

Cognitive Reasoning Processes and Identity Achievement: Mediating Role of Identity Processing Styles

Manpreet Kaur

Khalsa College of Education

Suninder Tung

Guru Nanak Dev University

The present study aimed to investigate the direct as well as indirect effect (through identity processing styles) of cognitive reasoning processes (rational-experiential processing systems) on identity achievement. In this model, identity processing styles serve as a catalyst for cognitive reasoning and identity achievement. For this purpose, a sample of 250 boys and 250 girls with age ranging from 15-20 years ($M = 17.62$; $SD = 1.85$) was taken. Identity Style Inventory-3 (Berzonsky, 1992), Rational Experiential Inventory-Adolescents (Marks et al., 2008), and Extended Objective Measure of Ego Identity (Bennion & Adams, 1986) were administered on the sample. The mediating role of identity processing styles in the relationship of cognitive reasoning and identity achievement was investigated. The results of Multiple Hierarchical Regression analyses revealed that the relation between rational processing system and identity achievement was partially mediated by informational identity processing style. In addition, the relationship between experiential processing system and identity achievement was completely mediated by two identity processing styles-informational and normative. The current study findings were considered in terms of socio-cognitive model of formation of identity.

Keywords. Rational-experiential cognitive reasoning, identity processing styles, identity achievement

Some of the concerns that are important for adolescents are gender roles, relationships, religion, marriage, politics, an own value

Manpreet Kaur, Khalsa College of Education, Amritsar, Punjab, India.

Suninder Tung, Department of Psychology, Guru Nanak Dev University Amritsar, Punjab, India.

Correspondence concerning this article should be addressed to Manpreet Kaur, Khalsa College of Education, Amritsar, Punjab, India. E-mail: manpreet9119.mk@gmail.com

system, social responsibility, work roles and independence from parents (Louw et al., 2007). Rooted in all these concerns is the need for adolescents to be able to define “who they are, what is important to them and what are the directions that they want to take in life” (Louw et al., 2007, p. 309). As social roles change and ties with parents are transformed during the period of adolescence, a coherent and committed sense of identity help adolescents by providing a personal standpoint that will help in making decisions and solving conflicts, which enable them to become more autonomous and responsible for their own lives. So knowing ‘who one is’ and developing a clear sense of ‘self’ are important tasks to be accomplished by adolescents.

Within the field of psychology, the nature and the process of development of identity and other related concepts like self and self-identity have attracted many researchers (Kroger, 2017; Louw & Kail, 2007; Luyckx et al., 2006; McAdams & Cox, 2010; Schwartz, 2007; Schwartz et al., 2011) over decades. Studies began with Freud’s early writings and they were popularized by Erikson’s (1968) theoretical expositions. Since the 1960s, Marcia’s empirical operationalization of the concept of identity has led other theorists (e.g., Beyers & Goossens, 2008; Crocetti, Rubini & Meeus, 2008; Kahan, 2013; McAdams & Cox, 2010) to develop the issue of identity further. Review of literature based on all these studies suggests that identity is an important social science concept. There are structural and process components involved in identity. Structurally, identity can be meaningfully organized into different domains-like general, physical, psychological, social, and spiritual. Identity formation also involves dynamic processes because identity evolves along with person’s development throughout his/her life span. Identity is dependent on extra personal factors like environmental changes, life experiences and intrapersonal identity processes-including exploration, commitment, and reconsideration. There is also evidence that other variables like gender, age, and culture patterns at different times affect the identity development.

Marcia (as cited in Kroger, 2017) has been credited with developing the identity status paradigm which was the very first empirical operationalization of Erikson’s (1968) pioneering work and classified four identity statuses on the basis of exploration and commitment; that is identity achievement, identity moratorium, identity foreclosure, and identity diffusion. A large bulk of literature has proven authentic differences in identity statuses along many cognitive, personal, and social dimensions (Davis, 2012; Pasupathi & Weeks, 2010; Stoop, 2005). During the past four decades, most identity researchers had based their work on identity status paradigm

and this model has stimulated quite a large number of theoretical and empirical researches in these previous years. Marcia (as cited in Kroger, 2017) statuses are characteristically known as identity outcomes because exploration and commitment are confounded within each status category.

Longitudinal study by Meeus, Iedema, Helsen, and Vollebergh (1999) has revealed that individuals do shift or alternate between different statuses like from foreclosure to moratorium status, from foreclosure to the diffusion identity status, and from diffusion to foreclosure identity status. Further, in identity status model, identity achievement was considered as a mature status and identity diffusion as an immature status. According to Waterman (1990), moratorium status was considered more mature than foreclosure status. From this it appears that in status model of identity, the interest is shifted from holding commitment into the exploration of identity alternatives. Though, exploration refers to the process of formation of identity, however, the status paradigm of identity was rather outcome oriented. Keeping these issues in mind, Berzonsky (1990) gave the idea of identity processing styles that explains how individuals tackle different identity related issues.

Berzonsky (1990) described how identity can be conceptualized in terms of structure, process, and content. Berzonsky (1990) proposed an individual differences perspective on identity formation which is based on people's preferable methods of solving various problems and making decisions related to different issues of self. Berzonsky (2003) postulated three different identity processing styles. These identity processing styles refer to the socio-cognitive strategies used by the individuals to make decisions and to cope with personal problems, to process self relevant information, and to construct a sense of identity (Berzonsky, 2003).

