**IPA**
International Journal of Psychology
Vol. 11, No. 1, Winter & Spring 2017
PP. 123-149

**I**ranian **P**sychological
**As**sociation

# The Effects of the Moderating Variables (Family, Education, Peer Group) on the Association between Extraversion and Identity Styles

**Alireza Ghorbani, PhD***
Department of Social science
Payame Noor University Golestan
it_ghorbani@yahoo.com

**Haslinda Abdullah, PhD**
Department of Social and Development Sciences (SDSD)
University Putra Malaysia 43400,
UPM Serdang, Selangor, Malaysia

**Nobaya Ahmad Ali, PhD**
Department of Social and Development Sciences (SDSD)
University Putra Malaysia 43400,
UPM Serdang, Selangor, Malaysia

**Ma'rof Redzuan, PhD**
Department of Social and Development Sciences (SDSD)
University Putra Malaysia 43400,
UPM Serdang, Selangor, Malaysia

Received: 4/ 9/ 2015 Revised: 22/ 11/ 2016 Accepted: 26/11/ 2016

The present study aims at examining the effects of moderating variables on the association between extraversion and identity styles. A quantitative research method (descriptive and survey) was employed. The sample included high school students (n=380) aged 17 and 18. Data was collected through self-administered questionnaires. Hierarchical regression analyses were used. In the first stage, the relationship between extraversion and normative style was significantly moderated by the level of education (β= .10, p<.05). Additional results also showed that peer group relationship significantly moderates the relationship between extraversion and also diffuses identity style (β= -.13, p<.05). The results of the study supported theories like social cognitive theory, General other theory, and the triat approach. The results shed new light on the processes involved in the personality characteristics and moderating variables of adolescents' styles of identity exploration.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

***Keywords:*** Extraversion, Identity styles, Moderating Variables

The issue of identity has been discussed in various sub-fields of psychology, such as social, developmental, pathological and personal ones. This fact indicates the relevance of identity to various fields of study while also demonstrating the vastness of the topic. Identity is an organized sense of self-recognition that includes the values, beliefs and goals to which individuals are committed (Berzonsky, 1998a). Identity helps people define themselves. A person whose self-definition contradicts his/her social reality will exhibit lack of experience, stress and behavioral problems. Many psychologists believe that adolescents' typical behaviors are their natural attempt to define themselves and explore their identity (Lotfabadi, 2015).

Berzonsky defines identity as an organized sense of self that includes the values, beliefs and goals to which an individual is committed. People differ in their use of social-cognitive processes to solve private issues, make decisions and form their identity, and they apply these processes in different ways (Berzonsky, 1998b). One of these ways is through the diffuse-avoidant identity style. People exhibiting this style avoid confronting personal issues and decisions. If they delay confronting these issues for a sufficiently long time, they will exhibit behavioral reactions and will be controlled by situational demands and motives (Berzonsky & Kuk, 2000). Another identity style that is called the informational style entails a willingness to investigate multiple solutions to a given problem and to explore several options before committing to anyone. This style coincides with traits such as cognitive complexity, adaptive regulation, especially in late adolescence or older, empathy, as well as values associated with openness,



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

independence, and autonomy rather than security and tradition, often transcending selfish interests (Berzonsky, Cieciuch, Duriez & Soenens, 2011).

The normative style represents growth by conforming to social and familial expectations and a high degree of commitment to authority and to the exercise of judgment (Berzonsky, 1993). These individual differences in approaching important life decisions are referred to as identity styles (Smits, 2009). Identity-processing styles may play an effective and ineffective self-regulation so that a coherent sense of continuity can be achieved (Berzonsky, 2011)

It is important to distinguish identity styles from other relatively stable individual differences such as personality characteristics, values and attitudes. Personal characteristics describe what people are like, while values and attitudes describe what people consider as important, and identity styles describe how people make identity-relevant decisions. In this respect, Berzonsky (1990) points out that identity styles should be considered as developmental outcomes. According to him, adolescents interact within environmental contexts; they develop a preference for a particular identity style. This preference may be further reinforced by the life events and social relationships that are elicited by this identity style. As adolescents enter adulthood, their identity style is thought to become relatively stable although stressful life events or therapeutic interventions may still affect their identity styles.

Moderating variables include family relationship, level of education, and peer group relationship. Among all moderating variables, parents and family have the most crucial effect on individual identity and how it is formed. In addition, school,



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

political system and socioeconomic status of the society have a great role in identity formation (Aghamohammdian & Shekhrohani, 2003). Identity formation in adolescents is affected by four factors: cognitive development, adolescent-parent relationship, outside experiences and broader cultural encounters (Sigelman & Rider, 2014). Among aforementioned factors, the role of family in identity styles is stressed in many studies (Campbell, Adams, & Dobson, 1984; Kamptner, 1988; Kerpelman, Pittman, & Lamke, 1997; Markstrom-Adams, 1992; Matos, Barbosa, Almedia, & Costa, 1999; Schultheiss & Blustein, 1994; Sigelman & Rider, 2014; Waterman, 1992).

One of the major problems that adolescents face is their identity formation. Adolescents try to reconstruct scattered elements of their character, re-experience previous conflicts and get engaged with their parents. Constantly They will be experiencing different roles as well as behaviors and finally put them aside to re-experience everything on their own (Atkinson, Atkinson, & Hilgard, 1979). Although there may be differences in the efficiency with which they are accessed and utilized, research has indicated that by age 18 most late adolescents are capable of utilizing all three types of social-cognitive strategies that underpin identity styles (Berzonsky & Ferrari, 1996; Berzonsky, 1990; Berzonsky & Kuk, 2005).

A related literature review in this area clearly shows the two most significant factors such as: personality characteristics and moderating variables affecting identity formation among adolescents (Bartle-Haring, 1997; Campbell et al., 1984; Grotevant & Cooper 1985; Kamptner, 1988; Kerpelman et al., 1997; Markstrom-Adams, 1992; Matos et al., 1999; Schultheiss & Blustein, 1994; Sigelman & Rider, 2014; Waterman, 1992).



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Therefore, this study aims to examine the moderator effect of moderating variables on relationship between personality characteristics and the adolescents' identity styles in Golestan, Iran. Previous related research conducted in Golestan, Iran, showed that one third of the participants can be categorized in diffuse identity styles (Ghorbani, Mohammadiayra, & Kochaki, 2005; Jabbari & Ghorbani, 2007; Jomenia 2009). Personality characteristics significantly contribute to identity formation among adolescents (Bartle-Haring, 1997; Campbell et al., 1984; Grotevant & Cooper 1985; Kamptner, 1988; Kerpelman et al., 1997; Kerpelman, 1988; Markstrom-Adams, 1992; Matos et al., 1999; Schultheiss & Blustein, 1994; Sigelman & Rider, 2014; Waterman, 1992).

As mentioned earlier, the review of related literature shows that personality characteristics substantially influence identity styles. It is, therefore, imperative to find psychosocial factors that may moderate the association between personality characteristics and identity styles. Since, during one's adolescence, parents, companions, as well as educational, religious, political and legal systems play essential roles in forming one's cultural pattern (Korger, 1996) and have huge effects on youth identity formation (Neli-e-Ahmmadabadi, 2003), the current study aims to examine the effects of moderating variables (family relationship, level of education and peer group relationship) on the association between extraversion and identity styles among adolescents in Golestan, Iran.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

## Method

### Research Design

This study used correlation techniques and questionnaires to collect data. According to Neuman (2011), surveys are appropriate for research questions, particularly ones on self-reported beliefs or behaviors. This study was conducted in schools; therefore, the researcher did not manipulate the situation and minimally interfered with the normal practices of the schools. The respondents were required to answer the questions.

### Population of the Study

The statistical population in this research consists of all high-school and pre-university students living in the Golestan province during the year this research was being conducted. There were 30817 adolescents of 17 and 18 years old who studied in high schools and pre-university schools in the province of Golestan (Educational organization of Golestan State, 2010).

### Sampling Procedure and Sample Size

The sampling method utilized for this study is a multistage cluster sampling based on which the urban and rural areas in the province were put into clusters (regarding the population in each) and the samples were randomly selected. Consequently, 4 out of 12 areas (cities or towns including their surrounding villages) were randomly chosen.The number of samples which was determined to be 380 was proportioned according to the population of each selected area. Next, a list of



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

students from the selected high schools and pre-university centers was provided to determine the proportion of sample students from each school. Finally, the samples were chosen randomly from the list, regarding their level of education and their field of study.

The clustering of towns was based on the population of the Golestan province. The first cluster included the cities of Kordkooy, Bandargaz, Ramyan, Azadshahr, Galikesh and Aghghala with populations of 46226-117261. The second cluster included the cities of Minoodasht, Kalalahe, Aliabad, and Bandarturkman with populations of 117262-188296. The third cluster had no cities. The fourth cluster consisted of only one city, Gonbad with a population of 259332-401401. The Fifth cluster comprised one city, Gorgan. The cities that were finally selected were Bandargaz, Gorgan, Aliabad and Gonbad.

The province of Golestan comprises twelve towns. These towns were divided into five groups. No town was allotted to the third group. Therefore, four groups were formed in this study. Out of the four groups, four towns (including their rural areas) were selected randomly. In the next step, the researcher referred to the education department in each city and found out about the number of urban and rural schools in the eleventh grade and pre-university classes. In each town and its rural areas, girls and boys schools were chosen randomly. After selecting the schools on the basis of gender, grade and educational fields, the researcher referred to the selected schools and chose the samples randomly from the teacher's list of students' names.

