

**THE INFLUENCE OF DEMOGRAPHIC AND PERSONALITY
CHARACTERISTICS ON LANDSCAPE PREFERENCE AMONG
HIGH SCHOOL STUDENTS IN ISFAHAN, IRAN**

by

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**Thesis submitted in fulfillment of the requirements
for the degree of
Master of Science**

March 2015

ACKNOWLEDGMENT

It is my radiant sentiment to place on record my best regards, deepest sense of gratitude to Associate Professor Doctor Aldrin Abdullah, my main supervisor, and Doctor Shahizan Hasan, my second supervisor, for their careful and precious guidance which were extremely valuable and constructive for my study both theoretically and practically. I am also thankful for having a chance to meet so many wonderful people and professionals who led me and keep me on the correct path.

I am sincerely grateful to the Department of Education in Isfahan for the cooperation to do this study.

Last but not the least, my special appreciation is dedicated to my parents, Dr. Minoo Sadeghi and Mr. Mohammad Alizadeh for their unconditional support, both emotionally and financially, in particular, my mother whose guidance and instructions as well as precious presence throughout my degree was a great help in fulfillment of my study. And also the companionship and encouragement shown by my dear sister, Azar Alizadeh during the honor years is greatly appreciated.

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GLOSSARY OF ABBREVIATIONS

16PF-C	Sixteen Personality Factor Questionnaire Form C
ANOVA	Analysis of Variance
Cattell's 16PF	Cattell's 16 Personality Factor
df	Degree of freedom
EQ	Emotional Quotient
EPP	Eysenck Personality Profiler
EPQ	Eysenck Personality Questionnaire
FFI	Five Factor Inventory
GIFFI	Group Inventory for Finding Interests
IQ	Intelligence Quotient
LEI	Life Experience Inventory
LSD	(Fisher's) least significant difference test
MMPI	Minnesota Multiphasic Personality Inventory
NEO-PI	NEO Personality Inventory Manual
P-P Plot	Probability-Probability Plot
Q-Q Plot	Quantile-Quantile Plot
TCT-DP	Test of Creative Thinking (Divergent Production)
Tukey's HSD	Tukey's honestly significant difference test
VIF	Variance Inflation Factor

LIST OF PUBLICATIONS

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- Sadeghi, M., Hasan, S., Syed Abdullah, S.M., & Alizadeh, S. (2014). Contribution of Family Cohesion, Flexibility, and Communication on Students' Psychological Well-being. *International Journal of Current Life Sciences*. (in press)

PENGARUH CIRI-CIRI DEMOGRAFI DAN PERSONALITI KE ATAS PILIHAN KEUTAMAAN LANSKAP DI KALANGAN PELAJAR-PELAJAR SEKOLAH TINGGI DI ISFAHAN, IRAN

ABSTRAK

Rekabentuk lanskap telah menarik perhatian para pengkaji disebabkan oleh perikatan yang signifikan di antara lanskap dan masyarakat dan juga peranannya yang penting dalam kehidupan manusia. Maka itu, adalah penting untuk sesuatu lanskap itu direkabentuk mengikut minat dan kecenderungan manusia. Maka itu juga, pengenalpastian lanskap yang orang suka dan faktor-faktor yang mempengaruhi pilihan mereka adalah penting. Namun demikian, masih terdapat jurang dalam hal ini. Kajian-kajian berkenaan dengan kesan ciri-ciri personaliti dan bagaimana ciri-ciri individu menyumbang kepada keutamaan lanskap agak terbatas. Kebanyakan kajian dalam skop ini telah dijalankan di negara-negara Amerika dan Eropah, sementara volum literatur berkaitan di negara-negara dan budaya Asia sangat rendah. Khususnya, setakat ini, tidak ada kajian ke atas isu ini yang telah dijalankan di Iran. Tambahan pula, kebanyakan kajian yang dijalankan sebelum ini memberi penekanan kepada pengkajian ke atas orang dewasa dan pelajar-pelajar universiti. Walaupun demikian, hanya sedikit kajian dengan satu sampel kanak-kanak sekolah dan remaja telah dijalankan; sementara ada disebut dalam teori pembangunan kognitif bahawa kanak-kanak dan remaja mempunyai persepsi dan keutamaan yang berbeza dari orang dewasa. Kajian ini cuba untuk meneroka ke dalam pengaruh ciri-ciri demografi dan personaliti ke atas keutamaan lanskap yang diberikan oleh 384 pelajar-pelajar di sekolah tinggi di Isfahan, Iran. Dalam aspek ini, perbezaan keutamaan pelajar ini yang bersandarkan kepada jantina, usia, tahap pendidikan dan bidang kajian telah dikaji. Ekstraversi/introversi pelajar,

kebijaksanaan, dan kreativiti turut disukat menggunakan Soalselidik 16PF yang diketengahkan oleh Cattell. Tentang aspek keutamaan lanskap, responden telah diminta mengkadarkan 30 imej enam jenis lanskap Iran termasuk lanskap pergunung-ganang, bandar, hutan, padang pasir, air, dan ladang. Keputusan menunjukkan bahawa keutamaan pelajar untuk lanskap gunung-ganang dan air berbeza dengan signifikan di antara kumpulan yang berlainan jantina. Begitu juga dengan keutamaan pelajar untuk lanskap gunung-ganang, bandar, hutan, padang pasir berbeza secara signifikan merentas bidang kajian pelajar. Sebaliknya, tidak ada perbezaan yang signifikan pada keutamaan lanskap pelajar berdasarkan usia mereka. Tambahan pula, didapati bahawa pelajar-pelajar yang *extraverted* memberi keutamaan yang lebih untuk kedua-dua lanskap pergunung-ganang dan bandar dari mereka yang bersifat *introverted*. Sementara itu, pelajar-pelajar yang lebih kreatif kurang memberi keutamaan ke atas lanskap pergunung-ganang, bandar dan ladang. Untuk meringkaskan dapatan-dapatan ini, membuat kesimpulan ciri-ciri demografi dan personaliti mempengaruhi pilihan keutamaan lanskap dalam kalangan pelajar-pelajar sekolah tinggi. Antara pemboleh ubah bebas yang diuji, bidang kajian dan kreativiti memberi kesan paling besar terhadap keutamaan lanskap manakala faktor usia tidak ketara.