The identity processing style model draws on the personal construct theories of Epstein (1994), Inhelder and Piaget (1958), Kelly (1955). Three identity processing styles have been identified by Berzonsky (2003) are informational, normative, and diffuse-avoidant. The informational identity processing style incorporates deliberately seeking-out, processing, and evaluating the information related to their identity. This identity processing style is hypothesized to lead to a well integrated self-theory and to be characteristic of individual's classified in Marcia's identity achieved status (Rejo, Portes, & Nixon, 2014; Szabo & Ward, 2015). Normative identity processing style represents imitation and conformity. Individuals with a normative identity processing style internalize and stick to standards, goals, values, and prescriptions of significant others in a relatively automatic

or mindless manner. This style is hypothesized not to be linked with a identity achievement status given by Marcia because they make premature commitments without critically evaluating the information (Berzonsky et al., 2013; Berzonsky & Papini, 2015). A diffuse-avoidant identity processing style involves a reluctance to confront and deal with identity related conflicts and issues. This identity processing style is postulated to be negatively linked with identity achievement status given by Marcia (as cited in Berzonsky, 2003).

In recent few decades, the researchers working on human reasoning have proposed the existence of two systems of reasoning-rational and experiential. CEST theory given by Epstein (1994) said that the individuals can utilize two systems to process information that is the rational and experiential system. These two systems operate relatively independently and are guided by different rules of influence. The rational system is an inferential system that functions on the basis of a person's understanding of the rules of reasoning and these rules are mainly culturally transmitted. This system relies on logics and rationality. On the other hand, experiential system relies on experience and intuition. In this reasoning processing system individuals consider issues automatically, intuitively and effortlessly. In this processing system individuals don't prefer to use logical rules. Kroger (2017), Landline (2016), and Monacis et al. (2016) proposed that the process of individual's identity formation is dependent on rational as well as experiential ways of processing the information related to the self.

An informational processing style is found to be positively linked with rational and experiential based reasoning (Berzonsky et al., 2013; Berzonsky & Papini, 2015). Normative identity processing style may be associated to experiential processing system that involves relatively automatic internalization of the standards, expectations and values of significant others (Berzonsky et al., 2013; Berzonsky & Papini, 2014). Krettenauer (2005) suggests that individuals scoring high on diffuse-avoidance style perceive knowledge and the world as a chaotic option that permits little scope of rational judgment. The diffuse-avoidance identity processing style has been found to be negatively linked to rational processing system (Berzonsky & Papini, 2015) and it is positively related with experiential or intuitive processing system (Berzonsky & Luyckx, 2008).

The empirical support for the link found between identity processing styles and the rational-experiential processing systems indicate that individuals may vary in the extent to which they prefer to use different cognitive reasoning processing systems when dealing with different identity related issues. The direct effect of cognitive reasoning on identity, cognitive reasoning on identity processing

styles and of identity processing styles on identity has been explored extensively. Though, the literature associating cognitive reasoning to identity, cognitive reasoning to identity processing styles and identity processing styles to identity has been considered separately but a different way of explaining the relationship of cognitive reasoning with identity achievement through the mediating role of identity processing styles has been reported by Berzonsky (2014). Thus, considering all these links, the current study is focused on exploring the direct as well as indirect effect (through identity processing styles) of cognitive reasoning variables (rational-experiential processing systems) on identity achievement. Both the cognitive reasoning as well as identity processing styles have been found to predict identity in adolescence, and cognitive reasoning have been also found to predict identity processing styles, therefore it may be plausible to consider that the identity processing styles may play a role in the relationship between cognitive reasoning and identity achievement. Keeping these links in mind, a mediational model is proposed as the objective of the current study. Hence, current study is also a validation of the mediational model proposed by Berzonsky (2008). The hypothesized mediational model is shown in following figure:

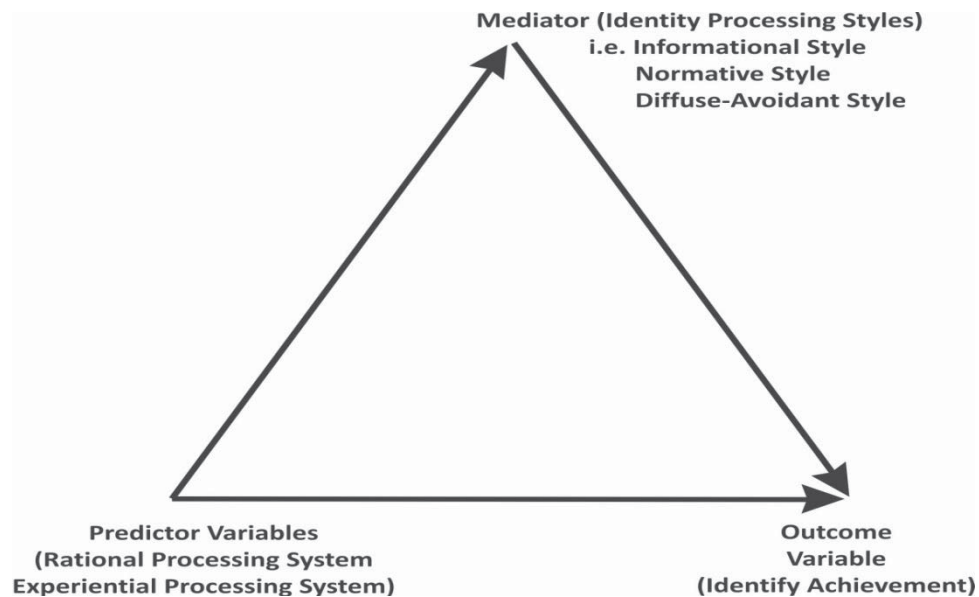


Figure 1. Hypothesized Model of Relationship between Cognitive Reasoning (Rational-Experiential Processing Systems), Identity Processing Styles and Identity Achievement