This study uses Cochran's second suggestion that is using a pilot study result. The total number of students in the school year was 13993. Thus, based on the Cochran (1977), the



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

minimum required sample size was calculated 374 and 10 samples were added for considering the attrition rate. With regard to the four uncompleted questionnaires, the final sample included in the data analysis was 380 respondents.

**Instrument**

The main research instrument used in this study was a questionnaire. A well-established method of collecting data in social science research is using questionnaires (Dillman, Smyth, & Christian, 2009). The questionnaire in this study was adapted from a number of well-established instruments available in the related literature.

The questionnaire consisted of three main sections developed specifically for separate domains.

*Identity styles.* This section comprised 40 items which were adapted from a well-established questionnaire (Berzonsky, 1990). This section was divided into four parts, including informational identity style (11 items), normative identity style (9 items), diffuse/avoidance style (10 items) and commitment (10 items). The items followed a five-point Likert scale where 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, and 5= strongly agree.

*Moderating variables.* The items of this section were adapted from the Zaki (2003) Questionnaire of Socialization Elements. This instrument is known as a valid tool and has been used in two major research projects in Iran by Zaki himself. It has been tested for its validity and reliability. The 30 items of this questionnaire that were adapted in this study can be divided in three parts of family relationship (10 items), school (10 items)



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

and peer group relationship (10 items) factors. The items also followed a 5-point Likert scale where 5= very much, 4= much, 3=middle, 2= low and 1= very low.

Extraversion: The 12 items in this section were adapted from Costa and McCrae (1990). The value of each response for these items was as follow: 0= strongly disagree, 1= disagree, 3= agree, and 4= strongly agree.

**Identity styles**

It is important to note that questions 9, 11, 14, and 20 have reverse marks. A person with informational identity style can score on items 2, 5, 6, 16, 18, 25, 26, 30, 33, 35, and 37. As a matter of fact, the raw scores need to be changed into Z standard scores and the highest score that one has achieved in each part would be considered as one's identity style.

In the questionnaire, normative identity style was measured by items 4, 10, 19, 21, 23, 28, 32, 34 and 40; while confusion identity style was measured by items 3, 8, 13, 17, 24, 27, 29, 31, 36 and 38. Finally, commitment was measured by items 1, 7, 9, 11, 12, 14, 15, 20, 22, 38 and 40. In the present research, the commitment scores that the students achieved represent their degree of commitment to their personal roles, values and beliefs. Vaziri, Lotfi Kashani, Jamshidifar, and Vaziri (2014) showed that the identity style inventory ISI-6G is a valid and reliable instrument to measure Iranian student's identity styles.

**Moderating Variables**

It is important to note that questions 3, 12, 14, 15, 20, 22, 23, 25 have reverse marks. The items that covered the family relationship subscale were questions 1, 9, 13, 16, 20, 23, 24, 26,



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

29 and 30. Furthermore, the level of education subscale was measured by questions 2, 4, 5, 8, 12, 15, 18, 21, 22 and 25. Finally, peer group relationship subscale was covered by questions 3, 6, 7, 10, 11, 14, 17, 19, 27 and 28.

**Extraversion**

In this part of the questionnaire, extraversion was measured by questions 2, 7, 12, 17, 22, 27, 32, 37, 42, 47, 52, and 57.

**Table 1**

**Cronbach's Alpha Reliability Test Result**

| Variables | Cronbach's Alpha Pilot (n=30) | Cronbach's Alpha Current Study(n=380) | No. of Item |
|---|---|---|---|
| Identity Styles | .762 | .701 | 40 |
| Informational | .601 | .780 | 11 |
| Normative | .678 | .672 | 9 |
| Diffuse | .748 | .650 | 10 |
| Commitment | .728 | .704 | 10 |
| Extraversion | .671 | .770 | 12 |
| Moderating variable | .889 | .874 | 30 |
| Family relationship | .881 | .834 | 10 |
| Peer group relation | .840 | .808 | 10 |
| Level of education | .791 | .729 | 10 |

## Results

In the next step of analysis, other four 3-step moderated hierarchical regression analyses were used to examine moderating effects of moderating variables (family relationship, level of education, and peer group relationship) on the



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

association between extraversion and identity styles. The results of all models have been presented in Table 2.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

**Table 2**

**Moderating Effects of Moderating Variables on the Association between Extraversion and Identity Styles**

| | Informational | | | | Normative | | | | Diffuse | | | | Commitment | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Variable** | **B** | **SE** | **β** | **p** | **B** | **SE** | **B** | **P** | **B** | **SE** | **β** | **P** | **B** | **SE** | **β** | **p** |
| Constant | 40.85 | .25 | | .001 | 34.49 | .23 | | .001 | 21.07 | .19 | | .001 | 37.28 | .29 | | .001 |
| Extraversion | .24 | .04 | .30 | .001 | .29 | .04 | .39 | .001 | -.08 | .03 | -.14 | .01 | .24 | .04 | .27 | .001 |
| Constant | 40.85 | .23 | | .001 | 34.49 | .18 | | .001 | 21.07 | .19 | | .001 | 37.28 | .24 | | .001 |
| Extraversion | .12 | .04 | .14 | .01 | .11 | .03 | .15 | .001 | -.14 | .03 | -.23 | .001 | .06 | .04 | .06 | .181 |
| Family relationship | .06 | .04 | .08 | .121 | .23 | .03 | .30 | .001 | .07 | .03 | .12 | .035 | .09 | .04 | .10 | .028 |
| Level of education | .18 | .04 | .21 | .001 | .11 | .03 | .14 | .001 | .07 | .04 | .12 | .038 | .22 | .04 | .22 | .001 |
| Peer group relationship | .38 | .07 | .26 | .001 | .53 | .05 | .40 | .001 | .02 | .05 | .02 | .700 | .75 | .07 | .46 | .001 |
| Constant | 40.97 | .25 | | .001 | 34.47 | .20 | | .001 | 21.03 | .21 | | .001 | 37.41 | .26 | | .001 |
| Extraversion | .10 | .04 | .12 | .031 | .11 | .03 | .15 | .001 | -.13 | .04 | -.22 | .001 | .04 | .05 | .04 | .415 |
| Family relationship | .06 | .04 | .07 | .166 | .21 | .03 | .27 | .001 | .06 | .03 | .11 | .071 | .10 | .04 | .11 | .026 |
| Level of education | .19 | .04 | .22 | .001 | .13 | .03 | .16 | .001 | .07 | .04 | .12 | .036 | .21 | .04 | .22 | .001 |
| Peer group relationship | .37 | .07 | .26 | .001 | .52 | .05 | .39 | .001 | .02 | .05 | .02 | .706 | .75 | .07 | .46 | .001 |
| Family relationship × Extraversion | -.01 | .01 | -.07 | .231 | -.01 | .00 | -.06 | .195 | .00 | .00 | .03 | .622 | .00 | .01 | .02 | .616 |
| Level of education × Extraversion | .00 | .01 | -.03 | .546 | .01 | .00 | .10 | .017 | .01 | .00 | .06 | .311 | -.01 | .01 | -.07 | .152 |
| Peer group relationship x Extraversion | .01 | .01 | .04 | .387 | -.02 | .01 | -.08 | .064 | -.02 | .01 | -.13 | .027 | -.01 | .01 | -.04 | .394 |



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

The findings revealed that the relationship between extraversion and normative style is significantly moderated by the level of education (β= .10, p<.05). Additional results also showed that peer group relationship significantly moderates the relationship between extraversion and diffuse identity style (β= -.13, p<.05).

Figure 1 illustrates a significant moderation impact of the level of education on the association between extraversion and normative style. It indicates that the level of education significantly increases the effect of extraversion on improving the normative style. Extraverts are sociable, assertive, active, enthusiastic, excitement seeking, and talkative. According to personality theory, people with different personalities behave differently in various situations. For example, students with high scores on extraversion are more sociable, can establish good relationships with others and can reduce family relationship conflicts.

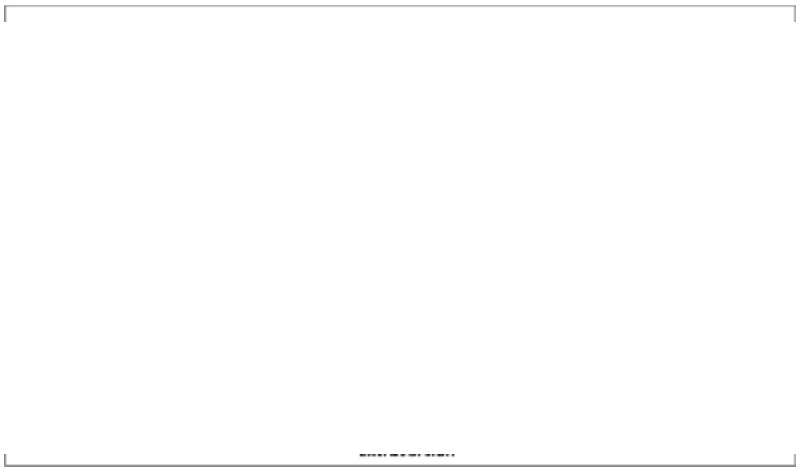


**Figure 1. Moderating Effects of Level of Education on the Association between Extraversion and Normative Style**



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Figure 2 shows that peer group relationship reduces the relationship between extraversion and diffuse identity style. Those students with a high level of peer group relationship reported lower levels of diffuse style compared to students with low levels of peer group relationship. Extraverts are sociable, assertive, active, exuberant, excitement seeking, and talkative. According to personality theory, people with different personality types behave differently in different situations.

