

The mediating role of metacognition in the relationship between school attachment and emotional atmosphere in family and attitudes towards children's use of social networks

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Abstract

The present study is an attempt to examine the mediating role of metacognition beliefs in the relationship between attachment to school and emotional atmosphere in family and attitudes towards children's use of social networks. The study was carried out as a developmental research and in terms of data gathering method it was a descriptive-correlative work. In addition, in terms of data and research method, it was a quantitative work. The study population consisted of female students in the 2nd year of high schools in Tehran City (2019-2020). The study population size was 106119 individuals. The sample size was determined based on the standard methods in structural equations equal to 400. The data gathering methods were library review and field study. Data gathering tools were Walsh's metacognitions questionnaire, Morton, Dewhite, and Glazier's School Attachment Questionnaire, Hillbern's Emotional Atmosphere, and a researcher-designed questionnaire of using social networks. To test the research hypothesis, path analysis was used. The indices of goodness of fit supported the goodness of fit of the model. The findings showed that emotional atmosphere in family and attitudes towards students' use of social network had an indirect relationship with attachment to school. In addition, there was a direct relationship between metacognition beliefs and school attachment. Metacognition beliefs have a mediating role in the relationship between school attachment and attitudes towards students' use of social network and emotional atmosphere in family.

Key Words: Metacognition Beliefs, Emotional Atmosphere, Attachment to School, Attitudes Towards Using Social Networks

Introduction

School attachment is defined as the measures that create adaptation in students to a specific place of activity followed by a sense of dependence to individuals, subjects, and environments. Such measures create a sense of relaxation, good

feelings, and less anxiety in students (Karcher et al. 2008). School attachment is one of the variables in educational welfare of students that has attracted researchers' attention in the recent years. The concept has been given other names as well such as school

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bonding, school atmosphere, teachers' support, and feeling belonging to school (Bloom et al., 2004). Attachment gradually leads to a sense of belonging in the individual. It also gives the individual a chance to utilize their capabilities and improve their social performance (Rebikao et al., 2011).

Emotional atmosphere in family refers to all relationships and emotional interactions between the family members including expression of emotions and interests, communication, and the way family members treat each other. Clearly, families that have an improper emotional atmosphere are in a constant struggle and altercation and children are the main victims of this situation (Chan and Dickson, 2011). The relationship between family structure, psychological detachment, and educational adaptation showed that there was a relationship between child-parent attachment conflict and educational adaptation (Stoever, 2004)

Students' assessment of family and school environment and their progress, control, changes, and interpretation of thoughts and perceptions are the elements that affect school attachment. One's assessment of personal development during practice and afterwards depends on one's metacognitive beliefs. Metacognition is a multi-aspect concept and encompasses knowledge, processes, and strategies that assess, supervise, or control cognition (Walsh, 2009;

translated by Mohammad Khani, 2013).

The concept of social network was developed based on the idea of intragroup and extra-group sharing of resources and information (Irani and Haghghi, 2014). Social networks have become an indispensable part of the lives of many students and it affects all aspect of a student's life including studying and their educational performance (Javadian, et al, 2012). Additionally those who develop social networks dependency might encounter problems in doing their daily activities so that they cannot control time they spent in social networks. One of the approaches to control excessive dependent on social network is education based on metacognition. This type of education is a novel approach to psychological problems treatment (Kas and Grift, 2014).

From social point of view, a student is considered as a student when they feel attachment to school and the infrastructure and take part in its development. On the other hand, student who feel detachment toward school are not considered as student based on social definitions, even if they attend the school, be active in it, and enjoy the legal rights of a student. If school officials have strict rules and suspend students for every small mistake, the student feels less attached to the school. Feeling attachment to school leads to adaptation to school and higher educational achievement.

One reason for choosing school attachment as the dependent

variable in this study was the fact that it can help decision-makers to take into account all its aspect of learning. By examining all these aspects, decision-makers can prepare the ground and infrastructures to promote school attachment in students. To highlight the necessity of the study, the critical age of students at school and the key role of school in the future and personality of students are notable. Therefore, studies to improve performance and efficiency of schools are highly essential.

Improvement of the quality of education and empowerment of students are highly important in any educational system. These are the factors in the development of any society in all aspects. Given this, it is clear that variables like emotional atmosphere in family and attitudes towards social network affects school attachment while metacognition beliefs act as a mediating variable. However, there is not any model to illustrate the combined effects of these variables on school attachment. In light of this, the present study is an attempt to answer “if school attachment can be explained based on emotional atmosphere in family and the attitudes towards social networks with metacognition beliefs as a mediating variable?”