Thus, an interesting picture emerges regarding the relationship of cognitive reasoning and identity achievement. Most significant here for the researchers, is studying the relationship in the backdrop of a traditionally collectivistic culture like that of India. It would be of

significance to know how cognitive reasoning in an Indian perspective is linked to the phenomenon of identity achievement. Having seen that different identity processing styles are linked with diverse outcomes where informational identity style and normative style give rise to more healthy concept of identity but diffuse-avoidant identity style develops maladaptive identity related concepts. The present study was designed with the objective of studying the direct as well as indirect effect (through identity processing styles) of cognitive reasoning variables (rational-experiential processing systems) on identity achievement in the Indian culture.

Hypotheses

Major hypotheses are phrased as follows:

1. There will be a relationship between cognitive reasoning (rational-experiential processing systems) and identity processing styles in adolescents:
 - a) Rational processing system will be positively related to informational identity processing style while negatively related to diffuse-avoidant identity processing style.
 - b) Experiential processing system will be positively related to informative, normative, and diffuse-avoidant identity processing styles.
2. There will be a positive relationship between cognitive reasoning (rational-experiential processing systems) and identity achievement in adolescents.
3. Informational identity processing style will be positively related to identity achievement; while diffuse-avoidant identity processing style will be negatively related to identity achievement.
4. Identity processing styles mediates in the relationship between cognitive reasoning variables (rational-experiential processing systems) and identity achievement in adolescents.

Method

Sample

To achieve the objectives of the research, total sample consisted of 500 adolescents (250 boys and 250 girls). The sample was collected from various schools and colleges of city Amritsar, Punjab, India. The age of respondents ranged from 15-20 years with an average age of

17.62 years ($SD = 1.85$). The participants were chosen through convenient sampling. While choosing sample, care was taken that the schools and colleges so chosen were more or less homogenous with regard to cultural background and academic milieu. The sample was chosen on the basis of the co-operation shown by the authorities of different schools, colleges, and students. Only those students who were ready to participate were selected.

Measures

Rational Experiential Inventory-Adolescents (REI-A). The REI-A (Marks et al., 2008) questionnaire composed of 20 items designed to assess the extent to which an individual relies on rational versus experiential information processing. REI-A consisted of two dimensions, that is rational style, measured by an adapted Need for cognition Scale (Cacioppo & Petty, 1982; emphasizes a conscious, analytical approach) and experiential style, measured by the Faith in Intuition Scale (Cacioppo & Petty, 1982; emphasizes a pre-conscious, affective, holistic approach). Each subscale contained 10 items and each item was rated on a 5-point scale ranging from 1 = *disagree strongly* to 5 = *agree strongly*. Items measuring two different reasoning systems were calculated separately as mentioned in the manual. The scores for both rational and experiential system can range from minimum 10 to maximum 50. Both rational and experiential scales of the REI-A exhibited good internal consistency ($\alpha = .80$ for total scale; rational subscale $\alpha = .89$; experiential subscale $\alpha = .81$) and excellent five week test-retest reliability ($r = .90$) as reported by Marks et al. (2008). Test-retest reliabilities of this scale over 20 days interval in the current study have found to be .81 for Rational Processing Subscale and .77 for Experiential Processing Subscale and .74 for total scale.

Identity Style Inventory (ISI-3). Identity Processing styles were assessed with ISI-3 (Berzonsky, 1992). The ISI-3 contained three continuous style scales including Informational Style Scale (11 items), Normative Style Scale (9 items), and Diffuse-Avoidant Style Scale (10 items). Each item was rated on 5-point scale ranging from 1 = *not at all like me* to 5 = *very much like me*. Items measuring three different identity processing styles were calculated separately as mentioned in the manual. The scores for Informational Identity Processing Style can range from 11 to 55, for Normative Identity Processing Style from 9 to 45, and for Diffuse-Avoidant Identity Processing Style from 10 to 50. The internal consistency (Cronbach's alpha) were found to be .70, .64, and .76 for Information Style Scale,

Normative Style Scale, and Diffuse-Avoidant Style Scale; respectively. Test-retest reliabilities reported by Berzonsky (1992) over two week interval were found to be for Informational (.87), Normative (.87) and Diffuse-Avoidant (.83). Test-retest reliabilities of identity processing styles over 20 days interval in the current study were found to be .72 for total scale, .78 for Informational Style, .82 for Normative Style, and .71 for Diffuse-Avoidant Style.