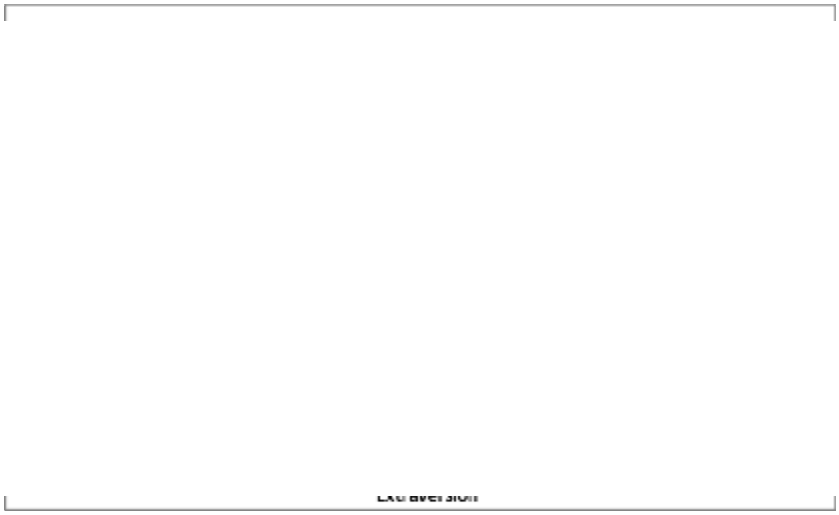


**Figure 2. Moderating Effects of Peer Group Relationship on the Association between Extraversion and Diffuse**

The regression analysis results of this study were supported by many previous studies (Adams, Berzonsky, & Keating, 2006; Aghamohammdian & Shekhrohani, 2003; Bartle-Haring, 1997; Berzonsky, 2004; Berzonsky & Papini, 2015; Campbell et al., 1984; Doran, 2003; Duriez, Luyckx, Soenens, & Berzonsky, 2012; Grotevant & Cooper 1985, 1986; Grotevant, 1987;



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Hajikhayat, 2003; Kamptner, 1988; Kerpelman et al., 1997; Kroger, 2005; Lotfabadi, 2015; Markstrom-Adams, 1992; Matos et al., 1999; Moghanloo & Vafaie, 2008; Neli-e-Ahmmadabadi, 2003; Qasemi, Arafi, & Sheikholslami, 2003; Schultheiss & Blustein, 1994; Sigelman & Rider, 2014; Soenens, Berzonsky, Dunkel, & Papini, 2011; Waterman, 1992).

## Conclusion

This study explored the effects of moderating variables (family relationship, level of education and peer group relationship) on the association between extraversion and identity styles among adolescents in Golestan, Iran. This study, being the first of its kind to field-test this subject, aimed to determine the effects of moderating variables on relationship between personality characteristics (extraversion) and the adolescent's identity styles. This study also made some contributions to theoretical and conceptual understandings of identity styles, personality characteristics and moderating variables among adolescents. Previous to this study, other studies had explored the construct of personality, identity styles and their relationship with mental health, social health, socioeconomic status, family authority and other aspects of psychology, social psychology and sociology.

The utility of the concept of personality characteristics and moderating variables in looking at identity development in adolescence has been reasonably well established. Findings of this study provide support for existing conceptualizations about identity styles, personality characteristics and moderating variables.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Simultaneous with writing the research article, other studies were exploring the construct of personality; other studies had conceptualized identity styles and personality characteristics by focusing on one particular area. To name few, we can refer to studies on identity styles and their relationship with mental health, social health (Jomenia 2009), relationship mental health, socioeconomic status and identity(Ghorbani et al., 2005), relationship between social health, economical-social and identity styles (Jabbari & Ghorbani, 2007), identity style, parental authority, and identity commitment (Berzonsky, 2004), examining the three dimensions of perceived parenting styles i.e. parental identification and interaction between parenting and identification accounted for variation in the identity processing styles (Soenens et al., 2011), parental attachment and identity in late adolescence (Matos et al., 1999), parent-adolescent relation, identity and emotional adjustment in adolescence (Meeus, Iedema, Helsen, & Vollebergh, 1999), identity-processing style, psychosocial resources, and adolescents' perceptions of parent-adolescent relations (Berzonsky, Branje, & Meeus, 2007), identity development in late adolescence, causal modeling of social and familial influences (Kamptner, 1988), identity formation and parent-child value congruence in adolescence (Knafo & Schwartz, 2004). There are some other studies focusing on the perceived parenting dimensions and identity styles such as exploring the socialization of adolescents processing of identity-relevant information(Smits et al., 2008), identity styles in adolescence, measurement and associations with perceived parenting, personal well-being, and interpersonal functioning (Smits, 2009), identity as a moderator of intervention-related change, identity style and adolescents'



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

responses to relationships education (Kerpelman , Pittman , & Adler-Baeder 2008), the predictive utility of connectedness and individuality in family relations (Campbell et al., 1984), the psychosocial resources in first-year university students such as the role of identity processes and social relationships (Adams et al., 2006), patterns of interaction in family relationships and the development of identity exploration in adolescence (Grotevant & Cooper 1985), gender and identity, the intersection of structure, content, and context (Kroger, 2005), the longitudinal associations between identity styles and goal pursuits ( Duriez et al. 2012), identity components, and identity processing styles (Berzonsky and Papini, 2015).

There is a significant effect of moderating variables on personality characteristics and identity styles. The result showed that moderating variables could moderate effects on personality characteristics and identity styles. This conforms to the reports made by past researchers. To conclude, the study is based on personality characteristics, moderating variables and identity styles.

**Implications of the Study (Theory and Practice)**

This study has identified several significant contributing factors such as personality characteristics and, moderating variables that relate to the development of identity styles of adolescents. Hopefully, the results of the present study will enrich the body of literature on social psychology, psychology and sociology theories. Since identity style is the key factor in social psychology, psychology and sociology, highlighting this concept can contribute to the literature. The research has



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

important implications for future study on identity styles, both at a theoretical and practical level.

Moderating variables including family relationship, level of education and peer group relationship greatly affected the identity styles; as it has always been the fact that many scholars agree upon, family relationship has an enormous role on identity style. Family relationship, the fundamental social unit of society, can be expected to exert influential impacts on the development of social behaviors such as adolescents' identity styles (Rouholamini, 2002). Family, friends, teachers and all the people who interact with adolescents can affect the formation of their identity (Aghamohammdian & Shekhrohani, 2003; Doran, 2003; Hajikhayat, 2003; Neli-e-Ahmmadabadi, 2003). Parents and teachers should encourage adolescents to look for information and use it only after evaluating it. The foundation of a person's personality is formed in his/her family. Therefore, family is the first factor to train children and form their personality and identity. Lack of coordination between social institutions especially family, school, and university can cause diffusion in the adolescent and lead to an Anomic condition, as Durkheim points out. Adolescents with a diffuse identity should be able to improve their self-esteem and self-efficacy by participating in social groups. They should be able to develop assertiveness to manage peer pressure and to make right choices in finding friends. They should be helped to develop life skills and increase their abilities. Parents should be helped in their roles to support their children with diffuse identity and be informed of this situation. Parents also should be taught about adolescent's development.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Finally, moderating variables were hypothesized to have significant but indirect effect on personality characteristics and identity styles, the results showed that moderating variables moderate relationships between personality characteristics and identity styles (similar to the findings of other studies in other places) cognitive theory is found to be the best theory in the identity styles of adolescents in Iran. It is anticipated that moderating variables might moderate adolescents' identity styles. Much of what adolescents experience in family relationships, level of education and peer group relationship is likely to influence their identity styles.

In this study, adolescents were found to have problems concerning their identity styles. Moderating variables including family relationship, level of education and peer group relationship, which were used as moderators, showed that they influence identity styles. In addition, conscientiousness, openness to experience, extraversion, and neuroticism are most important in identity styles of adolescents. On the other hand, family relationship, level of education and peer group relationship moderate association between personality characteristics and identity styles. In other words, proper moderating variables and personality characteristics may improve adolescents' identity styles.

One of the most important problems students face in their process of identity formation is to receive proper information and analyze it correctly in order to solve their problems. Individuals can use social cognitive processes for resolving their identity and experience a better process of identity formation. Therefore, adolescents should be encouraged to search for information and to evaluate the information before using it.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Learning life skills helps adolescents to better solve identity formation problems.

The findings of this investigation can assist the government in the design and implementation of identity development in adolescents. It is expected that the findings of this study could be utilized by the government system for their future follow-up studies and reassessment of identity styles for identity development.

**Recommendations for Future Research**

Findings of this study could be used as guidelines to develop measuring scales for identity styles in other areas of concern. As an example, regarding the great impact of mass media on identity formation, further research can focus on the effect of mass media on different dimensions (e.g. national and religious) of identity. Also the experience of studying at university and its effects on identity formation is worth investigation. Moreover, further studies can examine whether proper sociocultural environment (e.g. mass media, internet, educational textbooks) can play any role in improving adolescents' identity.

Future research is also needed to explore identity styles using other approaches and theories. This research focused on high school graduates and pre-university students aged 17 and 18 years old. Future research can be conducted on different educational grades and ages and on other samples. Future research can compare the role of mothers and fathers separately in adolescents' identity formation. Finally, it remains for future research to determine the factors that moderate identity styles in different` cultural contexts.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

### *References*

Adams, G. R., Berzonsky, M. D., & Keating, L. (2006). Psychosocial resources in first-year university students: The role of identity processes and social relationships. *Journal of Youth and Adolescence, 35(1)*, 78-88.