THE INFLUENCE OF DEMOGRAPHIC AND PERSONALITY CHARACTERISTICS ON LANDSCAPE PREFERENCE AMONG HIGH SCHOOL STUDENTS IN ISFAHAN, IRAN

ABSTRACT

Landscape design has attracted a number of researchers' attention due to a significant attachment between landscape and society as well as its crucial role in people's lives. It is therefore necessary that landscape is designed in accordance with people's interest. Consequently, the identification of landscapes that people prefer and the factors that influence their preference are imperative. However, there are still gaps in this setting. The body of knowledge regarding the effect of personality characteristics and how individual traits contribute to landscape preference is limited. Most studies in this scope have been conducted in American and European countries, whereas the volume of related literature in Asian countries and cultures is very low. More specifically, to date, no investigation into this issue has been done in Iran. Additionally, most previous research put a great emphasis on examining adults and university students. However, very few studies with a sample of school children and teenagers were carried out; while it was mentioned in cognitive development theory that children and teenagers have different perceptions and preferences from adults. Therefore, in order to add to the existing body of knowledge on landscape preference, this research aims to investigate the contribution of demographic and personality characteristics towards landscape preference of 384 high school students in Isfahan, Iran. In this aspect, students' differences in landscape preference based on their gender, age, level of education, and field of study were examined. Also students' extraversion/introversion, intelligence, and creativity were measured by using Cattell's 16PF Questionnaire. With regard to landscape preference, the

respondents were asked to rate 30 images of six landscape types of Iran including mountainous, urban, forest, desert, water, and farmland landscapes. The results indicated that students' preference for mountainous and water landscapes were significantly different between gender groups. Likewise, students' preference for mountainous, urban, forest, and desert landscapes were significantly different across field of study. By contrast, no significant difference in students' landscape preference was found based on age. Moreover, it was found that extraverted students had a greater preference for both mountainous and urban landscapes than introverts. Meanwhile, less preference for mountainous, urban, and farmland landscapes was found in more creative students. In light of the summary of these findings, it is concluded that demographic and personality characteristics do influence students' landscape preference. Among the tested independent variables, field of study and creativity respectively revealed the greatest effect on landscape preference while the influence of age was not significant.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter starts with the background of the study which presents a summary of previous researches conducted within the relevant scope. It then focuses on the general explanation of the issue of landscape followed by the introduction of landscape and its types in Iran. The next section explains the concept of personality and presents different viewpoints in this regard. Main problems leading to the need to conduct this study together with knowledge gaps are later addressed. Moreover, research objectives and research questions together with the hypotheses of the study are stated. This part is followed by presenting significance of the study, conceptual and operational definitions as well as conceptual framework. The chapter ends with providing methodology, conclusion, and structure of dissertation.

1.2 Background of Study

It is true that safety of an environment is not the only aspect of a suitable place to human beings. Indeed, humans are able to designate environments based on their preferences. In this sense, preference is described as the result of complicated processes caused by perceiving a space and responding to its utility (Kaplan, 1979). Comparatively, a number of researchers agree that people are predisposed to like particular landscapes better (e.g., Coeterier, 1996; Kaplan & Kaplan, 1989; Kaplan, 1979; Sevenant & Antrop, 2009; Ulrich, 1983).

Landscapes play a crucial role in humans' lives. In fact, like home that is closely connected to an individual's self-expression and personality, landscape is a

vital environment that characterizes and defines humans as a social group. Unconsciously, landscapes encompass individuals and their everyday lives continuously, insofar as people extend an affective connection to the environment. In this sense, everyday landscape is characterized as an expanded space of home (Lee, 2009).

This general agreement, that specific landscapes are instinctively favored, works as a supporter for landscape theory and makes a visual preference investigation into an enormously significant issue. A new revivification of research towards landscape preference also indicates that scholars have a great interest in exploring which landscape people prefer and why they like it (Levy, 2009). Therefore, the question that “why do people prefer some landscapes more than others?” has attracted researchers’ attention from a wide range of subjects and fields of psychology, cultural geography, sociology, philosophy, and anthropology as well as related professional areas, particularly planning and landscape architecture (Swanwick, 2009). Hence, widespread academic studies and investigations have been conducted in an effort to discover the factors that lay behind people’s preference and judgment for landscapes (Sevenant & Antrop, 2006).

In this study, the factors that have an impact on landscape preference and perceptions are categorized into three major groups listed as follows:

1. Demographic factors include gender (e.g., Buijs, Elands, & Langers, 2009; Purcell, Peron, & Berto, 2001), age (e.g., Harris Jr., 2009; Winkel, Malek, & Thiel, 1969), socio-economic status (e.g., Van den Berg & Koole, 2006), level of education (e.g., Harris Jr., 2009; Sevenant & Antrop, 2010b; Yu, 1995), population density (e.g., Strumse, 1996), professional knowledge and expertise

(e.g., Stamps, 1999; Strumse, 1996; Yu, 1995), culture and ethnicity (e.g., Buijs et al., 2009; Kaplan & Herbert, 1987; Zube & Pitt, 1981), income class (e.g., Crow, Brown, & De Young, 2006; Dearden, 1984), and farming background (e.g., Van den Berg & Koole, 2006).