Extended Objective Measure of Ego Identity Status-Second Revision (EOMEIS-2). Identity achievement status was assessed with EOMEIS-2 (Bennion & Adams, 1986). There were two domains in this scale that is ideological domain and interpersonal domain, which were utilized for measuring identity. This test provides scores of four identity statuses including Identity Achievement, Moratorium, Foreclosure, and Identity Diffusion. Each of these statuses was measured on the basis of two dimensions that is Exploration and Commitment. This self report measure consisted of 64 items comprising of 32 items each in the domains of ideological and interpersonal. In the current research, only 16 items related to identity achieved status (8 items of ideological and 8 items of interpersonal domain) were used. Each item was rated on a 6-point scale ranging from 1 = *disagree strongly* to 6 = *agree strongly*. Total identity achievement status score was computed by summing up the scores of 16 items of identity achievement status. The scores for identity achievement status on EOMEIS-2 can range from 16 to 96. The measure was sufficiently reliable and valid as Bennion and Adams (1986) have reported internal consistency alphas ranging from .58 to .80. The test-retest reliability coefficient of .74 was found for the total EOMEIS-2 in the current study.

Procedure

The participants were selected after seeking permission from authorities of various schools and colleges of city Amritsar. Only those students who agreed to participate were selected. Before the actual administration of the different psychological measures, proper rapport was established with all the subjects. After taking the informed consent, all the participants were briefed regarding the purpose of the study. Subjects were taken into confidence by assuring them that the information was being purely collected for the purpose of research and it would be kept fully confidential. Psychological measures and demographic sheet were administered in groups of 15-20 adolescent students within the classroom settings. Separate instructions were imparted to the participants for each measure used as

per instructions mentioned in the respective manuals. The queries and questions of respondents were cleared from time to time. At the end, the students and other authorities of the school were thanked for their cooperation.

Results

Pearsons Product Moment Correlation analyses were employed to determine the correlations among identity achievement, rational-experiential processing systems, and identity processing styles (informational, normative and diffuse-avoidant) variables.

Table 1

Inter-Correlations among Different Variables under Study

Variables	1	2	3	4	5	6
1. Identity Achievement	-	.24**	.25**	.02	.19**	.18**
2. Informational Style		-	.57**	.12*	.22**	.18**
3. Normative Style			-	.07	.09	.22**
4. Diffuse-Avoidant Style				-	-.18**	-.01
5. Rational Processing					-	.20**
6. Experiential Processing						-

* $p < .05$. ** $p < .01$.

Table 1 revealed that the identity achievement is positively correlated with informational identity processing style, normative identity processing style, rational and experiential processing systems. Further, rational processing is found to be positively correlated with informational identity style while negatively correlated with diffuse-avoidant style. Experiential processing is positively related to informational and normative identity processing styles.

Cognitive Reasoning and Identity Processing Styles

Hierarchical Regression Analyses were conducted to determine the relationship between cognitive reasoning (rational-experiential processing systems) and identity processing styles. In these analyses, each identity style variable (informational, normative and diffuse-avoidant) entered as the criterion variables and cognitive reasoning (rational-experiential processing systems) served as the predictor variable. The cognitive reasoning variables accounted for 14% of the variance in informational identity processing style.

Table 2

Hierarchical Regression Analysis Taking Identity Processing Styles as Criterion Variable and Cognitive Reasoning (Rational-Experiential Processing) as Predictor Variables

Predictor Variables	Informational Style		Normative Style		Diffuse-Avoidant Style	
	β	t	β	t	β	t
Rational Processing	0.19	4.45**	0.05	1.00	-0.17	3.65**
Experiential Processing	0.14	3.20**	0.21	0.64**	0.01	0.26
R^2	.14		.07		.05	

* $p < .05$. ** $p < .01$.

Table 2 show that rational and experiential processing systems are positively associated with informational identity processing style. The beta coefficients of rational processing experiential processing are contributing in the variance. For normative identity processing style, the cognitive variables accounted for 7% of the variance in normative identity processing style. As shown in Table 2, the experiential processing system is positively associated with normative identity processing style. This unique contribution of experiential processing system is also reflected in the significant beta coefficient value. Further, with regard to diffuse-avoidant identity processing style the cognitive variables accounted for 5% of the variance in diffuse-avoidant identity processing style. As shown in Table 2, rational processing system is negatively associated with diffuse-avoidant identity style by making unique contribution which is reflected in the significant beta coefficient value. Hence, hypothesis 1a is substantially supported however, hypothesis 1b is partially supported as non significant relationship has been found between experiential processing system and diffuse-avoidant identity processing style.

Cognitive Reasoning, Identity Processing Styles and Identity Achievement

The hierarchical multiple regression analysis was employed to study identity processing styles as mediating the relationship between cognitive reasoning (rational-experiential processing systems) and identity achievement. In these analyses, cognitive reasoning variables were entered on step 1 and identity processing styles were entered on step 2 as predictor variables and identity achievement served as criterion variable.

Table 3

Hierarchical Regression Analysis Taking Cognitive Reasoning (Rational-Experiential Processing) and Identity Processing Styles as Predictor Variables and Identity Achievement as Criterion Variable

Predictor Variables	Identity Achievement			
	Step 1		Step 2	
	β	t	β	t
Rational Processing	0.17	3.79**	0.14	3.20**
Experiential Processing	0.13	2.90**	0.08	1.82
Informational Style			0.11	1.98*
Normative style			0.16	3.00**
Diffuse-Avoidant Style			0.01	0.16
R^2	.08		.13	
Adjusted R^2	.07		.12	

* $p < 0.05$. ** $p < 0.01$.