Aghamohammdian, H., & Shekhrohani, S. (2003). Concept and process of identity formation and effect of social factors and amend and therapy of identity issues. *Journal of Education and Psychology, 4(1)*, 199-226.

Atkinson, RL, Atkinson, RC, & Hilgard, ER. (1979). *Introduction to psychology*: Harcourt Brace Jovanovich San Diego.

Bartle-Haring, S. (1997). The relationships among parent–adolescent differentiation, sex role orientation and identity development in late adolescence and early adulthood. *Journal of Adolescence, 20(5)*, 553-565.

Berzonsky, M. D. (2004). Identity style, parental authority, and identity commitment. *Journal of Youth and Adolescence, 33(3)*, 213-220.

Berzonsky, M. D., & Ferrari, J. R. (1996). Identity orientation and decisional strategies. *Personality and Individual Differences, 20(5)*, 597-606.

Berzonsky , M. D., & Kuk, L. (2000). Identity status, identity processing style, and the transition to University. *Journal of Adolescent Research, 15(1)*, 81-98.

Berzonsky, M. D. (1990). Self-construction over the life-span: A process perspective on identity formation. *Advances in Personal Construct Psychology, 1*, 155-186.

Berzonsky, M. D. (1993). A constructivist view of identity development: People as postpositivist self-theorists



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

*Discussions on ego identity* (pp. 169-203). Hillsdale, NJ: Lawrence Erlbaum Associates.

Berzonsky, M. D. (1998a). *Psychosocial development in early adulthood: The transition to university*. Paper presented at the biennial meetings of the international society for the study of behavioral development, Berne, Switzerland.

Berzonsky, M. D. (1998b). *A self-regulatory model of identity development*. Paper presented at the biennial meetings of the international society for the study of dehavioural development, Berne, Switzerland.

Berzonsky, M. D. (2011). A social-cognitive perspective on identity construction. In Schwartz (Ed.), *Handbook of Identity Theory and Research* (Vol. part 1, pp. 55-76): Springer Science, Business Media.

Berzonsky, M. D., Branje, S. J. T., & Meeus, W. (2007). Identity-processing style, psychosocial resources, and adolescents' perceptions of parent-adolescent relations. *The Journal of Early Adolescence, 27(3)*, 324-345.

Berzonsky, M. D., Cieciuch, J., Duriez, B., & Soenens, B. (2011). The how and what of identity formation: Associations between identity styles and value orientations. *Personality and Individual Differences, 50(2)*, 295-299.

Berzonsky, M. D., & Kuk, L. S. (2005). Identity style, psychosocial maturity, and academic performance. *Personality and Individual Differences, 39(1)*, 235-247.

Berzonsky, M. D., & Papini, D. R. (2015). Cognitive Reasoning, Identity Components, and Identity Processing Styles. *Identity, 15(1)*, 74-88.

Campbell, E., Adams, G. R., & Dobson, W. R. (1984). Familial correlates of identity formation in late adolescence: A study



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

of the predictive utility of connectedness and individuality in family relations. *Journal of Youth and Adolescence, 13(6)*, 509-525.

Cochran, W. G. (1977). *Sampling techniques (3rd ed.)*. New York: John Wiley & Sons.

Costa, P. T., & McCrae, R. R. (1990). Personality disorders and the five-factor model of personality. *Journal of Personality Disorders, 4(4)*, 362-371.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, Mail and Mixed Mode Survey :The tailored design method* (3th edition ed.): Publisher: Hoboken: Wiley.

Doran, B. (2003). The effective computer video games on identity. *Journal of Education and Psychology, 4(1)*, 185-197.

Duriez, B., Luyckx, K., Soenens, B., & Berzonsky, M. (2012). A process-content approach to adolescent identity formation: Examining longitudinal associations between identity styles and goal pursuits. *Journal of Personality, 80(1)*, 135-161.

Educational organization of Golestan State. (2010). *Annual report of educational organization of Golestan State* Gorgan, Iran: Educational organization of Golestan State.

Ghorbani, A. R., Mohammadiayra, A. R., & Kochaki, A. (2005). Considering the condition of identity styles and its relationship with public health and youths' economical-social status. *Education and Psychology, 7(2)*, 153-172.

Grotevant, H. D., & Cooper, C. R. (1985). Patterns of interaction in family relationships and the development of identity exploration in adolescence. *Child Development, 56(2)*, 415-428.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Grotevant, H. D., & Cooper, C. R. (1986). Individuation in family relationships: A perspective on individual differences in the development of identity and role-taking skill in adolescence. *Human Development, 29(2)*, 82-100.

Grotevant, H. D. (1987). Toward a process model of identity formation. *Journal of Adolescent Research, 2*, 203-222.

Hajikhayat, A. R. (2003). Explaining of identity dimension *Journal of Education and Psychology, 4(1)*, 163-183.

Jabbari, A., & Ghorbani, A. R. (2007). *Nomination of identity styles and its relationship with Social health and economical-social among students*. Islamic Azad University. Azadshahr, Iran.

Jomenia , S. (2009). *Survey relationship between social health and mental Health with finding identity styles the students high School in Gonbad.* (M. A), Shahid Beheshti University, Tehran.

Kamptner, N. L. (1988). Identity development in late adolescence: Causal modeling of social and familial influences. *Journal of Youth and Adolescence, 17(6)*, 493-514.

Kerpelman, J. L., Pittman, J. F., & Adler-Baeder, F. (2008). Identity as a Moderator of Intervention-Related Change: Identity Style and Adolescents' Responses to Relationships Education. *Identity: An International Journal of Theory and Research, 8(2)*, 151-171.

Kerpelman, J. L., Pittman, J. F., & Lamke, L. K. (1997). Toward a microprocess perspective on adolescent identity development:An identity control theory approach. *Journal of Adolescent Research, 12(3)*, 325-346.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Kerpelman, N. L. (1988). Identity development in late adolescence:Causal modeling of social and family influences. *Journal of Youth and Adolescence, 17(6)* 493-514.

Knafo, A., & Schwartz, S. H. (2004). Identity formation and parent-child value congruence in adolescence. *British Journal of Developmental Psychology, 22(3)*, 439-458.

Korger, J. (1996). *Identity in Adolescence,The Balance between self and others*. New Yourk: Routledge.

Kroger, J. (2005). *Identity in adolescence: The balance between self and other* (edition Ed.). New York: Routledge.

Lotfabadi, H. (2015). *Developmental Psychology, (2)*. Tehran: Samt press.

Markstrom-Adams, C. (1992). A consideration of intervening factors in adolescent identity formation. *Adolescent Identity Formation, 4*, 173-192.

Matos, P. M., Barbosa, S., Almedia, H. M. D., & Costa, M. E. (1999). Parental Attachment and Identity in Protuguese late adolescents *Journal of Adolescence, 22*, 805-818.

Meeus, W., Iedema, J., Helsen, M., & Vollebergh, W. (1999). Patterns of adolescent identity development: Review of literature and longitudinal analysis. *Developmental Review, 19(4)*, 419-461.

Moghanloo, M., & Vafaie, M. (2008). Five Factor Model of Personality and Identity Styles. *Psychological Research 11(1)*, 1-22.

Neli-e-Ahmmadabadi, M. R. (2003). The role of mass-media on identity formation. *Journal of Education and Psychology 4(1)*, 91-111.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Neuman, WL. (2011). Social research methods: Qualitative and quantitative approaches . US: Pearson Education (7th ed.): Inc.

Qasemi, M., Arafi, M., & Sheikholslami, R. (2003). Survey relationship identity and values on youth *Education and Psychology Ferdowsi University of Mashhad, 4(1)*, 245-263.

Rouholamini, S. (2002). *Formative research on familial characteristics of drug users in Iran* (masters' thesis), Yale University, Unpublished, New Haven.

Schultheiss, D. P., & Blustein, D. L. (1994). Contributions of family relationship factors to the identity formation process. *Journal of Counseling and Development, 73*, 159-166.

Sigelman, C. K., & Rider, E. A. (2014). *Life- Span Human Development*. Washington:Brooks: Cengage Learning.

Smits, I. (2009). *Identity styles in adolescence: Measurement and associations with perceived parenting, personal well-being, and interpersonal functioning.* (Ph.D), Katholieke University Leuven.

Smits, I., Soenens, B., Luyckx, K., Duriez, B., Berzonsky, M., & Goossens, L. (2008). Perceived parenting dimensions and identity styles: Exploring the socialization of adolescents processing of identity-relevant information. *Journal of Adolescence, 31(2)*, 151-164.

Soenens, B., Berzonsky, M. D., Dunkel, C. S., & Papini, D. R. (2011). The role of perceived parental dimensions and identification in late adolescents' identity processing styles. *Identity, 11(3)*, 189-210.

Vaziri, Sh., Lotfi Kashani, F., Jamshidifar, Z., & Vaziri, Y. (2014). The Identity Style Inventory validation in Iranian



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

college students. *Procedia-Social and Behavioral Sciences 128,* 316 – 320

Waterman, A. S. (1992). Identity as an aspect of optimal psychological functioning. *Advances in Adolescent Development* (Vol. 4, pp. 50-72). Thousand Oaks, CA, US: Sage.

Zaki, M. A. (2003). Making and validatory of socialization factors Scale and examining effect of it on identity formation students. *Journal of Education and Psychology, 4(1),* 281-306.