2. Emotional factors include personality (e.g., Abello & Bernaldez, 1986; Maciá, 1979; Winkel et al., 1969), and preference for green political parties and recreational motivations (e.g., Van den Berg & Koole, 2006).
3. Environmental factors include place of residence and living environment (e.g., Crow et al., 2006; Sevenant & Antrop, 2010a), familiarity or experience (e.g., Dearden, 1984; Van den Berg, Vlek, & Coeterier, 1998), and membership in organizations (e.g., Dearden, 1984; Stamps, 1999).

Likewise, Kaplan and Kaplan (1989) grouped these factors into three categories: (1) familiarity or experience (e. g. geographical circumstances of residence), (2) cultural and ethnic variation (e. g. gender, religion), and (3) the effects of formal knowledge and expertise (e. g. profession). Zube (1984) however, categorized these factors into three major settings of (1) ‘professional’ where the qualified expert understands the landscape, (2) ‘behavioral’ where biological and developmental laws are used to interpret landscape preferences, and (3) ‘humanistic’ where opinions, attitudes, and concepts of each personal spectator are in attention.

Early literature of examining landscape preference paid no attention to the fact that observers may combine various criteria concerning the scenery (Purcell, Lamb, Mainardi Peron, & Falchero, 1994). Instead, the aspect of aesthetic preference was focused by a large number of researchers (Sevenant & Antrop, 2010b). Furthermore, Nassauer (1995) argued that some background factors and culture have a high influence on people’s preference of landscape. Nevertheless, Fry, Tveit, Ode,

and Velarde (2009) concluded that there must be other reasons which are less dependent on people's background factors in terms of preference for landscape. Therefore, another factor, namely personality characteristic which was often ignored in the literature of landscape preference and perceptions is taken into considerations in the current study.

The following paragraphs focus on giving an overview of the landscape. More importantly, an overview of landscape and its types in Iran are presented. Furthermore, the concept of personality is explained and the personality characteristics as the research independent variables are introduced. The reasons for selecting these personality characteristics are also described at the end of this section.

1.2.1 Landscape

Landscape plays a vital role in humans' lives and people have great feelings about it (Stillman, 1975). However, defining landscape is quite a challenging. In fact, there is a wide range of definitions of landscape. For instance, Appleton (1996) described landscape as a way of seeing or experience, which is discovered in the relationship between the person and his/her environment. Moreover, he quoted that, "landscape is a kind of backcloth to the whole stage of human activity. Consequently we find it entering into the experience of many kinds of observer as it is encountered in many kinds of context. For some the chief interest lies in the explanation and interpretation of the landscape itself, natural or man-made; for others in the way we look at it. For some it is more meaningful when perceived through the medium of painting; for others it must be experienced directly. For some it is a proper subject for scientific study; and for others it belongs to the arts" (p. 2).

On the other hand, landscape is known as a fact in humans' lives which people suffer from and enjoy every day. Indeed, the environment is not landscape until it is perceived by the public (Maciá, 1979). In this view, Jackson defined landscape as a set of land or a system of rural farm spaces being made up of three vital components of village, arable, and grazing (Bulut & Yilmaz, 2007).

Nonetheless, landscape is also characterized as a cultural construct which is formed when men see the land. In this context, landscape represents the record of humans' activities and their relationship with their environment. Landscape is also perceived by humans showing their attitude towards landscape which generates a wide range of emotions including distrust, fear, reassurance and delight. These emotions may come from watching a real landscape or from a painter's, poet's, or writer's creative imagination (Hunter, 1985). Likewise, Koç and Şahin (1999) stated that landscape is the harmony of a number of natural and cultural features of a definite view.

The present study examines the different landscape types of Iran. Hence, some explanations on landscape and its types in Iran are presented in the next section.

1.2.2 Landscape and Its Types in Iran

Rajabi (2008) defined that landscape types of Iran refer to mountainous areas, urbanized areas, forests, desert plains, wetlands and shores, and lastly farmlands and agricultures (Figure 1.1).



Figure 1.1. Map of Iran and its types of landscape

In fact, Iran is a wide elevated country geographically located in southwest/central Asia. This country is bordered by two depressions of Caspian Sea to the North, and Persian Gulf and the Gulf of Oman to the South. It also has a vast central tableland, arid summers, and is often extremely cold in winter.

The topography of Iran comprises highlands and mountainous areas, desert plains and lowlands, as well as watershed areas. The major highlands of Iran consist of four distinct mountainous areas that are mainly infertile. The mountains surround some high broad interior basins or plateaus, on which there are main agricultural and urban settlements.

Seven desert plains and depressions in Iran make its landscape totally diverse. Dasht-e Kavir and Dasht-e Lut are the largest salt deserts of Iran that cover a central and eastern part of the country. These deserts are the driest part of Iran and almost

uninhabited. Six major watershed regions are identified within the country, and more than twenty large lakes shape a part of the landscape of Iran (Kledal, Mahmoudi, & Mahdavi Damghani, 2012; Mani, 2001; Zehzad, Kiabi, & Madjnoonian, 2002).

Approximately, one third of Iran's whole surface area is suitable for farmland and agriculture. More than one tenth of the country is covered by forests. The widest forest growth of Iran is on the slopes of Alborz Mountains in the north growing from Caspian Sea, with stands of oak, ash, elm, cypress, and other valuable trees.

