

## Original Article

# Developing a passive tendency to addiction model based on mental toughness, helicopter parenting, and personal intelligence

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### Abstract

Students are one of the most important and vital assets in any country, yet nowadays they are having an increasingly stronger tendency to addiction. The aim of this study was to develop a model of addiction tendency based on helicopter parenting and personal intelligence with the mediating variable of mental toughness. The research method was descriptive-correlational using structural equation modeling. The population of the study consisted of students at Bonab and Maragheh universities of medical sciences in 2021. 285 participants were selected through the convenience sampling method. The instruments included the Luebbe et al.'s (2018) Helicopter Parenting Questionnaire, Mayer et al.'s (2013) Personal Intelligence Questionnaire, Clough, Earle, and Sewell's (2002) Mental Toughness Questionnaire, and Weed and Butcher's (1992) Addiction Tendency Questionnaire. The structural equation modeling method and the SPSS and AMOS software were used for data analysis. The results showed that the helicopter parenting style and mental toughness both play a role in explaining the model of students' passive tendency to addiction. Finally, 57% of the variance of passive tendency to addiction and 7% of the variance of mental toughness were explained by model variables. According to the results, it is suggested that helicopter parenting, mental toughness, and personal intelligence be considered in interventions related to reducing the tendency to addiction.

### Keywords

Tendency  
Drug addiction  
Helicopter parenting  
Mental toughness  
Personal intelligence

Received: 2022/06/24

Accepted: 2022/12/24

Available Online: 2023/02/12

### Introduction

In today's world, one of the most important social problems is addiction (Jahangiri & Gholamzadeh, 2011, as cited in Arjomand Davarani, Mousavi Nasab, & Tashak, 2021). Due to its complexity, the issue of addiction has prompted the United Nations to address it and to consider protocols for this social problem referred to as "household chemical warfare" and "borderless warfare" (Gatezadeh & Molaei Rad, 2020). A 30% increase in drug use was reported in 2017 compared to 2009 (United Nations, 2019, as cited in Alavi & Ramezani, 2021). The need to identify the factors that increase vulnerability to addiction is evident (Narimani & Parniankhooy, 2021). The importance of childhood experiences in shaping individuals' personality indicates the critical role of family in tendency to addiction (Mahdvargooi et al., 2016; Narimani & Parniankhooy, 2021). In their study on tendency to drugs, Shi, Wang, and Zhou (2017) demonstrated the effect of family dysfunction on this issue (Arjomand Davarani et al., 2021). A review of the related literature shows that

tendency to addiction is the result of a wide variety of factors and variables, including parenting style (Narimani & Parniankhooy, 2021; Ghodrati et al., 2021; Arjomand Davarani et al., 2021; Gatezadeh & Molaei Rad, 2020; Alavi & Ramezani, 2021; Ebrahimi & Mousavi, 2018; Zahabioun & Hosseini, 2017).

Parental intervention (Darlow, Norvilitis, & Schuetze, 2017; Akrami, Malekpour, & Abedi, 2020; Abdollahzadeh Rafi & Alishahi, 2021) and their over-attention (Rainey, 2006; SET, 2020) is called 'helicopter parenting'. This description indicates that parents are "hovering" above their children to supervise their lives (Turner, Faulk, & Garner, 2020; Abdollahzadeh Rafi, & Alishahi, 2021). In this style, parents are sometimes referred to as the "black hawk", which denotes high control, high levels of intimacy, support, and restricting independence (Segin, Givertz, Swaitkowski, & Montgomery, 2015; Kouros, Pruitt, Ekas, Kiriaki, & Sunderland, 2017). Helicopter parenting is a concept that can be used to describe parent-child relationships in Confucian countries, such as South Korea. Parents in these countries simultaneously have high control and provide strong support. In the Korean culture, there is a

positive aspect to parenting in the sense that it may lead to intergenerational bonding and thus better compatibility (Jaerim & Sieun, 2018). On the other hand, at Harvard University and across the state of New York, efforts are being made to educate parents to avoid helicopter parenting so that they can prevent the negative consequences for students and college staff (Earle & LaBrie, 2017).