[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

**IPA**
International Journal of Psychology
Vol. 11, No. 1, Winter & Spring 2017
PP. 123-149

**I**ranian **P**sychological
**As**sociation

# The Effects of the Moderating Variables (Family, Education, Peer Group) on the Association between Extraversion and Identity Styles

**Alireza Ghorbani, PhD***
Department of Social science
Payame Noor University Golestan
it_ghorbani@yahoo.com

**Haslinda Abdullah, PhD**
Department of Social and Development Sciences (SDSD)
University Putra Malaysia 43400,
UPM Serdang, Selangor, Malaysia

**Nobaya Ahmad Ali, PhD**
Department of Social and Development Sciences (SDSD)
University Putra Malaysia 43400,
UPM Serdang, Selangor, Malaysia

**Ma'rof Redzuan, PhD**
Department of Social and Development Sciences (SDSD)
University Putra Malaysia 43400,
UPM Serdang, Selangor, Malaysia

Received: 4/ 9/ 2015 Revised: 22/ 11/ 2016 Accepted: 26/11/ 2016

The present study aims at examining the effects of moderating variables on the association between extraversion and identity styles. A quantitative research method (descriptive and survey) was employed. The sample included high school students (n=380) aged 17 and 18. Data was collected through self-administered questionnaires. Hierarchical regression analyses were used. In the first stage, the relationship between extraversion and normative style was significantly moderated by the level of education (β= .10, p<.05). Additional results also showed that peer group relationship significantly moderates the relationship between extraversion and also diffuses identity style (β= -.13, p<.05). The results of the study supported theories like social cognitive theory, General other theory, and the triat approach. The results shed new light on the processes involved in the personality characteristics and moderating variables of adolescents' styles of identity exploration.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

***Keywords:*** Extraversion, Identity styles, Moderating Variables

The issue of identity has been discussed in various sub-fields of psychology, such as social, developmental, pathological and personal ones. This fact indicates the relevance of identity to various fields of study while also demonstrating the vastness of the topic. Identity is an organized sense of self-recognition that includes the values, beliefs and goals to which individuals are committed (Berzonsky, 1998a). Identity helps people define themselves. A person whose self-definition contradicts his/her social reality will exhibit lack of experience, stress and behavioral problems. Many psychologists believe that adolescents' typical behaviors are their natural attempt to define themselves and explore their identity (Lotfabadi, 2015).

Berzonsky defines identity as an organized sense of self that includes the values, beliefs and goals to which an individual is committed. People differ in their use of social-cognitive processes to solve private issues, make decisions and form their identity, and they apply these processes in different ways (Berzonsky, 1998b). One of these ways is through the diffuse-avoidant identity style. People exhibiting this style avoid confronting personal issues and decisions. If they delay confronting these issues for a sufficiently long time, they will exhibit behavioral reactions and will be controlled by situational demands and motives (Berzonsky & Kuk, 2000). Another identity style that is called the informational style entails a willingness to investigate multiple solutions to a given problem and to explore several options before committing to anyone. This style coincides with traits such as cognitive complexity, adaptive regulation, especially in late adolescence or older, empathy, as well as values associated with openness,



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

independence, and autonomy rather than security and tradition, often transcending selfish interests (Berzonsky, Cieciuch, Duriez & Soenens, 2011).

The normative style represents growth by conforming to social and familial expectations and a high degree of commitment to authority and to the exercise of judgment (Berzonsky, 1993). These individual differences in approaching important life decisions are referred to as identity styles (Smits, 2009). Identity-processing styles may play an effective and ineffective self-regulation so that a coherent sense of continuity can be achieved (Berzonsky, 2011)

It is important to distinguish identity styles from other relatively stable individual differences such as personality characteristics, values and attitudes. Personal characteristics describe what people are like, while values and attitudes describe what people consider as important, and identity styles describe how people make identity-relevant decisions. In this respect, Berzonsky (1990) points out that identity styles should be considered as developmental outcomes. According to him, adolescents interact within environmental contexts; they develop a preference for a particular identity style. This preference may be further reinforced by the life events and social relationships that are elicited by this identity style. As adolescents enter adulthood, their identity style is thought to become relatively stable although stressful life events or therapeutic interventions may still affect their identity styles.

Moderating variables include family relationship, level of education, and peer group relationship. Among all moderating variables, parents and family have the most crucial effect on individual identity and how it is formed. In addition, school,



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

political system and socioeconomic status of the society have a great role in identity formation (Aghamohammdian & Shekhrohani, 2003). Identity formation in adolescents is affected by four factors: cognitive development, adolescent-parent relationship, outside experiences and broader cultural encounters (Sigelman & Rider, 2014). Among aforementioned factors, the role of family in identity styles is stressed in many studies (Campbell, Adams, & Dobson, 1984; Kamptner, 1988; Kerpelman, Pittman, & Lamke, 1997; Markstrom-Adams, 1992; Matos, Barbosa, Almedia, & Costa, 1999; Schultheiss & Blustein, 1994; Sigelman & Rider, 2014; Waterman, 1992).

One of the major problems that adolescents face is their identity formation. Adolescents try to reconstruct scattered elements of their character, re-experience previous conflicts and get engaged with their parents. Constantly They will be experiencing different roles as well as behaviors and finally put them aside to re-experience everything on their own (Atkinson, Atkinson, & Hilgard, 1979). Although there may be differences in the efficiency with which they are accessed and utilized, research has indicated that by age 18 most late adolescents are capable of utilizing all three types of social-cognitive strategies that underpin identity styles (Berzonsky & Ferrari, 1996; Berzonsky, 1990; Berzonsky & Kuk, 2005).

A related literature review in this area clearly shows the two most significant factors such as: personality characteristics and moderating variables affecting identity formation among adolescents (Bartle-Haring, 1997; Campbell et al., 1984; Grotevant & Cooper 1985; Kamptner, 1988; Kerpelman et al., 1997; Markstrom-Adams, 1992; Matos et al., 1999; Schultheiss & Blustein, 1994; Sigelman & Rider, 2014; Waterman, 1992).



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Therefore, this study aims to examine the moderator effect of moderating variables on relationship between personality characteristics and the adolescents' identity styles in Golestan, Iran. Previous related research conducted in Golestan, Iran, showed that one third of the participants can be categorized in diffuse identity styles (Ghorbani, Mohammadiayra, & Kochaki, 2005; Jabbari & Ghorbani, 2007; Jomenia 2009). Personality characteristics significantly contribute to identity formation among adolescents (Bartle-Haring, 1997; Campbell et al., 1984; Grotevant & Cooper 1985; Kamptner, 1988; Kerpelman et al., 1997; Kerpelman, 1988; Markstrom-Adams, 1992; Matos et al., 1999; Schultheiss & Blustein, 1994; Sigelman & Rider, 2014; Waterman, 1992).

As mentioned earlier, the review of related literature shows that personality characteristics substantially influence identity styles. It is, therefore, imperative to find psychosocial factors that may moderate the association between personality characteristics and identity styles. Since, during one's adolescence, parents, companions, as well as educational, religious, political and legal systems play essential roles in forming one's cultural pattern (Korger, 1996) and have huge effects on youth identity formation (Neli-e-Ahmmadabadi, 2003), the current study aims to examine the effects of moderating variables (family relationship, level of education and peer group relationship) on the association between extraversion and identity styles among adolescents in Golestan, Iran.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

## Method

### Research Design

This study used correlation techniques and questionnaires to collect data. According to Neuman (2011), surveys are appropriate for research questions, particularly ones on self-reported beliefs or behaviors. This study was conducted in schools; therefore, the researcher did not manipulate the situation and minimally interfered with the normal practices of the schools. The respondents were required to answer the questions.

### Population of the Study

The statistical population in this research consists of all high-school and pre-university students living in the Golestan province during the year this research was being conducted. There were 30817 adolescents of 17 and 18 years old who studied in high schools and pre-university schools in the province of Golestan (Educational organization of Golestan State, 2010).

### Sampling Procedure and Sample Size

The sampling method utilized for this study is a multistage cluster sampling based on which the urban and rural areas in the province were put into clusters (regarding the population in each) and the samples were randomly selected. Consequently, 4 out of 12 areas (cities or towns including their surrounding villages) were randomly chosen.The number of samples which was determined to be 380 was proportioned according to the population of each selected area. Next, a list of



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

students from the selected high schools and pre-university centers was provided to determine the proportion of sample students from each school. Finally, the samples were chosen randomly from the list, regarding their level of education and their field of study.

The clustering of towns was based on the population of the Golestan province. The first cluster included the cities of Kordkooy, Bandargaz, Ramyan, Azadshahr, Galikesh and Aghghala with populations of 46226-117261. The second cluster included the cities of Minoodasht, Kalalahe, Aliabad, and Bandarturkman with populations of 117262-188296. The third cluster had no cities. The fourth cluster consisted of only one city, Gonbad with a population of 259332-401401. The Fifth cluster comprised one city, Gorgan. The cities that were finally selected were Bandargaz, Gorgan, Aliabad and Gonbad.

The province of Golestan comprises twelve towns. These towns were divided into five groups. No town was allotted to the third group. Therefore, four groups were formed in this study. Out of the four groups, four towns (including their rural areas) were selected randomly. In the next step, the researcher referred to the education department in each city and found out about the number of urban and rural schools in the eleventh grade and pre-university classes. In each town and its rural areas, girls and boys schools were chosen randomly. After selecting the schools on the basis of gender, grade and educational fields, the researcher referred to the selected schools and chose the samples randomly from the teacher's list of students' names.