Climatologically, Iran is principally an arid and semi-arid country. Nevertheless, the northern slopes of Alborz Mountains and Caspian lowland are the most humid parts of the country. In general, Iran lies in a continental climate zone with variable weather conditions, four seasons in a single wide country, and areas with different temperatures.

Iran is a land of unique landscapes. It has luxuriant forests of Alborz Mountain range, limpid water springs, pomegranate orchards, pistachio gardens, coastlines of Caspian Sea, rocks, mountains, endless high and low lands, and extinct volcanoes that are among the eye-catching landscapes in Iran (Kledal et al., 2012; Mani, 2001; Zehzad et al., 2002).

As explained previously, six different categories of landscape in Iran including (1) mountainous landscape, (2) urban landscape, (3) forest landscape, (4) desert landscape, (5) water landscape, and (6) farmland landscape are taken into considerations in this study with the aim of measuring landscape preference among students.

This research aims to study the contribution of personality towards landscape preference. In this aspect, the concept of personality and an overview of its background are clearly described and critically discussed in the next section.

1.2.3 Personality

Personality refers to describing individuals (Schultz & Schultz, 1994). Laypeople defined personality as components of person's disposition (Cohen & Sverdlik, 2005). Some people argued that personality is like temperament which involves a natural, genetically way of particular thinking, feeling and acting. However, some others characterized it as a mixture of cognitive abilities, interests, attitudes, and values (Aiken, 2003) which might cause differences in people's worldview, acculturation, identity, sense of humor, and people's styles (Cohen & Sverdlik, 2005).

Among definitions of personality, some definitions appear to be more inclusive. For instance, Menninger (1953) defined personality as "the individual as a whole: his height and weight and love and hates and blood pressure and reflexes. It means that anyone is and that he is trying to become" (p. 23). Meanwhile, another psychologist described it as "the most adequate conceptualization of a person's behavior in all its detail" (McClelland, 1951, p. 69). In this sense, some definitions narrowly emphasize on a certain aspect of the individual (e.g., Goldstein, 1963); while others focus on individual in the context of society (e.g., Sullivan, 1953).

Moreover, the definition of personality proposed by Cattell (1950, 1965) specifies his view on human's nature. His aim of doing research on personality was to predict human's behavior. He believed that theory of personality is valuable when it can predict one's behavior and what an individual will do in response to a given

situation. [Cattell](#) described personality traits as the major structure of personality and classified them into two different types. The first type is common traits versus unique traits. Common traits are possessed by all people, whereas unique traits exist only in a particular individual ([Mischel, 1986; Olson & Hergenhahn, 2011](#)). The other type is surface traits versus source traits ([Cattell, 1950](#)). Surface traits are collections of manifest behavior responses that are correlated. Source traits, conversely, are the underlying variables that designate the surface demonstrations ([Engler, 2003; Mischel, 1986; Olson & Hergenhahn, 2011](#)) and can be found only by means of the mathematical technique of factor analysis ([Mischel, 1986](#)).

In addition, [Cattell \(1966\)](#) identified sixteen basic source traits that represent the fundamental elements or ‘building blocks’ of personality. Ten source traits of Cattell’s personality model are applied in the current study to measure three personality characteristics. Therefore, to achieve the objectives of this research, three personality characteristics are clarified in the next section.

1.2.4 Personality Characteristics Applied in the Study

This research attempts to investigate the contribution of personality characteristics towards people’s preference for landscapes. However, in this study, due to the extensiveness of personality traits ([Sevenant & Antrop, 2010b](#)), three personality characteristics, namely extraversion/introversion, intelligence, and creativity are selected for examination. These personality characteristics are considered as independent variables of the study, and they are presented in detail as follows:

1. According to [Cattell](#), extraversion/introversion, intelligence, and creativity are all categorized as ‘common traits’ which means that everyone possesses

them to some extent (Schultz & Schultz, 1994). As a result, it seems that the sample population of this research can be broadened to a larger population in terms of personality characteristics.

2. On the other hand, these characteristics are structured by the components that all are characterized as 'source traits'. Source traits cannot be observed through individual's behavior; rather, psychological tests and factor analysis are required to discover them. It is believed that the study of source traits is important because they are few in number thereby making it simple to describe a person. Furthermore, source traits apparently have a true structural effect on personality. Therefore, these traits can indicate humans' behavior and provide opportunity for the researcher to make predictions. It is important to note that source traits are stable, permanent traits and also known as the basic essential factors of personality (Aiken, 2003; Engler, 2003; Schultz & Schultz, 1994). Consequently, the results of the current research will be inalterable and reliable.
3. Extraversion and introversion are among the main or global personality characteristics which have attracted most psychological researchers' attention. They also are of major factors in most well-known psychologists' personality inventories such as the Minnesota Multiphasic Personality Inventory (MMPI) (Hathaway & McKinley, 1967), the Cattell's 16 Personality Factor (16PF) (Cattell, 1949), the Eysenck Personality Questionnaire (EPQ) (Eysenck & Eysenck, 1975), the NEO Personality Inventory Manual (NEO-PI) (Costa & McCrae, 1985), the Eysenck Personality Profiler (EPP) (Eysenck & Wilson, 1991), and Five Factor

Inventory (FFI) (Costa & McCrae, 1992) . Thus, studying these characteristics needs to be taken into considerations.