Another factor that plays a key role in tendency to addiction is personal intelligence. Peyghami (2021) showed that personal intelligence can explain the model of student passive tendency to addiction. Personal intelligence is the ability to think about personality and personality-related issues that enhance thinking, lifestyle, and life experiences (Mayer & Allen, 2013). According to Mayer et al. (2013), personal intelligence has a negative significant correlation with maladaptive behaviors. Moreover, the results of Hajloo et al. (2016) showed that personal intelligence is one of the variables related to substance craving that can be targeted to prevent, treat, and reduce substance craving. In addition to personal intelligence, which has attracted the attention of many researchers today, there are new variables in the field of personality, such as mental toughness, which may predict the tendency to addiction. Clough, Earle, and Sewell (2002) considered mental toughness as a set of psychological variables that help people in difficult and challenging situations against the harmful effects of stress and anxiety and contribute to better performance. The basis of Clough et al.'s (2002) mental toughness model was Kobasa's (1979) work on toughness. Kobasa (1996) considered toughness as a combination of personality traits that is considered as a source of resistance to stressors (Ebrahimzadeh & Sohrabi, 2021). The three dimensions of commitment, challenge, and control were related to the variable of toughness, and Clough et al. (2002) added confidence as a fourth dimension and developed a new model called the mental toughness model (Fatehi Ghorbani & Yousefi, as cited in Razavian, Imani, & Noorbakhsh, 2021). The study by Ebrahimzadeh and Sohrabi (2021) showed that tendency to addiction can be predicted by the variables of mental toughness and ambiguity intolerance in students. Hamedinasab and Movahedikhah (2016) also investigated the role of mental toughness in tendency to addiction. As the authors stated, a review of various studies showed that mental toughness was inversely related to addiction. Furthermore, referring to the relationship between parenting styles and toughness, Hamidi and Ansari (2016) reported that the authoritative parenting style positively predicts well-being and toughness. Various studies have examined the relationship between addiction and variables such as parenting styles, personal intelligence, and mental toughness. Nevertheless, no research has explored the relationship between helicopter parenting style and mental toughness on the one hand and addiction on the other so far. Considering the significant role of family and parenting styles in tendency to addiction in individuals and the effect of variables such as personal

intelligence and mental toughness on addiction tendency, the purpose of this study was to investigate the relationship between helicopter parenting style as well as personal intelligence and addiction tendency, with mental toughness as the mediator.

## Method

### Participants

The present study was descriptive-correlational using structural equation modeling. The statistical population of this study was all students at Bonab and Maragheh medical universities (2000 people) in 2021. According to Kline (2005), in studies aiming at analyzing structural equations, there should be at least 5 to 20 participants per observable variable. Given that this study had 14 observable variables, it was necessary to sample 280 people. Finally, 285 people were selected by the convenience sampling method due to the coronavirus quarantine conditions. After determining the sample, the researchers participated in the students' virtual space groups with the coordination of the university authorities and made students aware of the research's importance. They emphasized that participation in the study is optional and non-participation in the study will not affect their mid-semester and end-semester evaluation and grades. Then, they distributed and collected study questionnaires (in WhatsApp, Telegram, and Instagram groups). The criteria for entering the research included having the desire to cooperate with researchers, not having a probation record, and not leaving the study in the current semester. In addition, the only criterion for exiting the study was the subject's failure to continue cooperating with the researchers. The students participated in the research voluntarily and answered the questionnaires. Data obtained from questionnaires were analyzed using the SPSS-24 and AMOS-24 software in the form of descriptive statistics including mean, standard deviation, and correlation and structural equations.

### Instrument

#### *Addiction Tendency Questionnaire:*

This scale was developed by Weed and Butcher (1992) and has two subscales of passive tendency and active tendency. In the study by Zargar et al. (2008), who localized this questionnaire, two methods of criterion-related validity and construct validity were used to investigate its validity. As for criterion-related validity, the addiction tendency questionnaire effectively distinguished between addicted and non-addicted groups. The construct validity of the scale was assessed by correlating it with the 25-item Clinical Symptoms Index Scale (0.45), which is significant. The reliability of the scale was calculated using the Cronbach's alpha method (0.90), which is desirable (Zargar et al., 2008). In this study, passive tendency to addiction was used and the Cronbach's alpha was found 0.88, which is also

desirable.