This study uses Cochran's second suggestion that is using a pilot study result. The total number of students in the school year was 13993. Thus, based on the Cochran (1977), the



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

minimum required sample size was calculated 374 and 10 samples were added for considering the attrition rate. With regard to the four uncompleted questionnaires, the final sample included in the data analysis was 380 respondents.

**Instrument**

The main research instrument used in this study was a questionnaire. A well-established method of collecting data in social science research is using questionnaires (Dillman, Smyth, & Christian, 2009). The questionnaire in this study was adapted from a number of well-established instruments available in the related literature.

The questionnaire consisted of three main sections developed specifically for separate domains.

*Identity styles.* This section comprised 40 items which were adapted from a well-established questionnaire (Berzonsky, 1990). This section was divided into four parts, including informational identity style (11 items), normative identity style (9 items), diffuse/avoidance style (10 items) and commitment (10 items). The items followed a five-point Likert scale where 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, and 5= strongly agree.

*Moderating variables.* The items of this section were adapted from the Zaki (2003) Questionnaire of Socialization Elements. This instrument is known as a valid tool and has been used in two major research projects in Iran by Zaki himself. It has been tested for its validity and reliability. The 30 items of this questionnaire that were adapted in this study can be divided in three parts of family relationship (10 items), school (10 items)



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

and peer group relationship (10 items) factors. The items also followed a 5-point Likert scale where 5= very much, 4= much, 3=middle, 2= low and 1= very low.

Extraversion: The 12 items in this section were adapted from Costa and McCrae (1990). The value of each response for these items was as follow: 0= strongly disagree, 1= disagree, 3= agree, and 4= strongly agree.

**Identity styles**

It is important to note that questions 9, 11, 14, and 20 have reverse marks. A person with informational identity style can score on items 2, 5, 6, 16, 18, 25, 26, 30, 33, 35, and 37. As a matter of fact, the raw scores need to be changed into Z standard scores and the highest score that one has achieved in each part would be considered as one's identity style.

In the questionnaire, normative identity style was measured by items 4, 10, 19, 21, 23, 28, 32, 34 and 40; while confusion identity style was measured by items 3, 8, 13, 17, 24, 27, 29, 31, 36 and 38. Finally, commitment was measured by items 1, 7, 9, 11, 12, 14, 15, 20, 22, 38 and 40. In the present research, the commitment scores that the students achieved represent their degree of commitment to their personal roles, values and beliefs. Vaziri, Lotfi Kashani, Jamshidifar, and Vaziri (2014) showed that the identity style inventory ISI-6G is a valid and reliable instrument to measure Iranian student's identity styles.

**Moderating Variables**

It is important to note that questions 3, 12, 14, 15, 20, 22, 23, 25 have reverse marks. The items that covered the family relationship subscale were questions 1, 9, 13, 16, 20, 23, 24, 26,



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

29 and 30. Furthermore, the level of education subscale was measured by questions 2, 4, 5, 8, 12, 15, 18, 21, 22 and 25. Finally, peer group relationship subscale was covered by questions 3, 6, 7, 10, 11, 14, 17, 19, 27 and 28.

**Extraversion**

In this part of the questionnaire, extraversion was measured by questions 2, 7, 12, 17, 22, 27, 32, 37, 42, 47, 52, and 57.

**Table 1**

**Cronbach's Alpha Reliability Test Result**

| Variables | Cronbach's Alpha Pilot (n=30) | Cronbach's Alpha Current Study(n=380) | No. of Item |
|---|---|---|---|
| Identity Styles | .762 | .701 | 40 |
| Informational | .601 | .780 | 11 |
| Normative | .678 | .672 | 9 |
| Diffuse | .748 | .650 | 10 |
| Commitment | .728 | .704 | 10 |
| Extraversion | .671 | .770 | 12 |
| Moderating variable | .889 | .874 | 30 |
| Family relationship | .881 | .834 | 10 |
| Peer group relation | .840 | .808 | 10 |
| Level of education | .791 | .729 | 10 |

## Results

In the next step of analysis, other four 3-step moderated hierarchical regression analyses were used to examine moderating effects of moderating variables (family relationship, level of education, and peer group relationship) on the



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

association between extraversion and identity styles. The results of all models have been presented in Table 2.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

**Table 2**

**Moderating Effects of Moderating Variables on the Association between Extraversion and Identity Styles**

| | Informational | | | | Normative | | | | Diffuse | | | | Commitment | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Variable** | **B** | **SE** | **β** | **p** | **B** | **SE** | **B** | **P** | **B** | **SE** | **β** | **P** | **B** | **SE** | **β** | **p** |
| Constant | 40.85 | .25 | | .001 | 34.49 | .23 | | .001 | 21.07 | .19 | | .001 | 37.28 | .29 | | .001 |
| Extraversion | .24 | .04 | .30 | .001 | .29 | .04 | .39 | .001 | -.08 | .03 | -.14 | .01 | .24 | .04 | .27 | .001 |
| Constant | 40.85 | .23 | | .001 | 34.49 | .18 | | .001 | 21.07 | .19 | | .001 | 37.28 | .24 | | .001 |
| Extraversion | .12 | .04 | .14 | .01 | .11 | .03 | .15 | .001 | -.14 | .03 | -.23 | .001 | .06 | .04 | .06 | .181 |
| Family relationship | .06 | .04 | .08 | .121 | .23 | .03 | .30 | .001 | .07 | .03 | .12 | .035 | .09 | .04 | .10 | .028 |
| Level of education | .18 | .04 | .21 | .001 | .11 | .03 | .14 | .001 | .07 | .04 | .12 | .038 | .22 | .04 | .22 | .001 |
| Peer group relationship | .38 | .07 | .26 | .001 | .53 | .05 | .40 | .001 | .02 | .05 | .02 | .700 | .75 | .07 | .46 | .001 |
| Constant | 40.97 | .25 | | .001 | 34.47 | .20 | | .001 | 21.03 | .21 | | .001 | 37.41 | .26 | | .001 |
| Extraversion | .10 | .04 | .12 | .031 | .11 | .03 | .15 | .001 | -.13 | .04 | -.22 | .001 | .04 | .05 | .04 | .415 |
| Family relationship | .06 | .04 | .07 | .166 | .21 | .03 | .27 | .001 | .06 | .03 | .11 | .071 | .10 | .04 | .11 | .026 |
| Level of education | .19 | .04 | .22 | .001 | .13 | .03 | .16 | .001 | .07 | .04 | .12 | .036 | .21 | .04 | .22 | .001 |
| Peer group relationship | .37 | .07 | .26 | .001 | .52 | .05 | .39 | .001 | .02 | .05 | .02 | .706 | .75 | .07 | .46 | .001 |
| Family relationship × Extraversion | -.01 | .01 | -.07 | .231 | -.01 | .00 | -.06 | .195 | .00 | .00 | .03 | .622 | .00 | .01 | .02 | .616 |
| Level of education × Extraversion | .00 | .01 | -.03 | .546 | .01 | .00 | .10 | .017 | .01 | .00 | .06 | .311 | -.01 | .01 | -.07 | .152 |
| Peer group relationship x Extraversion | .01 | .01 | .04 | .387 | -.02 | .01 | -.08 | .064 | -.02 | .01 | -.13 | .027 | -.01 | .01 | -.04 | .394 |



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

The findings revealed that the relationship between extraversion and normative style is significantly moderated by the level of education (β= .10, p<.05). Additional results also showed that peer group relationship significantly moderates the relationship between extraversion and diffuse identity style (β= -.13, p<.05).

Figure 1 illustrates a significant moderation impact of the level of education on the association between extraversion and normative style. It indicates that the level of education significantly increases the effect of extraversion on improving the normative style. Extraverts are sociable, assertive, active, enthusiastic, excitement seeking, and talkative. According to personality theory, people with different personalities behave differently in various situations. For example, students with high scores on extraversion are more sociable, can establish good relationships with others and can reduce family relationship conflicts.

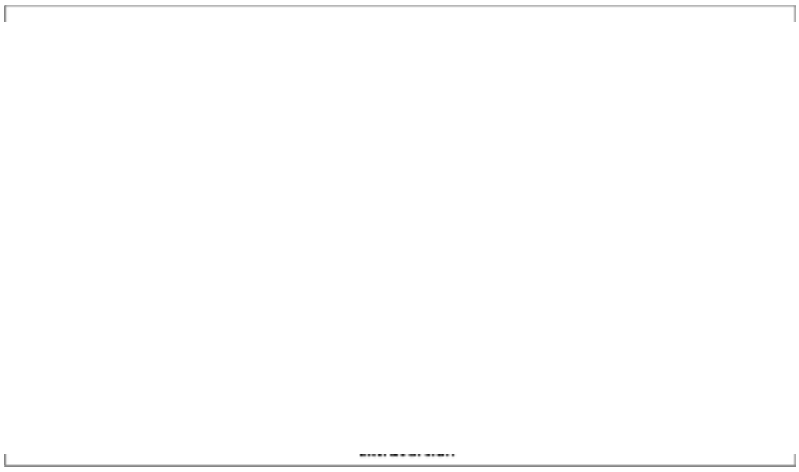


**Figure 1. Moderating Effects of Level of Education on the Association between Extraversion and Normative Style**



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Figure 2 shows that peer group relationship reduces the relationship between extraversion and diffuse identity style. Those students with a high level of peer group relationship reported lower levels of diffuse style compared to students with low levels of peer group relationship. Extraverts are sociable, assertive, active, exuberant, excitement seeking, and talkative. According to personality theory, people with different personality types behave differently in different situations.