4. Eysenck (1965) stated that intelligence is a superfactor which has a great influence on personality. In fact, intelligence is considered to be very important dimension of personality. In this view, it was argued that if we lessen personality characteristics to describe an individual in just three characters, there is no doubt that intelligence and extraversion will be two figures to get the closest estimation of the person's genuine nature. Therefore, this research also includes intelligence to investigate its influence on people's landscape preferences.
5. By spending a notable amount of time studying various researches in landscape preference setting, the researcher concludes that investigation into these characteristics in the relevant area is remarkably limited and needs to be taken more into considerations.

1.3 Problem Statement

It is true that there is a deep relationship between human beings and landscape (Swanwick, 2009). In addition, it was stated that the quality of public open space and landscape design play an extremely important role in an urban life (Helfand, Sik Park, Nassauer, & Kosek, 2005; Min, 2011). The following definitions for 'landscape' also confirmed its significance in human's life.

In fact, 'landscape' conveys complex and multiple meanings. Its meanings vary depending on the context they are used in and the background of users (Brandt, 1998). According to Soini (2004) most people characterize landscape as a daily experience, a visual concept or image. Moreover, Dieterlen (2009) defined that

landscape is a physical environment in which we live including buildings, constructed elements, and vegetation. In this view, each landscape is therefore a part of the earth as man's house (Meinig, 1979). Similarly, Lowenthal, Olwig, and Mitchell (2007) reported that landscape is where people build their homes, do their work, spend their lives, and create their dreams. Thus, environment encompasses individuals unceasingly throughout their life, and they cannot be detached from it. This is because individuals and everything they need to provide for physical life emerge through the existing landscape (Eckbo, 1975). This evidence obviously shows that landscape plays a significant role in humans' life as well as in humans' health, to the extent that landscape is known as a key factor of personal and social well-being (Velarde, Fry, & Tveit, 2007).

According to Relph (1976) and Augé (1995), one of the main problems related to modern landscaping and urbanization is disregarding the close and sensitive connection between landscape and people's interest. In fact, much criticism encompasses physical experience and visual characteristics of contemporary landscapes. Although examining modern landscape leads to the investigations into environmental aspects and physical issues associated with sceneries, there are very few analyses concerning the interests and preferences of people living within those landscapes. Meanwhile, it is expected that in creation and development of landscapes, people's interest and desire are taken into considerations. Therefore, gaining deep insight into how individuals perceive landscape and which landscape they prefer is considered important.

However, based on previous studies on investigation and examination of factors having an influence on landscape preference, some lacks are found. The

current research aims to deal with these lacks, which are considered as literature gaps and needed to be fulfilled.

In fact, although literature on individual differences in terms of socio-cultural, socio-economic, and people's background factors in landscape preference and perception has been much emphasized (Sevenant & Antrop, 2010b), there are a few researches on investigation into the effects of personality characteristics and how individual traits contribute to landscape preference. Furthermore, personality characteristics are varied; therefore, it is necessary to conduct numerous studies on investigations into the characteristics together with people's landscape preferences. However, very few studies have been conducted in this scope.

In addition, to explore social and demographic factors, a vast number of studies conducted to look into different preferences between groups (Sevenant & Antrop, 2010b), but not individuals.

Another literature gap involves the age of sample. In fact, most of previous investigations into differences in landscape preference among age groups, put a great emphasis on examining adults and university students (e.g., Buijs et al., 2009; Crow et al., 2006; Dearden, 1984; Harris Jr., 2009; Sevenant & Antrop, 2010b; Strumse, 1996; Winkel et al., 1969). However, very few studies with a sample of school children and teenagers in the 15-18 age range were carried out (e.g., Zube, Pitt, & Evans, 1983); while it was mentioned in cognitive development theory that children in this age range have different perceptions and preferences from adults (Piaget, 1964; Saif, 1996; Short & Rosenthal, 2003).

Last but not least, with regard to the landscape preference area, most studies were conducted in western culture settings. Therefore, there is still a lack of literature

related to different culture settings. In particular, investigations into Asian countries and nonwestern nations are limited. More particularly, to date, there is still no investigation into this issue done in Iran.

1.4 Knowledge Gaps

Although there is much literature on landscape preference, many knowledge gaps in the scope of landscape preference still remain (Sevenant & Antrop, 2010b). Therefore, this section attempts to provide an overview of conducted research and present the gaps. Its main aim is to address the novelty of the current study.

Based on previous literature, it was found that very few studies have been conducted to examine the influence of personality on people's landscape preference (Figure 1.2). In this regard, Winkel et al. (1969) examined six characteristics, namely art attribute, tolerance, experience, focusing, independence, and anxiety in related to landscape preference in Washington. Moreover, in Spain, Maciá (1979) and Abello and Bernaldez (1986) respectively inspected the influences of control, extraversion, paranoia, sincerity, and amount of doubt as well as common traits, emotional stability, and responsibility characteristics on people's landscape preference. However, personality characteristics are quite broad (Robbins, 2012) and the prior researches have covered only some of them. More importantly, still no study has been done on the influence of some significant characteristics and superfactors, such as intelligence and creativity on landscape preference.

In particular, most of the previous studies have been conducted in American and European contexts. Therefore, investigations into this issue are needed to be carried out in different regions of Asia, especially in Iran where there is still a lack of literature in this field. Figure 1.2 shows the areas in which the relevant investigations

were conducted. The light blue-colored circle indicates researches conducted in Asian countries, whereas the purple-colored circle represents studies done in American countries. The dark blue-colored circle illustrates investigations conducted in Europe. As can be seen in Figure 1.2, no study on the influence of personality on landscape preference has been conducted in Asian countries.

In terms of demographic variables, the majority of previous studies have also been done in American and European countries. Indeed, no investigation into this issue has been conducted in Iran so far. As shown in Figure 1.2, very few studies on the effect of demographic variables on landscape preference were conducted in Asia.