### *Helicopter Parenting Questionnaire:*

This scale was developed by Luebbe et al. (2018), which consists of 23 items with a 5-point Likert scale from strongly disagree to strongly agree. This questionnaire has 4 subscales: 1) Information seeking, 2) academic and personal management, 3) direct intervene, and 4) autonomy limiting. According to the authors, the construct validity was confirmed by factor analysis, and the Cronbach's alpha for the whole questionnaire was reported 0.90 (Abdollahzadeh Rafi & Alishahi, 2021). Moreover, the Cronbach's alpha coefficient of the questionnaire was found 0.95 in Abdollahzadeh Rafi and Alishahi (2021). In the present study, this coefficient for the whole questionnaire and the components of information seeking, academic and personal management, direct intervene, and autonomy limiting was 0.88, 0.77, 0.83, 0.90, and 0.66, respectively.

### *Personal Intelligence Questionnaire:*

This scale was developed by Mayer et al. (2013) and is composed of 12 items. Moreover, each question has four options with only one correct response. To evaluate the validity of the questionnaire, the concurrent validity was used, and given the correlation of 0.87 with the extended form of the questionnaire, the concurrent validity of the questionnaire was considered satisfactory. To evaluate the reliability of the questionnaire, the split-half method (0.84) and the Cronbach's alpha (0.81) were used, both of which indicated that the reliability of the questionnaire was desirable (Mayer et al., 2013).

### *Mental toughness Questionnaire:*

This questionnaire was developed by Clough, Earle, and Sewell (2002), which is comprised of 48 items and 8 subscales including challenge, commitment, control (emotional control, life control), confidence (confidence in one's abilities and interpersonal confidence). Perry et al. (2012) in their research reported the validity and reliability of this questionnaire as acceptable. In another study, Levy, Nicholls, and Polman (2012) found that five subscales of this questionnaire had acceptable Cronbach's alpha (0.6 to 0.8). However, as they added, the Cronbach's alpha pertaining to the emotion control component was found unacceptable (0.51). In Iran, Purak and Vaez Mousavi (2014) reported the Cronbach's alpha coefficient for all the subscales (0.7 to 0.9) as well as for the whole questionnaire (0.93) as satisfactory. In the present study, the Cronbach's alpha for the whole questionnaire and the components of challenge, commitment, emotional control, life control, confidence in one's abilities, and interpersonal confidence was 0.91, 0.64, 0.80, 0.60, 0.66, 0.77, and 0.63, respectively.

## **Results**

285 people participated in this study, of which 200 (70%) were female and 85 (30%) were male. In addition, 210 (74%) were under 25 years old. In terms of educational degree, about 16% had associate degree, 50% bachelor's degree, and about 35% had master's degree or higher degrees. Furthermore, 84% of participants were single, 14% married, and about 2% divorced. Descriptive statistics for the study variables are given in Table 1.

**Table 1.** Descriptive statistics for variables and their components

Scales and subscales	Minimum	Maximum	Mean	Standard deviation	Skewness	Kurtosis
<b>Challenge</b>	15.00	37.00	26.47	4.21	0.21	0.20
<b>Commitment</b>	15.00	51.00	37.83	6.62	-0.69	0.59
<b>Control</b>	24.00	63.00	46.32	6.96	-0.22	-0.075
<b>Emotional control</b>	10.00	31.00	20.34	4.15	0.07	-0.31
<b>Life control</b>	11.00	34.00	50.05	4.01	-0.56	0.42
<b>Confidence</b>	27.00	74.00	25.52	8.26	-0.142	-0.097
<b>Confidence in one's abilities</b>	10.00	45.00	28.86	5.68	-0.24	0.15
<b>Interpersonal confidence</b>	11.00	30.00	21.19	3.99	-0.25	-0.51
<b>Information seeking</b>	4.00	20.00	12.41	3.81	-0.16	-0.57
<b>Academic and personal management</b>	9.00	45.00	26.46	7.83	-0.09	-0.34
<b>Direct intervene</b>	5.00	25.00	9.30	4.40	1.07	0.79
<b>Autonomy limiting</b>	3.00	15.00	11.30	2.35	-0.77	0.88
<b>Passive tendency to addiction</b>	15.00	69.00	35.36	10.03	0.36	-0.03
<b>Shaping models</b>	0.00	6.00	3.98	1.36	-0.49	0.18
<b>Selection guide</b>	0.00	4.00	1.65	1.08	0.23	-0.78

Indices of skewness and kurtosis between +2 and -2 indicate insignificant deviation from the normal curve. Table 1 shows that the values of kurtosis and skewness for all variables are within the range of -2 and +2. This indicates that the distribution of data related to research

variables does not significantly deviate from univariate normality.

