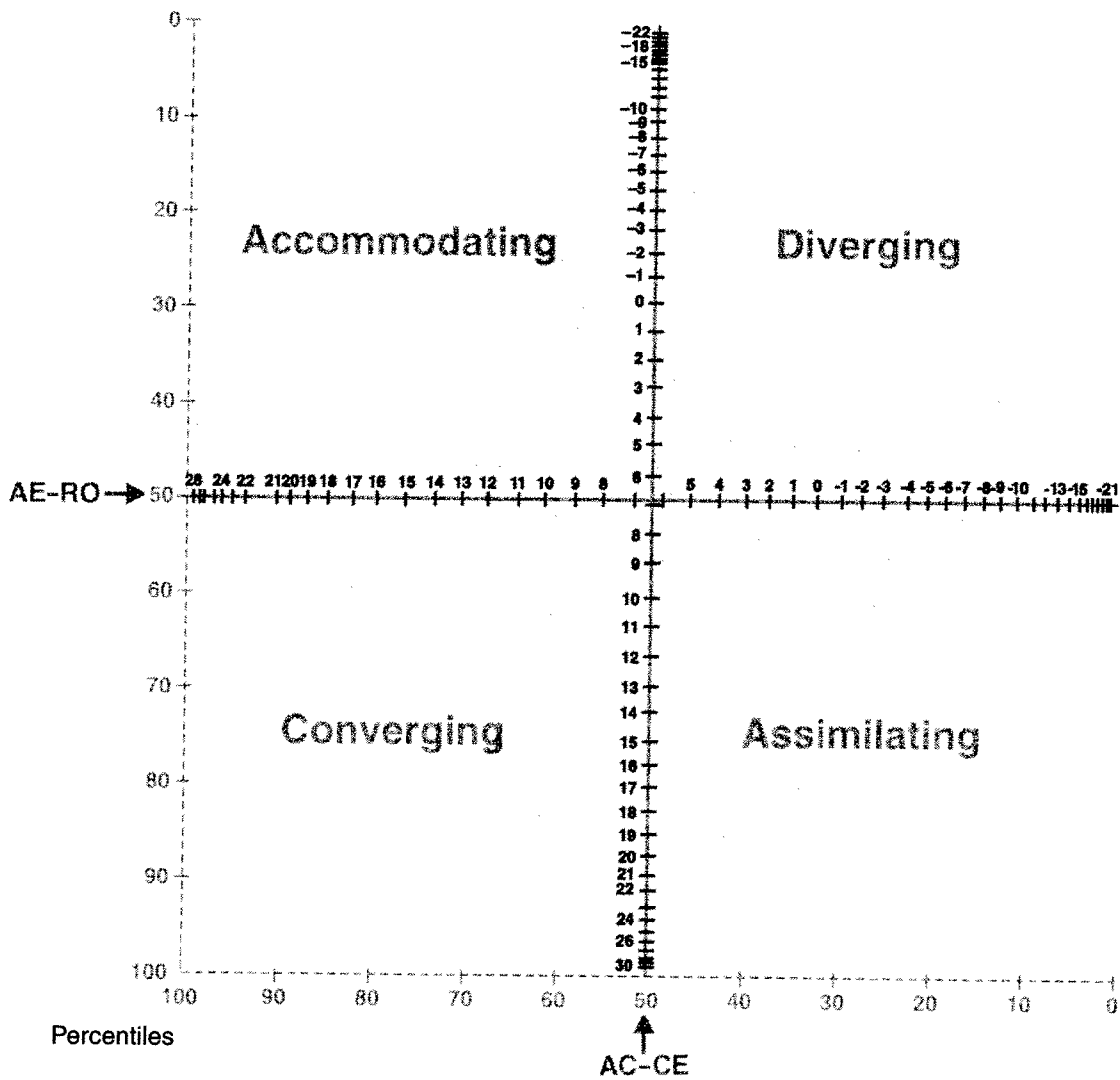
— +	— +	— +	— +	— +	— +	— +	— +	— +	— +	— +	—	= <input type="text"/>
1A	2C	3D	4A	5A	6C	7B	8D	9B	10B	11A	12B	CE Total

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1D	2A	3C	4C	5B	6A	7A	8C	9A	10A	11B	12C	RO Total

— +	— +	— +	— +	— +	— +	— +	— +	— +	— +	— +	—	= <input type="text"/>
1B	2B	3A	4D	5C	6D	7C	8B	9D	10D	11C	12A	AC Total

— +	— +	— +	— +	— +	— +	— +	— +	— +	— +	— +	—	= <input type="text"/>
1C	2D	3B	4B	5D	6B	7D	8A	9C	10C	11D	12D	AE Total

LEARNING-STYLE TYPE GRID (version 3.1)



CONDITIONAL USE AGREEMENT

For good and valuable consideration, the receipt and legal sufficiency of which are hereby acknowledged, I hereby agree that the permission granted to me by the Hay Group ("Hay") to receive and utilize, without charge, the Learning Style Inventory Version 3.1 ("LSI") is subject to the following conditions, all of which I hereby accept and acknowledge:

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7. Hay will not be deemed to have made any representation or warranty, express or implied, in connection with the LSI, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.
8. My rights under this Agreement are non-transferable and non-exclusive and will be limited to a period of two (2) years from the date of this Agreement.
9. Hay may immediately terminate this Agreement by giving written notice to me in the event I breach any of this Agreement's terms or conditions.
10. This Agreement will be construed in accordance with the laws of Massachusetts without recourse to its conflict of laws principles.

11. This Agreement may not be assigned by me without the prior written consent of Hay.

12. Failure by Hay to enforce any provisions of this Agreement will not be deemed a waiver of such provision, or any subsequent violation of the Agreement by me.

13. This is the entire agreement with Hay pertaining to my receipt and use of the LSI, and only a written amendment signed by an authorized representative of Hay can modify this Agreement.

Agreed and understood:


Signature

AMEVA GHANEKAR
Print Name

29/05/2009
Date