With respect to the differences in landscape preference according to gender, age, and level of education, previous studies found very dissimilar findings (Figure 1.2). For example [Yu \(1995\)](#), [Purcell et al. \(2001\)](#), and [Sevenant and Antrop \(2010a\)](#) showed that there is no significant difference in people's landscape preference between gender group. Meanwhile, the results in an investigation conducted by [Maciá \(1979\)](#) indicated that there is a slight difference in the influence of gender. However, [Stamps \(1999\)](#) considered gender as a powerful determinant of preference towards landscape.

Figure 1.2 also displays the results of conducted researches in the setting of demographic variables. As can be seen, the dark green color represents that there is a strong relation between the variable and landscape preference. The light green color indicates that there is a correlation between the variable and landscape preference. The yellow color reveals that the relationship between the variable and landscape preference is weak. On the other hand, the red color shows that there is no relationship between the variable and landscape preference. As indicated in Figure

1.2, previous studies on the influence of demographic variables on landscape preference found contradictory results.

Likewise, a big controversy surrounds the influence of education level on landscape preference. In this sense, as shown in Figure 1.2, several studies indicated that people's choice of landscape is different based on their level of education (e.g., Crow et al., 2006; Sevenant & Antrop, 2010b; Van den Berg et al., 1998). Meanwhile, Dearden (1984) concluded that education has no influence on landscape preference. On the contrary, the other research revealed that level of education has a powerful influence on landscape preference (Yu, 1995). However, it was found in other studies that this influence is slightly significant (e.g., Buijs et al., 2009; Harris Jr., 2009). Therefore, the influence of education on people's landscape preference is seemingly unclear. As a result, more studies on this issue should be conducted.

Furthermore, as shown in Figure 1.2, to date, no study has been conducted to specifically examine the difference in respondents' landscape preference across their academic fields of study. Hence, the contribution of academic field of study towards people's desire for landscape is still under researched.

In addition, most of the studies on the contribution of age towards people's choice of landscape have been done with samples of university students and adults (e.g., Buijs et al., 2009; Crow et al., 2006; Dearden, 1984; Harris Jr., 2009; Sevenant & Antrop, 2010b; Strumse, 1996; Winkel et al., 1969); while very few attentions have been paid to teenagers and school students in previous literature.

Here, it is worth mentioning that examining variables such as gender and age is important from the point of generalization of the results from sample to bigger population. Consequently, this study aims to cover the aforementioned gaps.