Table 3 reveals that at step 1, the rational-experiential processing variables when entered accounted for an 8% of the variance in identity achievement ($F = 10.58$, $p < .01$). The beta coefficients of rational processing and experiential processing indicated that rational-experiential processing styles are significant predictors of identity achievement in adolescents. It has been found that the rational-experiential processing systems are positively related to identity achievement, thus, hypothesis 2 stands supported. In step 2, identity processing styles are added to determine the mediational effect, accounted for 13% variance in identity achievement ($F = 10.33$, $p < .01$), with two identity processing styles including informational and normative uniquely explaining this variance. These findings predicted a significant relationship of the predictor and the criterion variable along with revealing the mediational role of mediator variable. So when the identity processing styles are added to see its mediational role, then additional 5% variance (R^2 change = .05) in identity achievement is accounted. The beta coefficients of rational processing, informational identity processing style, and normative processing style also highlighted the effect of mediation. Results showed that informational identity processing style is found to be positively related with identity achievement; while normative style is found to be positively associated with identity achievement. On the other hand, non significant relationship existed between diffuse-avoidant identity processing style and identity achievement. Thus, H3 is partially supported.

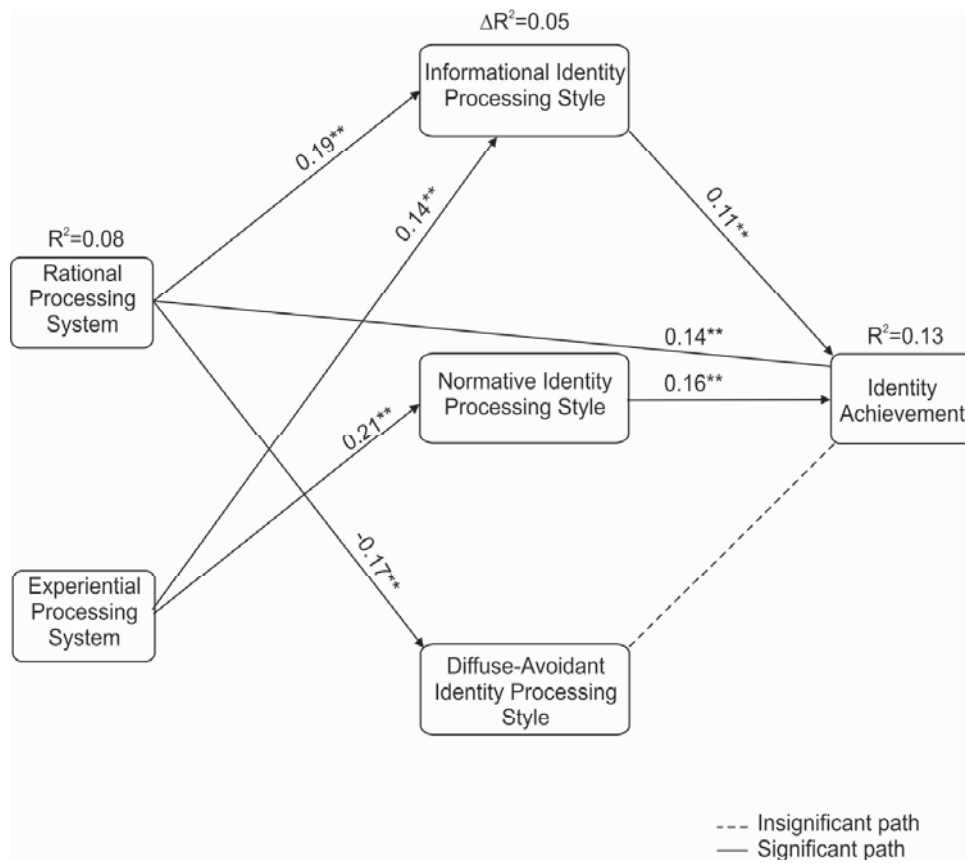


Figure 2. Mediation Model Showing Significant Paths between Cognitive Reasoning Variables (Rational-Experiential Processing Systems), Identity Processing Styles and Identity Achievement.

* $p < .05$. ** $p < .01$.

Evidence for mediation is also proved as the variance in the value of beta coefficients between the predictor variable and criterion variable is lower in the presence of the mediator variable (Table 3). The β value of rational processing system is significant at step 2 that indicate that the relation between rational processing and identity achievement is partially mediated and the β value of experiential processing system is nonsignificant at step 2 indicating that its contributions in predicting outcome variable is completely mediated. Thus, hypothesis 4 is supported.

Discussion

The positive association of rational-experiential processing systems both with an informational identity processing style reveals that the informational identity using adolescents not only depend on rational way of processing but they also utilize experiences which are

based on real life. Similar findings were also reported by Berzonsky (2003) as well as Berzonsky and Papini (2015). The experiential processing system was found to be positively linked with normative identity processing style. This is due to the normative approach to identity formation that emphasizes the relatively automatic internalization and adoption of standards, values and beliefs approved by significant persons. Individuals scoring high on normative style are more stable and consistent in their efforts to conserve and preserve already existing beliefs and truths. Similar kind of relationship has been extensively reported by numerous researchers, for instance, Berzonsky (2008), Berzonsky and Kuk (2005), Berzonsky and Papini (2015), and Crocetti et al. (2009).