The correlation between the research variables is reported in Table 2, according to which there is a significant negative relationship between mental toughness and passive tendency to addiction ( $r = -0.517$ )

at the alpha level of 0.01. There is also a significant negative relationship between personal intelligence and passive tendency to addiction ( $r = -0.265, p < 0.01$ ). What this indicates is that as mental toughness and personal intelligence increase, passive tendency to

addiction decreases. On the other hand, there is a significant positive relationship between helicopter parenting and passive tendency to addiction ( $r = 0.261, p < 0.01$ ). It turns out that as the helicopter parenting style decreases, so does passive tendency to addiction.

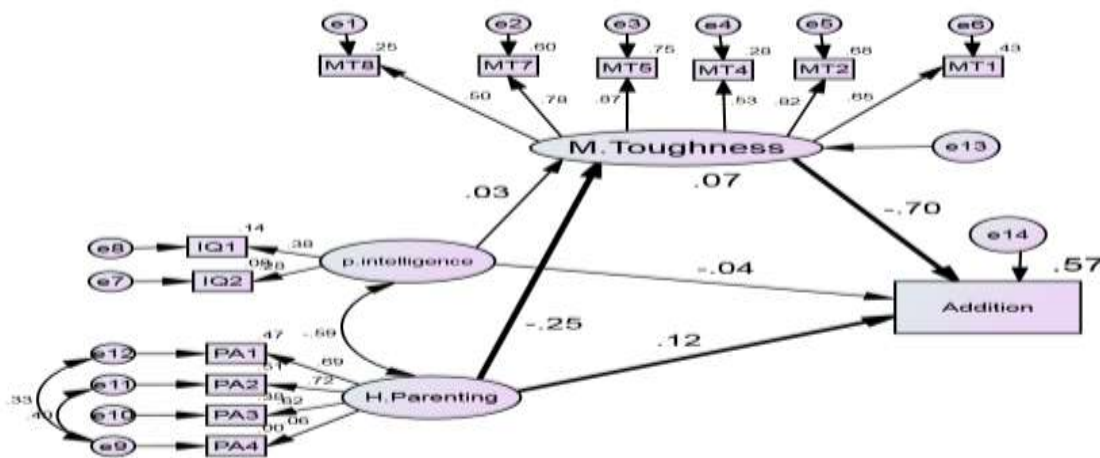
**Table 2.** Correlation between research variables

	Passive tendency to addiction	Helicopter Parenting	Mental toughness	Personal intelligence
Passive tendency to addiction	1.00			
Helicopter Parenting	.261**	1.00		
Mental toughness	-.517**	-.134*	1.00	
Personal intelligence	-.265**	-.188**	.045	1.00

\*  $P < 0.05$ , \*\*  $P < 0.01$

Seville and bootstrap tests were used to evaluate the direct and indirect effects of the variables in explaining the passive tendency to addiction model. The results of the analysis showed that in the proposed model, helicopter parenting had a significant direct ( $r = 0.12, p = 0.04$ ) and indirect ( $r = 0.18, p = 0.017$ ) effect on passive tendency to addiction as well as a significant effect on the mediating variable, i.e., mental toughness ( $r = -0.252, p = 0.016$ ). Mental toughness also has a significant direct effect on passive tendency to addiction ( $r = -0.70, p = 0.001$ ), while personal intelligence does not have a significant direct ( $r = 0.04, p = 0.77$ ) and

indirect ( $r = -0.58, p = 0.99$ ) effect on passive tendency to addiction. Moreover, personal intelligence has no significant effect on mental toughness ( $r = 0.03, p = 0.90$ ). In total, 57% of passive tendency to addiction is explained by model variables and 7% of mental toughness is explained by helicopter parenting. Therefore, it can be argued that, as the results showed in this study, mental toughness acts as a partial mediating variable in the relationship between helicopter parenting and tendency to addiction, yet it has no role in the relationship between personal intelligence and tendency to addiction.



**Figure 1.** Standard coefficients of the final model of passive tendency to addiction in nursing students

The Amos software version 24 was used to measure the fit of students' addiction tendency model. The results indicated that the role of helicopter parenting and mental toughness in explaining the model of passive tendency to addiction among nursing students is significant on the grounds that the goodness of fit index (GFI), the comparative fit index (CFI), and incremental fit index (IFI) in the model exceeded 0.9 and the

adjusted goodness of fit index (AGFI) was greater than 0.8. Further, the ratio of Chi-square to the degree of freedom ( $X^2/df$ ) must be in the range of 1 to 3, which was found to be acceptable for this model (2.52). Finally, the root mean square error of approximation (RMSEA) must be less than 0.09, which turned out to be 0.073 in this model, indicating that the validity of this model is desirable.