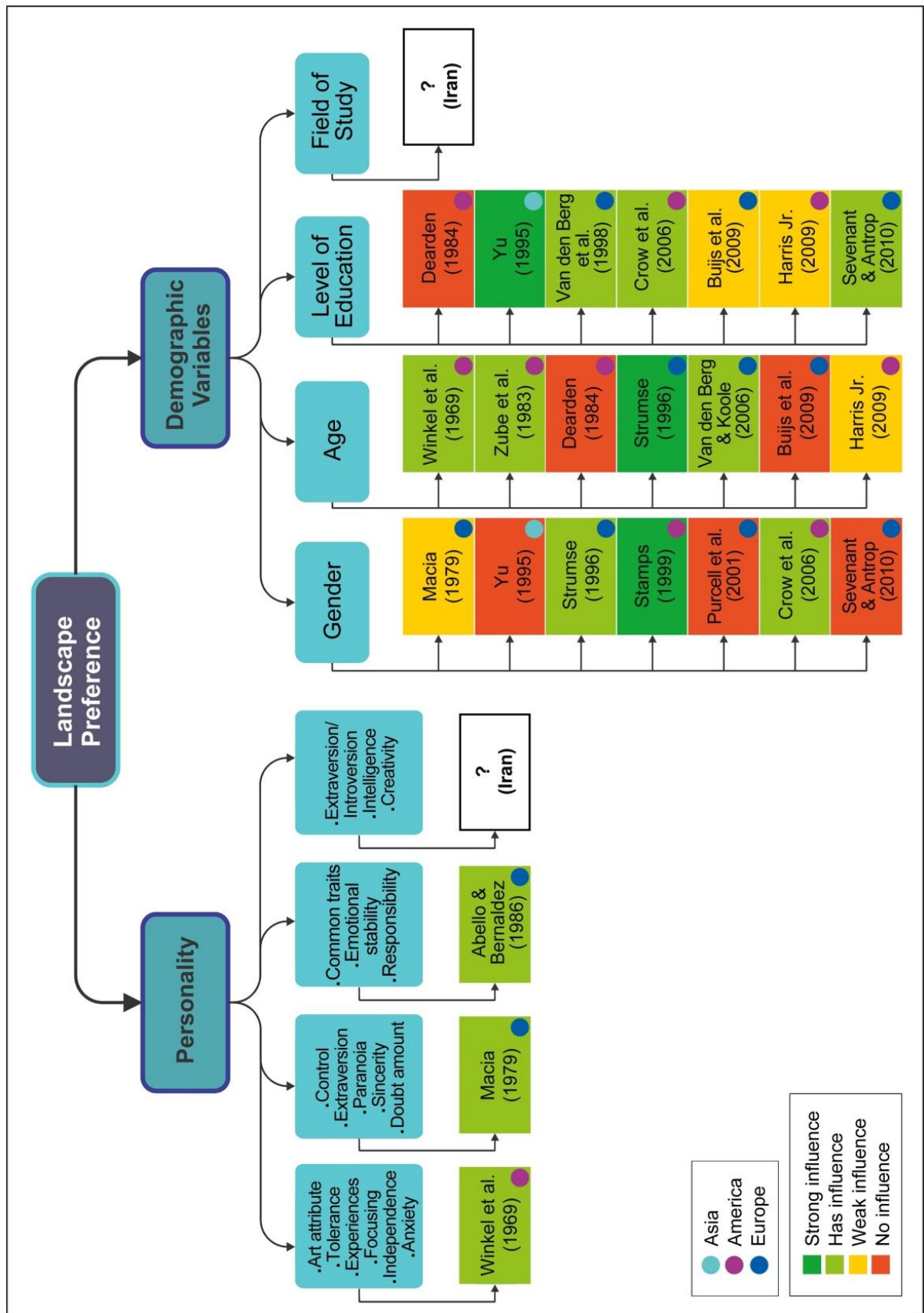


Figure 1.2. Literature on landscape preference in terms of personality and demographic variables as well as the position of current research among other studies

1.5 Research Objectives

The research questions provide a backbone for the study, and they are used to address research objectives and aims. Thus, based on the overall research question of whether demographic and personality characteristics influence landscape preference, the main research objectives are formulated as follows:

- i. To examine the differences in landscape preference in terms of demographic characteristics among high school students in Isfahan, Iran
- ii. To investigate the relationship between personality characteristics and landscape preference among high school students in Isfahan, Iran
- iii. To explore the contribution of demographic and personality characteristics towards the prediction of landscape preference among high school students in Isfahan, Iran

1.6 Research Questions

The specific research questions are provided below:

- Q1 Is there any significant difference in landscape preference in terms of demographic characteristics among high school students in Isfahan, Iran?
- Q2 Is there any significant relationship between personality characteristics and landscape preference among high school students in Isfahan, Iran?
- Q3 Is there any contribution of demographic and personality characteristics towards the prediction of landscape preference among high school students in Isfahan, Iran?

1.7 Research Hypotheses

This study examines the following hypotheses:

- H01 Landscape preference is significantly different in terms of demographic characteristics among high school students in Isfahan, Iran.
- H02 Extraversion/introversion has a significant relationship with landscape preference among high school students in Isfahan, Iran.
- H03 Intelligence has a significant relationship with landscape preference among high school students in Isfahan, Iran.
- H04 Creativity has a significant relationship with landscape preference among high school students in Isfahan, Iran.
- H05 Demographic and personality characteristics predict landscape preference among high school students in Isfahan, Iran.

1.8 Significance of Study

The major weight of this research is on the interaction between landscape preference and personality characteristics of students. By studying the students' landscape preference, the results of this study are therefore can be useful to explore the innovative ways to attract students to schools. This research, then, can make a big contribution to enhancement of students' feeling of happiness, cheerfulness, and satisfaction towards their educational environment. This work may also help to increase students' enthusiasm and tendency towards their studying as well as schooling.

By focusing on two scopes of landscape preference and personality characteristics, this study will be involved in two distinct areas of landscape

architecture and psychology. Thus, it is believed that the findings of this study not only will be applicable in landscape design settings, but also can be helpful in achieving psychological purposes.

Since this research is conducted in high school settings, and the sample population of the study is high school students, this investigation will also help educational department, educational planners as well as other levels of school administrators to benefit from the findings of this investigation. It is also expected that the results of this research will provide some knowledge that will be applied in psychiatric centers and municipality as well as future research.

Demographic characteristics may also play an important role in people's landscape preference. Therefore, the results of present research will provide urban designers, planners, and landscape architects with useful information that can help them in designing satisfactory environments in the society.

This investigation can widen the horizon of thinking about the influence of landscape design on students' personality and well-being for future research. Hence, the outcomes of such studies are undeniably useful in attaining the relevant goals.

1.9 Conceptual and Operational Definitions

This research involves several key words that are operationally defined in these sub-sections.

1.9.1 High School Students in Iran

High school in Iran is defined as a mediator educational level between the basic education and higher education period. This stage starts after the completion of secondary school level and continues further for 4 years. High school level in Iran

normally includes students with the age range of 15-18 years old (Safi, 2008). The participants of this research are high school students in Iran who are in the age range of 15 to 18. They study one of the fields of Mathematics, Experimental Sciences, Humanities, and the Arts as well as general education.

1.9.2 Landscape

Landscape is generally defined as a zone or area perceived by local people or visitors and its visual features and characters are the result of the action of natural and/or cultural (human) factors (Council of Europe, 2000). However, the conventional definition of landscape refers to the retinal projection of the pictures observed, perceived, and understood by viewers.

In this study, the definition of landscape type in Iran proposed by Rajabi (2008) (as described in the section of landscape and its types in Iran) is considered as the research operational definition. This is because it is relevant to the area of study in Iran. Another reason is that this definition covers all types of landscape that the research aims to explore. The level of landscape preference will be assessed by the ranking scores on a 7-point Likert scale that students give to 30 color images of 6 types of landscapes in Iran including mountainous, urban, forest, desert, water, and farmland landscapes. In this Likert scale, point 1 represents the least preferred, whereas point 7 represents the most preferred landscapes.