The results are indicative of how the diffuse-avoidant identity processing style using adolescents may view knowledge and the world as chaotic multiplicity of options that offer less hope of objective thinking and rational judgment. Similar kind of findings received ample support from earlier work such as Berzonsky and Papini (2014, 2015) in which diffuse-avoidant identity processing style is found to be negatively related to rational processing system. In present study, non significant relationship between experiential processing system and diffuse-avoidant identity processing style is found. It may be because of the low psychosocial resources and low level of commitment in diffuse-avoiders does not allow them to take decisions on the basis of their experiences. Similarly, few research findings (Berzonsky, 2007; Crocetti et al., 2009) revealed no relationship between diffuse-avoidant identity processing style and experiential processing system.

The present results reveal that identity achievement is positively related with rational-experiential processing systems. The link shows that identity formation is not an exclusively rational and conscious process; it also involves self-reflective process that reflects on intrapersonal values, views and convictions. It indicates that, despite the advantages linked with engaging problems and conflicts in a relatively analytical, effortful and rational fashion, it is inefficient and counterproductive for adolescents to continually seek novel information and reconsider all the decisions and problem resolutions. Individuals with identity achievement oriented status generally follow a constructivist epistemological stance, according to that knowledge is relative and that people also play a role in constructing who they are. They are well aware that, although the truth of their constructions cannot be established with absolute certainty, decisions about which views and options are more credible than others can be made relative to a particular set of rules, standards, and criteria (Caputi & Oades,

2001; Haslam et al., 2011; Krettenauer, 2005). A number of researchers (Berzonsky, 2008; Berzonsky & Papini, 2015; Landline, 2016; Monacis et al., 2016) reported that both rational and experiential reasoning processing systems are related to identity achievement.

The present research findings indicate that individuals who use informational identity processing style and normative identity processing style are most likely to be in identity achieved status. The positive relation between identity achievement and informational identity style shows that the informational oriented individuals are more open to new information, more critical towards their self-concepts, more flexible in revising their identity when they face discrepant information about themselves. Informational style using adolescents are active self-explorers who are willing to suspend judgment so as to examine and evaluate their self constructions. All these features will help an adolescent to achieve well integrated sense of their identity on the basis of active exploration. Similar kind of relationship has been declared by Kaniusonytė and Zukauskiene (2017); Krettenauer (2005); Rejo, Portes, and Nixon (2014); and Schwartz et al. (2011). The positive relationship between normative identity processing style and identity achievement may be because of the commitment component of the identity achievement status. The value patterns, standards and behavioural patterns once explored actively, processed and achieved by the adolescents and later may become inefficient to be considered and rethought of. Hence, a tendency may develop to use normative style so as to process the information. The positive relationship between normative identity processing style and identity achievement is likewise reported by Krettenauer (2005).

Results of hierarchical multiple regression analysis studying the mediating role of identity processing styles between rational-experiential cognitive processing systems and identity achievement has revealed that the relation between rational processing system and identity achievement is partially mediated by informational identity processing style. The relationship between experiential processing system and identity achievement is completely mediated by two identity processing styles-informational and normative. Similarly Berzonsky (2007) also asserted that the relationship between rational-experiential processing and identity achievement partially mediated by all three identity processing styles-informational, normative and diffuse-avoidant. Likewise, Berzonsky (2008) further declared that the complete mediational role played by informational and normative identity processing styles between rational-experiential processing systems and identity achievement status.

Present results suggest that the relationship between rational processing system and identity achievement is partially mediated by informational identity processing style. It means the different characteristics associated with informational identity processing style and rational way of processing the information i.e. more openness to new information, more critical attitude towards their self-concepts, and more flexibility in revising their identity when they face discrepant information about themselves, willingness to suspend judgment so as to examine and evaluate their self constructions. All these features will help an adolescent to achieve well integrated sense of their identity on the basis of active exploration. Still further the results of mediational analysis indicate that the relationship between experiential processing and identity achievement is completely mediated by informational and normative styles. The association of experiential processing with informational identity processing style and identity achievement further reflects that the process of identity formation is not only a rational process, it also involves self-reflective process that reflects on intrapersonal values, views and convictions. It is significant to point here that the mediational analyses applied on the data has provided for a further validation of the mediational model as had been proposed by Berzonsky (2008), highlighting that the identity processing styles are mediating the relationship of rational-experiential processing systems with identity achievement.

Limitations and Suggestions

The present study was conducted with utmost input but there are few limitations that are noteworthy. The present study was conducted within the adolescents of Amritsar district only, therefore, limiting the generalization of the results to the larger population. Another important point is that the sample was only comprised of literary participants who have better opportunities and exposures to synthesize their identities, however large portion of our population that is illiterate would definitely yield a different profile. Few recommendations can be considered for the further implementations and study can be conducted on larger sample also. Even the cross cultural comparative study of Indian and Pakistani adolescents can be conducted. There are various factors in the Indian culture that may be contributing to the development of identity of the adolescents. Pakistan is a vast country exhibiting different cultures and norms also, thus, future studies should be executed in order to explore cross cultural affects on adolescent's identity formation. The future researchers can also explore the role of gender differences in the formation of identity.