Literature review

Seven et al. (2006) showed that emotional atmosphere in family affects physical, social, and emotional health of children. In addition, Walker and Shepherd

(2008) showed that problems in family can lead to educational failure, collapse of social relationships, social alienation, low welfare, and tendency to alcohol and drugs. Prisli et al. (2010) showed that metacognition prepares the ground to guide and utilize learning strategies and supervise such strategies. It has a critical role in learning process. Ridlo and Latifia (2017) found that metacognition knowledge creates tendency towards educational activities, sense of self-efficacy, and adaptation of constructive behaviors. Rebeca et al. (2011) showed that feeling attachment to school has a highly significant role in decreasing violent behavior in school during adolescence and adulthood as well.

Research hypothesis

Metacognition beliefs have a mediating role between school attachment and emotional atmosphere in family and attitudes towards school students' use of social networks in Tehran City-Iran.

Research Methodology

The study is aimed at examining the mediating role of metacognitive beliefs between school attachment and emotional atmosphere in family and attitude towards using social networks by school students in Tehran City.

The study was carried out as a descriptive-correlative study of path analysis nature. As to the type of data and research method, the study is a quantitative work. The study population consisted of

female students in the 2nd year of high school in Tehran city and academic year 2019-2020 (n=106119).

The sample size was determined based on standard methods of structural equations (n=400). The participants were selected through cluster and stratified sampling. Given the limitations caused by COVID-19 pandemic, the questionnaires were filled out as online forms by the participants.

Independent variables (predictor) included attitude towards using social networks and emotional atmosphere in family and school attachment was considered as dependent variable (criterion variable). In addition, metacognitive beliefs were considered as mediating variable.

Data gathering was done through library and field review. Data gathering tools included Walsh's metacognitions questionnaire (MCQ-30), Morton, Dewhite, and Glazier's School Attachment Questionnaire (1993), Hillbern's Emotional Atmosphere (1964), and a researcher-designed questionnaire of using social networks. The questionnaires are further discussed in the following sections.

School attachment questionnaire

The questionnaire contains 20 items developed by Moton, Dewalt, and Glasier (1993). The tool is designed to determine students with high and low school attachment (Pajohndeh et al. 2013). According to the developers of the tool, Cronbach's alpha of the tool was equal to 0.86.

Metacognition beliefs questions (MCQ-30)

The short form of the questionnaire (MCQ-30) was used in the study. This self-statement scale contains 30 items and it was introduced in 1997 by Walsh to measure respondents' beliefs about their thoughts. The items are designed based on Likert's four-point scale. Katriat-Haton (2004) reported Cronbach's alpha range for the whole scale and the subscales between 0.76 and 0.93. They also obtained test-retest reliability for the whole tool equal to 0.75 and in 0.59 and 0.87 range for the subscales.

Attitudes to use social networks questionnaire

The authors designed a tool to measure attitudes to use social networks based on the questionnaire of attitudes towards using social networks by Hejazi et al. (2016) and a questionnaire by Yaghoubi (2016) with 17 items. They designed a questionnaire with 31 items by which attitudes towards using social networks was determined based on the respondents' answer to these 31 items. Reliability of the tool was obtained based on Cronbach's alpha equal to 0.925 and its validity was determined based on explorative factor analysis and principle component analysis (PCA).

Family emotional atmosphere questionnaire

By emotional atmosphere in family, we referred to the answers

of participants to the 16 items of Hillbern's (1964) questionnaire of family emotional atmosphere. The total score of the tool is 40 and the higher the total score, the higher and better the emotional atmosphere and vice versa. Nahidi (2011) obtained Cronbach's alpha of the tool that was higher than 0.85.

Findings

Data analysis was done using descriptive and inferential statistics in SPSS (v.21) and LISREL (8.7).

Hypothesis

Metacognition beliefs have a mediating role in the relationship of school attachment with emotional atmosphere of family and attitudes to use social networks among the students living in Tehran City.