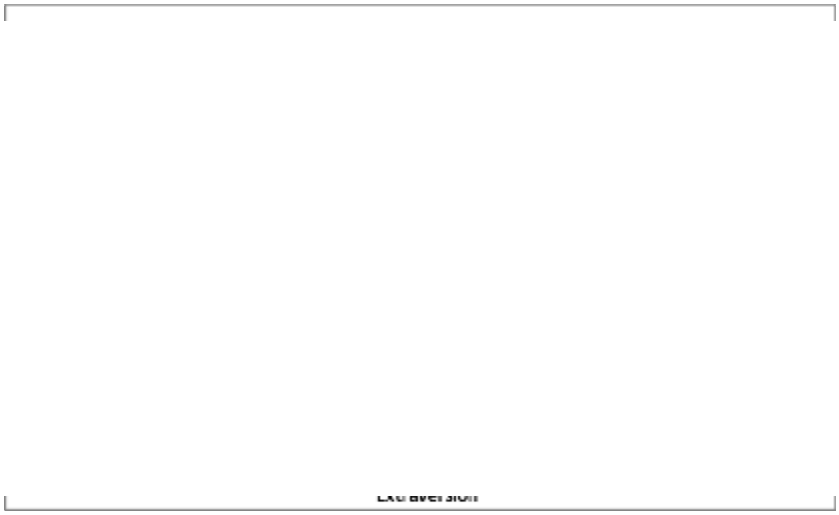


**Figure 2. Moderating Effects of Peer Group Relationship on the Association between Extraversion and Diffuse**

The regression analysis results of this study were supported by many previous studies (Adams, Berzonsky, & Keating, 2006; Aghamohammdian & Shekhrohani, 2003; Bartle-Haring, 1997; Berzonsky, 2004; Berzonsky & Papini, 2015; Campbell et al., 1984; Doran, 2003; Duriez, Luyckx, Soenens, & Berzonsky, 2012; Grotevant & Cooper 1985, 1986; Grotevant, 1987;



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Hajikhayat, 2003; Kamptner, 1988; Kerpelman et al., 1997; Kroger, 2005; Lotfabadi, 2015; Markstrom-Adams, 1992; Matos et al., 1999; Moghanloo & Vafaie, 2008; Neli-e-Ahmmadabadi, 2003; Qasemi, Arafi, & Sheikholslami, 2003; Schultheiss & Blustein, 1994; Sigelman & Rider, 2014; Soenens, Berzonsky, Dunkel, & Papini, 2011; Waterman, 1992).

## Conclusion

This study explored the effects of moderating variables (family relationship, level of education and peer group relationship) on the association between extraversion and identity styles among adolescents in Golestan, Iran. This study, being the first of its kind to field-test this subject, aimed to determine the effects of moderating variables on relationship between personality characteristics (extraversion) and the adolescent's identity styles. This study also made some contributions to theoretical and conceptual understandings of identity styles, personality characteristics and moderating variables among adolescents. Previous to this study, other studies had explored the construct of personality, identity styles and their relationship with mental health, social health, socioeconomic status, family authority and other aspects of psychology, social psychology and sociology.

The utility of the concept of personality characteristics and moderating variables in looking at identity development in adolescence has been reasonably well established. Findings of this study provide support for existing conceptualizations about identity styles, personality characteristics and moderating variables.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Simultaneous with writing the research article, other studies were exploring the construct of personality; other studies had conceptualized identity styles and personality characteristics by focusing on one particular area. To name few, we can refer to studies on identity styles and their relationship with mental health, social health (Jomenia 2009), relationship mental health, socioeconomic status and identity(Ghorbani et al., 2005), relationship between social health, economical-social and identity styles (Jabbari & Ghorbani, 2007), identity style, parental authority, and identity commitment (Berzonsky, 2004), examining the three dimensions of perceived parenting styles i.e. parental identification and interaction between parenting and identification accounted for variation in the identity processing styles (Soenens et al., 2011), parental attachment and identity in late adolescence (Matos et al., 1999), parent-adolescent relation, identity and emotional adjustment in adolescence (Meeus, Iedema, Helsen, & Vollebergh, 1999), identity-processing style, psychosocial resources, and adolescents' perceptions of parent-adolescent relations (Berzonsky, Branje, & Meeus, 2007), identity development in late adolescence, causal modeling of social and familial influences (Kamptner, 1988), identity formation and parent-child value congruence in adolescence (Knafo & Schwartz, 2004). There are some other studies focusing on the perceived parenting dimensions and identity styles such as exploring the socialization of adolescents processing of identity-relevant information(Smits et al., 2008), identity styles in adolescence, measurement and associations with perceived parenting, personal well-being, and interpersonal functioning (Smits, 2009), identity as a moderator of intervention-related change, identity style and adolescents'



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

responses to relationships education (Kerpelman , Pittman , & Adler-Baeder 2008), the predictive utility of connectedness and individuality in family relations (Campbell et al., 1984), the psychosocial resources in first-year university students such as the role of identity processes and social relationships (Adams et al., 2006), patterns of interaction in family relationships and the development of identity exploration in adolescence (Grotevant & Cooper 1985), gender and identity, the intersection of structure, content, and context (Kroger, 2005), the longitudinal associations between identity styles and goal pursuits ( Duriez et al. 2012), identity components, and identity processing styles (Berzonsky and Papini, 2015).

There is a significant effect of moderating variables on personality characteristics and identity styles. The result showed that moderating variables could moderate effects on personality characteristics and identity styles. This conforms to the reports made by past researchers. To conclude, the study is based on personality characteristics, moderating variables and identity styles.

**Implications of the Study (Theory and Practice)**

This study has identified several significant contributing factors such as personality characteristics and, moderating variables that relate to the development of identity styles of adolescents. Hopefully, the results of the present study will enrich the body of literature on social psychology, psychology and sociology theories. Since identity style is the key factor in social psychology, psychology and sociology, highlighting this concept can contribute to the literature. The research has



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

important implications for future study on identity styles, both at a theoretical and practical level.

Moderating variables including family relationship, level of education and peer group relationship greatly affected the identity styles; as it has always been the fact that many scholars agree upon, family relationship has an enormous role on identity style. Family relationship, the fundamental social unit of society, can be expected to exert influential impacts on the development of social behaviors such as adolescents' identity styles (Rouholamini, 2002). Family, friends, teachers and all the people who interact with adolescents can affect the formation of their identity (Aghamohammdian & Shekhrohani, 2003; Doran, 2003; Hajikhayat, 2003; Neli-e-Ahmmadabadi, 2003). Parents and teachers should encourage adolescents to look for information and use it only after evaluating it. The foundation of a person's personality is formed in his/her family. Therefore, family is the first factor to train children and form their personality and identity. Lack of coordination between social institutions especially family, school, and university can cause diffusion in the adolescent and lead to an Anomic condition, as Durkheim points out. Adolescents with a diffuse identity should be able to improve their self-esteem and self-efficacy by participating in social groups. They should be able to develop assertiveness to manage peer pressure and to make right choices in finding friends. They should be helped to develop life skills and increase their abilities. Parents should be helped in their roles to support their children with diffuse identity and be informed of this situation. Parents also should be taught about adolescent's development.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Finally, moderating variables were hypothesized to have significant but indirect effect on personality characteristics and identity styles, the results showed that moderating variables moderate relationships between personality characteristics and identity styles (similar to the findings of other studies in other places) cognitive theory is found to be the best theory in the identity styles of adolescents in Iran. It is anticipated that moderating variables might moderate adolescents' identity styles. Much of what adolescents experience in family relationships, level of education and peer group relationship is likely to influence their identity styles.

In this study, adolescents were found to have problems concerning their identity styles. Moderating variables including family relationship, level of education and peer group relationship, which were used as moderators, showed that they influence identity styles. In addition, conscientiousness, openness to experience, extraversion, and neuroticism are most important in identity styles of adolescents. On the other hand, family relationship, level of education and peer group relationship moderate association between personality characteristics and identity styles. In other words, proper moderating variables and personality characteristics may improve adolescents' identity styles.

One of the most important problems students face in their process of identity formation is to receive proper information and analyze it correctly in order to solve their problems. Individuals can use social cognitive processes for resolving their identity and experience a better process of identity formation. Therefore, adolescents should be encouraged to search for information and to evaluate the information before using it.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Learning life skills helps adolescents to better solve identity formation problems.

The findings of this investigation can assist the government in the design and implementation of identity development in adolescents. It is expected that the findings of this study could be utilized by the government system for their future follow-up studies and reassessment of identity styles for identity development.

**Recommendations for Future Research**

Findings of this study could be used as guidelines to develop measuring scales for identity styles in other areas of concern. As an example, regarding the great impact of mass media on identity formation, further research can focus on the effect of mass media on different dimensions (e.g. national and religious) of identity. Also the experience of studying at university and its effects on identity formation is worth investigation. Moreover, further studies can examine whether proper sociocultural environment (e.g. mass media, internet, educational textbooks) can play any role in improving adolescents' identity.

Future research is also needed to explore identity styles using other approaches and theories. This research focused on high school graduates and pre-university students aged 17 and 18 years old. Future research can be conducted on different educational grades and ages and on other samples. Future research can compare the role of mothers and fathers separately in adolescents' identity formation. Finally, it remains for future research to determine the factors that moderate identity styles in different` cultural contexts.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

### *References*

Adams, G. R., Berzonsky, M. D., & Keating, L. (2006). Psychosocial resources in first-year university students: The role of identity processes and social relationships. *Journal of Youth and Adolescence, 35(1)*, 78-88.