Implications

The findings of the present study can bear practical implications for young people in their adolescent years. The research can serve as a framework for development of identity enhancement programs for adolescents. As exploration is seen as the important aspect in identity formation, so increasing exploration can serve as a fruitful tool in identity formation. Thus, the development of identity enhancement programs requires knowledge concerning the different important components of the process of exploration for example, general cognitive reasoning processing systems, identity processing styles etc. and how these components of exploration are related to identity in adolescents. Acquisition of the knowledge about how these components operate will help in effective designing of identity enhancement programs. Under this program it is recommended that the quality of educational experiences should be improved so as to contribute in making adolescents' sense about their self. It is suggestive that the schools, teachers and parents should become proactive in supporting and creating congenial learning atmosphere in the school as well as home context that should provide opportunities and experiences that are sensitive to rational-experiential processing systems and identity processing styles. Adolescents should be provided opportunities that promote active engagement in real life experiences that they can incorporate into their understanding of the sense of 'who they are?' Hence, the curricular and co-curricular activities should be aimed at promoting adolescents' sense about their self. Further, the present study results can be fruitful in school counselling and career counselling, as the adolescents who are high on rational processing system can be guided accordingly regarding their career choices.

Conclusion

On the whole, it can be said that the results of the mediational model indicate that how an adolescent is able to form identity achievement is associated with identity processing styles used by him/her while dealing with various identity related issues and concerns in particular rather than general as well as on rational-experiential cognitive reasoning processes that he/she used in general while dealing with any information. As expected that rational-experiential processing system is mediated by identity processing styles, that in turn was expected to correlate with identity achievement, meaning thereby, the degree to which an adolescent is able to make use of

identity processing styles depends upon the rational-experiential system used by him/her which further defines the likelihood of how an adolescent will form identity achievement status.

References

- Adams, G. R., & Marshall, S. (1996). A developmental social psychology of identity: Understanding the person in context. *Journal of Adolescence, 19*(1), 1-14.
- Bennion, L. D., & Adams, G. R. (1986). A revision of the extended version of the objective measure of ego identity status: An identity instrument for use with late adolescents. *Journal of Adolescent Research, 1*(1), 183-198.
- Berzonsky, M. D. (1989). Identity style: Conceptualization and measurement. *Journal of Adolescent Research, 4*(2), 267-281.
- Berzonsky, M. D. (2003). Identity style and well-being: Does commitment matter? *Identity: An International Journal of Theory and Research, 3*, 131-142.
- Berzonsky, M. D. (2007). *Identity style, cognitive processing, and identity formation*. Paper presented at the 14th Annual Meetings of the Society for Research on Identity Formation, Washington, USA.
- Berzonsky, M. D. (2008). Identity formation: The role of identity processing style and cognitive processes. *Personality and Individual Differences, 44*(3), 643-653. doi:10.1016/j.paid.2007.09.024.
- Berzonsky, M. D., & Adams, G. R. (1999). Re-evaluating the identity status paradigm: Still useful after 35 years. *Developmental Review, 19*(3), 557-590.
- 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., & Luyckx, K. (2008). Identity styles, self-reflective cognition, and identity processes: A study of adaptive and maladaptive dimensions of self-analysis. *Identity: An International Journal of Theory and Research, 8*(3), 205-219. doi:10.1080/15283480802181818
- Berzonsky, M. D. & Papini, D. R. (2014). Identity processing styles and value orientations: The mediational role of self-regulation and identity commitment. *Identity: An International Journal of Theory and Research, 14*, 96-112. doi:10.1080/15283488.2013.858228
- Berzonsky, M. D. & Papini, D. R. (2015). Cognitive reasoning, identity components, and identity processing styles. *Identity: An International Journal of Theory and Research, 15*(1), 74-88. doi:10.1080/15283488.2014.989444

- Berzonsky, M. D., Soenens, B., Luyckx, K., Smits, I., Papini, D. R., & Goossens, L. (2013). Development and validation of the revised Identity Style Inventory (ISI-5): Factor structure, reliability, and validity. *Psychological Assessment, 25*(3), 893-904. doi:10.1037/a0032642
- Beyers, W., & Goossens, L. (2008). Dynamics of perceived parenting and identity formation in late adolescence. *Journal of Adolescence, 31*(2), 165-184.
- Boyes, M. C., & Chandler, M. J. (1992). Cognitive development, epistemic doubt, and identity formation in adolescence. *Journal of Youth and Adolescence, 21*, 277-304. doi:10.1007/BF01537019
- Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology, 42*(1), 116-131.
- Caputi, P., & Oades, L. (2001). Epistemic assumptions: Understanding self and the world (A note on the relationship between identity style, world view and constructivist assumptions using an Australian sample). *Journal of Constructivist Psychology, 14*(1), 127-134.
- Crocetti, E., Rubini, M., Berzonsky, M. D., & Meeus, W. (2009). The identity style inventory – Validation in Italian adolescents and college students. *Journal of Adolescence, 32*(2), 425-433.
- Crocetti, E., Rubini, M. & Meeus, W. (2008). Capturing the dynamics of identity formation in various ethnic groups: Development and validation of a three-dimensional model. *Journal of Adolescence, 31*(1), 207-222. doi:10.1016/j.adolescence.2007.09.002
- Davis, K. (2012). Friendship: Adolescents' experiences of belonging and self disclosure online. *Journal of Adolescence, 35*(6), 1527-1536.
- Epstein, S. (1994). Integration of the cognitive and the psychodynamic unconscious. *American Psychologist, 49*(2), 709-724.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: Norton.
- Evans, J. S. B. T., & Over, D. E. (1996). *Rationality and reasoning*. Hove: Psychology Press.
- Haslam, C., Jetten, J., Haslam, S. A., Pugliese, C., & Tonks, J. (2011). I remember therefore I am, and I am therefore I remember: Exploring the contributions of episodic and semantic self-knowledge to strength of identity. *British Journal of Psychology, 102*(2), 184-203. doi:10.1348/000712610X508091
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*(1), 319-340.
- Inhelder, B., & Piaget, J. (1958). *The growth of logical thinking from childhood to adolescence*. New York: Basic Books.
- Kahan, D. M. (2013). Ideology, motivated reasoning, and cognitive reflection. *Judgment and Decision Making, 8*(4), 407-424.