1.9.3 Personality Characteristics

In this research, personality characteristics is defined as an enduring cluster of internal and external aspects of a person's character that influence behavior in response to different situations (Schultz & Schultz, 1994). In the current

investigation, three personality characteristics will be examined, and they are listed as follows:

- i. Extraversion/Introversion:** In the current study, extraversion is defined as an attitude of the psyche characterized by an orientation towards the external world and other people. Meanwhile, introversion is an attitude of the psyche characterized by an orientation towards one's own thoughts and feelings (Jung, 1927). In this research, the factor of extraversion/introversion is determined by Cattell's 16PF Questionnaire. The value of extraversion/introversion ranges from -1.2 to 12.3 with the mean of 5.55. Therefore, students who obtain higher scores than the value of 5.55 have extraverted orientation. On the other hand, students with lower scores than 5.55 are considered as introverted students.
- ii. Intelligence:** Intelligence is operationally defined as the collective or universal capability of the individual to act purposefully, to think logically, and to deal impressively with his/her environment (Wechsler, 1958). Intelligence in this investigation is characterized as the capacity to do well in the intelligence test. In this study, the factor of intelligence is measured by Cattell's 16PF Questionnaire. The value of intelligence ranges from 1 to 9 with the mean of 4. Consequently, students who acquire higher scores than the value of 4 are regarded as more intelligent students. On the other hand, students with lower scores than 4 are less intelligent.
- iii. Creativity:** Creativity is the process of shaping associative components into novel arrangements which either meet definite necessities or are in some way valuable (Mednick, 1963). In this investigation, the factor of creativity is examined by Cattell's 16PF Questionnaire. The value of creativity ranges

from -5.7 to 16.5 with the mean of 5.4. Accordingly, more creative students are those who earn higher scores than the value of 5.4. On the other hand, less creative students are those with lower scores than 5.4.

1.10 Conceptual Framework of Study

This research attempts to study and explore the influence of two groups of independent variables. They are categorized under demographic and personality characteristics groups. The independent variables for the first group are gender, age, level of education, and field of study, whereas those for the second group are extraversion/introversion, intelligence, and creativity. The dependent variable for both groups is landscape preference which includes mountainous, urban, forest, desert, water, and farmland landscapes. Figure 1.3 illustrates the independent and dependent variables as conceptual framework of the study.

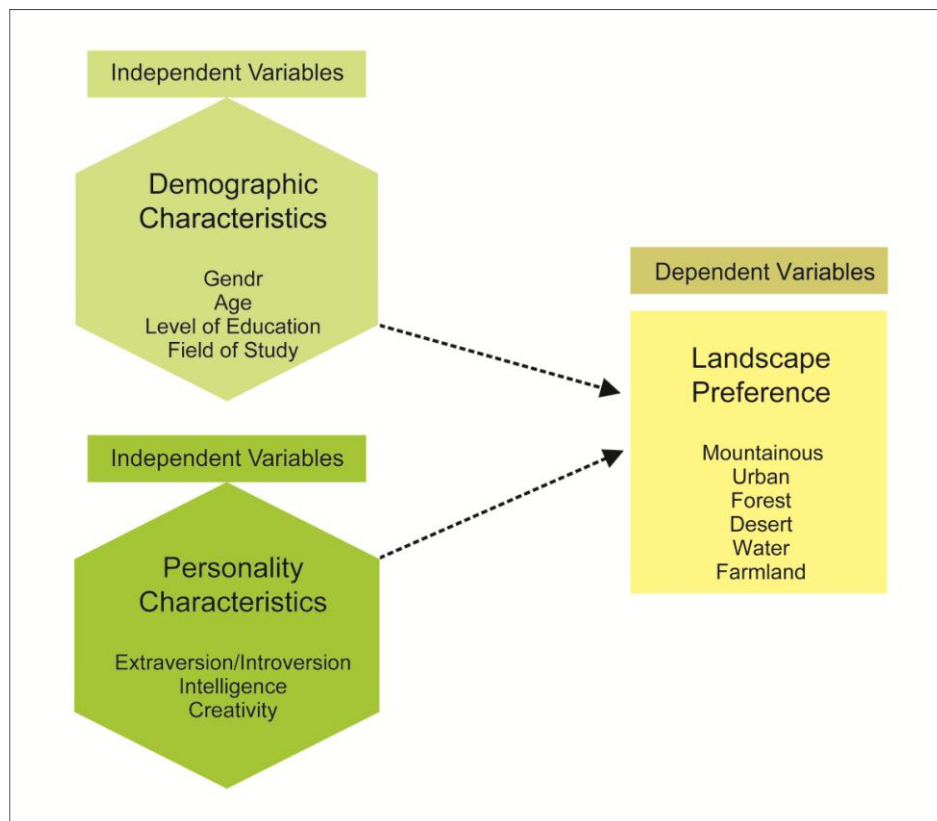


Figure 1.3. Conceptual framework of the study

1.11 Methodology

The present research is a descriptive form of survey study. Quantitative method is used to collect data. Extraversion/introversion, intelligence, and creativity are the research independent variables. In this regard, the influences of four demographic characteristics, namely gender, age, level of education, and field of study are also examined. Meanwhile, students' preferences towards mountainous, urban, forest, desert, water, and farmland landscapes are also evaluated as the research dependent variables.

This research targets high school students of Isfahan city, Iran as the study population. Based on the census released in 2012 by the Education Department of Isfahan, the total number of 72,217 students (including 38,268 girls and 33,949 boys) were studying at high school level in that year. According to [Krejcie and Morgan's](#) table of sample size, a total of 384 students are selected to participate in this investigation. It means the research sample includes 384 high school students at the age of 15, 16, 17, and 18. Stratified and systematic random sampling techniques are employed to select the sample in accordance with participants' gender, age and level of education, and field of study with an almost equal number at each stratum.

In this study, three instruments are used to collect data. Firstly, demographic questionnaire is employed to collect participants' demographic information including gender, age, level of education, and field of study. Secondly, to explore students' three personality characteristics (extraversion/introversion, intelligence, and creativity), Cattell's 16PF Questionnaire is used. Finally, to examine the respondents' landscape preference, visual preference survey is conducted based on