Table 1- Correlation; the columns list the factors that affect and the rows list the factors that are affected

variables	Metacognition	Self cognitive	Behavior control	Cognitive uncertainty	Uncontrollable thoughts
Parent-child relationship	-0.134**	0.064	0.182**	-0.222**	-0.119*
Mother-child relationship	-0.072	0.107*	0.188**	0.189**	0.221*
emotional atmosphere of family	-0.149**	0.162*	-0.124*	-0.244**	-0.133**
Information exchange	0.053	0.353**	0.292**	0.590**	0.273**
Trust virtual networks	0.119*	0.319**	0.287**	0.784**	0.392**
Educational justice in the Corona	0.107*	0.185**	0.764**	0.352**	0.402**
New teaching methods	0.095	0.364**	0.036	0.491**	0.221*
social relations	0.147**	0.358**	0.322**	0.389**	0.311**
Attitudes towards virtual networks	0.114*	0.427**	0.211*	0.511**	0.298**

Table 1- Continue

variables	Positive beliefs	School attachment	Special attachment	belong	General relations
Parent-child relationship	-0.084	0.330	0.269**	0.301**	0.294**

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Mother-child relationship	0.216*	0.267	0.227**	0.239**	0.264**
emotional atmosphere of family	0.154**	0.329	0.276**	0.296**	0.296**
Information exchange	0.318**	0.328	0.162*	0.662**	0.172**
Trust virtual networks	0.322**	0.388**	0.118	0.553**	0.083
Educational justice in the Corona	0.277**	0.355**	0.154*	0.470**	0.155**
New teaching methods	0.216*	0.236**	0.174**	0.526**	0.008
social relations	0.286**	0.286**	0.096	0.581**	0.243**
Attitudes towards virtual networks	0.195**	0.255**	0.116*	0.482**	0.309**

** . Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

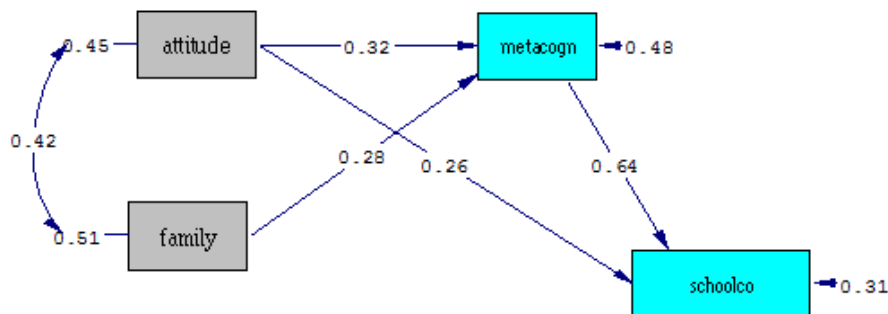
Taking into account that school attachment was considered as the criterion variable and metacognition belief and emotional atmosphere of family were considered as predictor variables, path analysis method was used for data analysis. The model was drawn

based on the relationship between the variables. Afterwards, the indices of goodness of fit were measured and examined (Table 2). As listed in Table 2, the goodness of fit of the whole tool is supported.

Table 2- Indices of goodness of fit of the model

CFI	AGFI	GFI	RMSEA	χ^2/df	Df	χ^2	Goodness of fit indices
0.93	0.86	0.91	0.054	1.39	3	4.16	

Based on the standard coefficients, the path analysis model is pictured in Figure 1.



Chi-Square=4.16, df=3, P-value=0.54054, RMSEA=0.054

Diagram 1- The model with standard path coefficient

Path coefficients of the model and t-values are listed in Table 3

Table 3- Standard path coefficients and t-values

Criterion variable	Path	Mediating variable	Coefficient	path	Predictor variable	t-value	Sig.	Indirect effect	Total effect
School attachment	0.64	Metacognition variables	0.28	→	Emotional atmosphere of family	2.57	0.011	0.92	0/179
			0.32	→	Attitudes to social networks	3.48	0.004	0.96	0/47
			Attitudes towards social networks	0.26	2.46	0.019			

Based on the model illustrated above, the relationship between the variables in the model; and the relationship between school attachment through emotional atmosphere in family, attitudes to social networks, and metacognition beliefs in the target group (2nd year high school girls in Tehran City) is illustrated in Table 2.

Discussion and conclusion

The results indicated:

- 1- Metacognition beliefs has a direct effect on school attachment of students (path coefficient = 0.64).

- 2- Using social networks has a direct effect on school attachment of students (path coefficient = 0.26).
- 3- Emotional atmosphere in family and attitudes to use social networks have an indirect effect on school attachment of students through metacognition beliefs.
- 4- Emotional atmosphere in family and attitude towards using social networks are significantly related.

As indicated by the literature review, the findings in this study are consistent with Rebeca et al.