Aghamohammdian, H., & Shekhrohani, S. (2003). Concept and process of identity formation and effect of social factors and amend and therapy of identity issues. *Journal of Education and Psychology, 4(1)*, 199-226.

Atkinson, RL, Atkinson, RC, & Hilgard, ER. (1979). *Introduction to psychology*: Harcourt Brace Jovanovich San Diego.

Bartle-Haring, S. (1997). The relationships among parent–adolescent differentiation, sex role orientation and identity development in late adolescence and early adulthood. *Journal of Adolescence, 20(5)*, 553-565.

Berzonsky, M. D. (2004). Identity style, parental authority, and identity commitment. *Journal of Youth and Adolescence, 33(3)*, 213-220.

Berzonsky, M. D., & Ferrari, J. R. (1996). Identity orientation and decisional strategies. *Personality and Individual Differences, 20(5)*, 597-606.

Berzonsky , M. D., & Kuk, L. (2000). Identity status, identity processing style, and the transition to University. *Journal of Adolescent Research, 15(1)*, 81-98.

Berzonsky, M. D. (1990). Self-construction over the life-span: A process perspective on identity formation. *Advances in Personal Construct Psychology, 1*, 155-186.

Berzonsky, M. D. (1993). A constructivist view of identity development: People as postpositivist self-theorists



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

*Discussions on ego identity* (pp. 169-203). Hillsdale, NJ: Lawrence Erlbaum Associates.

Berzonsky, M. D. (1998a). *Psychosocial development in early adulthood: The transition to university*. Paper presented at the biennial meetings of the international society for the study of behavioral development, Berne, Switzerland.

Berzonsky, M. D. (1998b). *A self-regulatory model of identity development*. Paper presented at the biennial meetings of the international society for the study of dehavioural development, Berne, Switzerland.

Berzonsky, M. D. (2011). A social-cognitive perspective on identity construction. In Schwartz (Ed.), *Handbook of Identity Theory and Research* (Vol. part 1, pp. 55-76): Springer Science, Business Media.

Berzonsky, M. D., Branje, S. J. T., & Meeus, W. (2007). Identity-processing style, psychosocial resources, and adolescents' perceptions of parent-adolescent relations. *The Journal of Early Adolescence, 27(3)*, 324-345.

Berzonsky, M. D., Cieciuch, J., Duriez, B., & Soenens, B. (2011). The how and what of identity formation: Associations between identity styles and value orientations. *Personality and Individual Differences, 50(2)*, 295-299.

Berzonsky, M. D., & Kuk, L. S. (2005). Identity style, psychosocial maturity, and academic performance. *Personality and Individual Differences, 39(1)*, 235-247.

Berzonsky, M. D., & Papini, D. R. (2015). Cognitive Reasoning, Identity Components, and Identity Processing Styles. *Identity, 15(1)*, 74-88.

Campbell, E., Adams, G. R., & Dobson, W. R. (1984). Familial correlates of identity formation in late adolescence: A study



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

of the predictive utility of connectedness and individuality in family relations. *Journal of Youth and Adolescence, 13(6)*, 509-525.

Cochran, W. G. (1977). *Sampling techniques (3rd ed.)*. New York: John Wiley & Sons.

Costa, P. T., & McCrae, R. R. (1990). Personality disorders and the five-factor model of personality. *Journal of Personality Disorders, 4(4)*, 362-371.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, Mail and Mixed Mode Survey :The tailored design method* (3th edition ed.): Publisher: Hoboken: Wiley.

Doran, B. (2003). The effective computer video games on identity. *Journal of Education and Psychology, 4(1)*, 185-197.

Duriez, B., Luyckx, K., Soenens, B., & Berzonsky, M. (2012). A process-content approach to adolescent identity formation: Examining longitudinal associations between identity styles and goal pursuits. *Journal of Personality, 80(1)*, 135-161.

Educational organization of Golestan State. (2010). *Annual report of educational organization of Golestan State* Gorgan, Iran: Educational organization of Golestan State.

Ghorbani, A. R., Mohammadiayra, A. R., & Kochaki, A. (2005). Considering the condition of identity styles and its relationship with public health and youths' economical-social status. *Education and Psychology, 7(2)*, 153-172.

Grotevant, H. D., & Cooper, C. R. (1985). Patterns of interaction in family relationships and the development of identity exploration in adolescence. *Child Development, 56(2)*, 415-428.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Grotevant, H. D., & Cooper, C. R. (1986). Individuation in family relationships: A perspective on individual differences in the development of identity and role-taking skill in adolescence. *Human Development, 29(2)*, 82-100.

Grotevant, H. D. (1987). Toward a process model of identity formation. *Journal of Adolescent Research, 2*, 203-222.

Hajikhayat, A. R. (2003). Explaining of identity dimension *Journal of Education and Psychology, 4(1)*, 163-183.

Jabbari, A., & Ghorbani, A. R. (2007). *Nomination of identity styles and its relationship with Social health and economical-social among students*. Islamic Azad University. Azadshahr, Iran.

Jomenia , S. (2009). *Survey relationship between social health and mental Health with finding identity styles the students high School in Gonbad.* (M. A), Shahid Beheshti University, Tehran.

Kamptner, N. L. (1988). Identity development in late adolescence: Causal modeling of social and familial influences. *Journal of Youth and Adolescence, 17(6)*, 493-514.

Kerpelman, J. L., Pittman, J. F., & Adler-Baeder, F. (2008). Identity as a Moderator of Intervention-Related Change: Identity Style and Adolescents' Responses to Relationships Education. *Identity: An International Journal of Theory and Research, 8(2)*, 151-171.

Kerpelman, J. L., Pittman, J. F., & Lamke, L. K. (1997). Toward a microprocess perspective on adolescent identity development:An identity control theory approach. *Journal of Adolescent Research, 12(3)*, 325-346.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Kerpelman, N. L. (1988). Identity development in late adolescence:Causal modeling of social and family influences. *Journal of Youth and Adolescence, 17(6)* 493-514.

Knafo, A., & Schwartz, S. H. (2004). Identity formation and parent-child value congruence in adolescence. *British Journal of Developmental Psychology, 22(3)*, 439-458.

Korger, J. (1996). *Identity in Adolescence,The Balance between self and others*. New Yourk: Routledge.

Kroger, J. (2005). *Identity in adolescence: The balance between self and other* (edition Ed.). New York: Routledge.

Lotfabadi, H. (2015). *Developmental Psychology, (2)*. Tehran: Samt press.

Markstrom-Adams, C. (1992). A consideration of intervening factors in adolescent identity formation. *Adolescent Identity Formation, 4*, 173-192.

Matos, P. M., Barbosa, S., Almedia, H. M. D., & Costa, M. E. (1999). Parental Attachment and Identity in Protuguese late adolescents *Journal of Adolescence, 22*, 805-818.

Meeus, W., Iedema, J., Helsen, M., & Vollebergh, W. (1999). Patterns of adolescent identity development: Review of literature and longitudinal analysis. *Developmental Review, 19(4)*, 419-461.

Moghanloo, M., & Vafaie, M. (2008). Five Factor Model of Personality and Identity Styles. *Psychological Research 11(1)*, 1-22.

Neli-e-Ahmmadabadi, M. R. (2003). The role of mass-media on identity formation. *Journal of Education and Psychology 4(1)*, 91-111.



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

Neuman, WL. (2011). Social research methods: Qualitative and quantitative approaches . US: Pearson Education (7th ed.): Inc.

Qasemi, M., Arafi, M., & Sheikholslami, R. (2003). Survey relationship identity and values on youth *Education and Psychology Ferdowsi University of Mashhad, 4(1)*, 245-263.

Rouholamini, S. (2002). *Formative research on familial characteristics of drug users in Iran* (masters' thesis), Yale University, Unpublished, New Haven.

Schultheiss, D. P., & Blustein, D. L. (1994). Contributions of family relationship factors to the identity formation process. *Journal of Counseling and Development, 73*, 159-166.

Sigelman, C. K., & Rider, E. A. (2014). *Life- Span Human Development*. Washington:Brooks: Cengage Learning.

Smits, I. (2009). *Identity styles in adolescence: Measurement and associations with perceived parenting, personal well-being, and interpersonal functioning.* (Ph.D), Katholieke University Leuven.

Smits, I., Soenens, B., Luyckx, K., Duriez, B., Berzonsky, M., & Goossens, L. (2008). Perceived parenting dimensions and identity styles: Exploring the socialization of adolescents processing of identity-relevant information. *Journal of Adolescence, 31(2)*, 151-164.

Soenens, B., Berzonsky, M. D., Dunkel, C. S., & Papini, D. R. (2011). The role of perceived parental dimensions and identification in late adolescents' identity processing styles. *Identity, 11(3)*, 189-210.

Vaziri, Sh., Lotfi Kashani, F., Jamshidifar, Z., & Vaziri, Y. (2014). The Identity Style Inventory validation in Iranian



[ Downloaded from mail.ijpb.ir on 2026-11-21 ]

college students. *Procedia-Social and Behavioral Sciences 128,* 316 – 320

Waterman, A. S. (1992). Identity as an aspect of optimal psychological functioning. *Advances in Adolescent Development* (Vol. 4, pp. 50-72). Thousand Oaks, CA, US: Sage.

Zaki, M. A. (2003). Making and validatory of socialization factors Scale and examining effect of it on identity formation students. *Journal of Education and Psychology, 4(1),* 281-306.

[ Downloaded from mail.ijpb.ir on 2026-11-21 ]