- Kaniūšonytė, G., & Zukauskienė, R. (2017). Relationships with parents, identity styles, and positive youth development during the transition from adolescence to emerging adulthood. *Emerging Adulthood, 44*(1), 1-11.
- Kelly, G. A. (1955). *A theory of personality: The psychology of personal constructs*. New York: Norton.
- Krettenauer, T. (2005). The role of epistemic cognition in adolescent identity formation: Further evidence. *Journal of Youth and Adolescence, 34*(1), 185-198. doi:10.1007/s10964-005-4300-9.
- Kroger, J. (2017). Identity development in adolescence and adulthood. *Oxford Research Encyclopedia of Psychology, 48*(1), 1-27. doi:10.1093/acrefore/9780190236557.013.54
- Landline, J. R. (2016). The relationship between vocational self-concept crystallization, ego identity status, and occupational indecision, as mediated by rational or experiential processing. *Canadian Journal of Counselling and Psychotherapy, 50*(1), 1-17.
- Louw, D., & Kail, R. (2007). Basic concepts of child and adolescent development. In D. Louw & A. Louw (Eds.), *Child and adolescent development*. Bloemfontein: Psychology Books.
- Louw, A., Louw, D., & Ferns, I. (2007). Adolescence. In D. Louw & A. Louw (Eds.), *Child and adolescent development*. Bloemfontein: Psychology Books.
- Luyckx, K., Goossens, L., Soenens, B., & Beyers, W. (2006). Unpacking commitment and exploration: Preliminary validation of an integrative model of late adolescent identity formation. *Journal of Adolescence, 29*, 361-378.
- Marcia, J. E. (1993). The relational roots of identity. In J. Kroger (Ed.), *Discussions on ego identity* (pp. 101-120). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Marks, D. G., Hine, D. W., Blore, R. L., & Philips, W. J. (2008). Assessing individual differences in adolescent's preference for rational and experiential cognition. *Personality and Individual Differences, 44*(1), 42-52.
- McAdams, D., & Cox, K. (2010). The transforming self: Service narratives and identity change in emerging adulthood. *Journal of Adolescent Research, 27*(1) 18-43.
- Meeus, W., Iedema, J., Helsen, M., & Vollebergh, W. (1999). Patterns of adolescent identity development: Review of literature and longitudinal analysis. *Developmental Review, 19*(2), 419-461.
- Monacis, L., Palo, V. D., Nuovo, S. D., & Sinatra, M. (2016). Validation of the rational and experiential multimodal inventory in the Italian context. *Psychological Reports, 119*(1), 242-262. doi:10.1177/0033294116657623
- Pasupathi, M., & Weeks, T. L. (2010). Integrating self and experience in narrative as a route to adolescent identity construction. *New Directions for Child and Adolescent Development, 13*(1), 31-43.

- Reio, T. G., Portes, P. R., & Nixon, C. B. (2014). Differences in identity style and process: Can less be more. *New Horizons in Adult Education and Human Resource Development*, 26(1), 26-40. doi:10.1002/nha3.20083
- Schwartz, S. J. (2007). Universalism values and the inclusiveness of our moral universe. *Journal of Cross-Cultural Psychology*, 38, 711-728.
- Schwartz, S. J., Beyers, W., Luyckx, K., Soenens, B., Zamboanga, B. L., Forthun, L. F., et al. (2011). Examining the light and dark sides of emerging adults' identity: A study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth and Adolescence*, 40, 839-859.
- Stanovich, K. E. (1999). *Who is rational? Studies of individual differences in rational thought*. Mahwah, NJ: Lawrence Erlbaum.
- Stoop, J. (2005). *Exploring identity formation in school context*, (Unpublished Doctoral Dissertation), University of South Africa, Pretoria, South Africa.
- Szabo, A., & Ward, C. (2015). Identity development during cultural transition: The role of social-cognitive identity processes. *International Journal of Intercultural Relations*, 46(1), 13-25.
- Waterman, A. S. (1990). Personal expressiveness: Philosophical and psychological foundations. *Journal of Mind and Behavior*, 11(1), 47-74.

Received 20th April, 2018

Revision received 5th April, 2019