(2011), Prisely et al. (2010), Ridlo and Latifia (2017), Chan and Dickson (2011), Trosper (2009), Javadian et al. (2012), Kas and Grifet (2014), and Walker and Sheferd (2008).

Attitudes of students to social networks, using it as a communication mechanism, and using it towards educational and academic development have made social networks essential for educational and knowledge development. Social networks can be useful and efficient tools and create fundamental changes in education and learning, provided that its use remain controllable towards academic needs of the users (Zaiedieh, 2012). Javadinia et al. (2012) conducted a study titled “using social networks and its effect on educational performance of students at Birjand University of Medical Sciences.” They found that using social networks can lead to educational progress in students; while the students need to be familiarised with how to use social network when they are admitted to the university. Maleki Ghorbani (2018) examined the relationship between dependence on virtual space (the Internet) and educational problems of high school students. They found a significant relationship between dialogue, sympathy, Internet addiction, and educational adaptation (including emotional, social, and teaching adaptation). There was also no significant relationship between teaching and social adaptation and sympathy. On the other hand, dialogue and Internet addiction

predicted adaptation in students. In some cultures and from specific viewpoints, schools are considered as the perfect places where humanity and technology work together to train successful, altruistic, and self-assessing individuals with a disciplined mind. While social networks complete and expand educational activities, they provide unique opportunities for learning. According to Komber, learners who used social networks could longer remain focused on their tasks and found their usually boring homework more interesting. These learners were also more interested in taking part in conversations and tended to ask more questions. Using new educational methods, the chance of checking news, sharing information with classmates and instructors, social learning communications, and higher school attachment are some of the outcomes of using social networks by students.

By emotional atmosphere in family, we refer to the emotional and mental interactions among the family members. Such interactions dictate the behavioural framework of the family members in the family and society. Minochin, Rittr, and Borda (2013) argued that one of the main functions of families is to support formation of individuality along with creating a sense of belonging among the members. Therefore, family needs to have an efficient and self-sufficient structure to fulfil its function. Children are key members of a family who also experience educational environment. By

entering the educational environment a mutual interaction forms among peers. Prosper et al. (2009) showed that there was a relationship between family atmosphere and emotional regulation so that it is possible to improve individual's performance based on the family emotional atmosphere and educating emotional self-regulation skills. Through this, mental disorders such as anxiety and stress can be also prevented. Students' trust in their parents' support improves peace and wellness in them and also attenuates anxiety in them. It also facilitates students' adaptation to educational spaces. Therefore, students' assessment of family and school atmosphere, their achievement, and their thoughts and cognitions constitute the factors in school attachment.

Ridlo and Latifia (2017) found that metacognition knowledge improves tendency to do educational activities, improves the sense of self-efficacy, and increases the chance of adopting constructive behaviours. Prisli et al. (2010) maintained that metacognition prepares the ground for creating, using, and monitoring learning approaches. Therefore, it has a key role in learning process. Gonsales, Fernandes, and Pavela (2017) argued that metacognition is the main predictor of emotions in educational situations. Cognitive self-awareness enables students to assess their educational progress during and after studying. Self-awareness and positive beliefs improve desire for learning.

Metacognition is a multi-aspect concept that encompasses knowledge, processes, and strategies that assess, monitor, and control cognition. It enables individuals to understand learning process and the way of using information to achieve an objective; make judgement about cognitive process in doing a specific task; find out what strategies fit the objectives in hand; and evaluate one's progress in action and afterwards. Felawell believed that self-control and self-assessment were the main goals of metacognitive education. Through this, learners can become independent and control, monitor, and adjust their learning and cognitive processes towards achieving their goals. This process prepares the ground for engagement with or participation in learning so that participation skills of learners can be improved and such skills are essential for improvement of school attachment. Therefore, loving school, having a good relationship with teachers and classmates, taking part in school activities, creating a positive emotional relationship, and having commitment and personal investment in school can be elaborated through metacognition beliefs. Taking into account the results of the present study and similar studies and clarification of an indirect relationship between emotional atmosphere of family and school attachment in students, the indirect relationship between attitudes to social networks and school attachment in students, and the direct relationship between

metacognition belief and school attachment, one can conclude that the research hypothesis is supported. That is, cognition beliefs have a mediating role in the relationship that emotional atmosphere in family and attitude towards students' use of social networks have with school attachment among students.

Recommendation

Future works on school attachment for specific objectives can be examined by the future studies. A model to illustrate and elaborate on the strategies to improve school attachment in students for different learning environment can also be developed by the future works.

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