**Table 3.** Fit indices of the proposed model

Model fit index	$X^2$	DF	$(X^2/df)$	CFI	IFI	GFI	AGFI	RMSEA
Proposed model	146	58	2.52	.926	92.8	.930	.890	.073

## Discussion

In this study, the direct and indirect effects of personal intelligence and helicopter parenting on addiction

tendency were mediated by mental toughness. The results of the Bootstrap test showed that helicopter parenting has a significant direct (0.12) and indirect



(0.18) effect on addiction tendency. There has been no previous study to examine the relationship between helicopter parenting and any of the variables discussed in this study (mental toughness and addiction tendency). However, the studies by [Arjomand Davarani et al. \(2021\)](#), [Narimani and Parnian Khoi \(2021\)](#), [Ghodrati et al. \(2021\)](#), [Gatezadeh and Molaei Rad \(2020\)](#), [Alavi and Ramezani \(2021\)](#), [Ebrahimi and Mousavi \(2018\)](#), and [Zahabioun and Hosseini \(2017\)](#) demonstrated that parenting style is associated with addiction in the sense that authoritative parenting style can reduce the tendency to addiction. To interpret this finding, addiction is known as a social disorder and various factors play a role in its development, including social, psychological, biological, and pharmacological factors. More importantly, the influence of parents and their parenting styles is undeniable ([Arjomand Davarani et al., 2021](#)). Parents with a helicopter parenting style disrupt the natural development process of their children by constantly controlling them and excessively interfering in their important decisions, such as education and choosing a major, choosing a job, marriage, and so forth, which in turn results in a decrease in their psychological well-being and mental health in adulthood ([Abdollahzadeh Rafi & Shahi, 2021](#)).

Another result of this study was the significant direct effect of helicopter parenting on mental toughness (-0.25). In other words, the more excessively parents use parenting style, the less mental toughness their children will have. In this regard, [Hamidi and Ansari \(2016\)](#) reported a significant positive relationship between authoritative parenting style and toughness. Research shows that as helicopter parenting increases, so does psychological symptoms in children. A possible explanation for this finding may be that a child raised with a helicopter parenting style does not know how to cope with stress, needs the help of others in challenging situations, and therefore experiences psychological symptoms such as anxiety and depression. There is evidence that people who were overly supported by the family in childhood seek the approval and attention of others in adulthood ([SET, 2020](#)). Considering the four components of helicopter parenting (information seeking, academic and personal management, direct intervene, and autonomy limiting), the more people are raised with this style, the lower ability they will have with respect to their educational and occupational management, and the less control they will have over their lives and emotions. Furthermore, they will not have enough confidence in their abilities and cannot cope with life challenges on their own, i.e., a decrease in mental toughness, which can lead to psychological symptoms and ultimately a tendency to addiction.

This study showed that in the proposed model, no relationship was found between personal intelligence and passive tendency to addiction as well as mental toughness. This finding is inconsistent with the study of [Peyghami \(2021\)](#), who reported that personal

intelligence can have a direct effect on passive tendency to addiction. In her research, she demonstrated that personal intelligence as a mediating variable can explain the relationship between emotional self-efficacy and passive tendency to addiction. In this model, nevertheless, it could not explain passive tendency, thus the need for a larger sample for more accurate results. People with higher personal intelligence are expected to cope with difficult situations, challenges, and peer pressure thanks to higher self-awareness, greater management ability, and more self-control. As such, they can avoid failure, depression, and ultimately tendency to addiction. In other words, since personal intelligence can expand human cognition in relation to their feelings and emotions, it can motivate a person to become resilient and safe in the face of pressures, impulses of action, and adversity.

The results of this study indicated that mental toughness has a direct effect on passive tendency to addiction (-0.70). The results of this research are in line with those of [Ebrahimzadeh and Sohrabi \(2021\)](#) and [Hamedinasab and Movahedikhah \(2016\)](#). To explain this finding, people who enjoy a high level of mental toughness have a specific purpose for themselves and have found a meaning in their lives. Therefore, they are flexible to change and do not lose their motivation when faced with adversity. Additionally, they find safe and effective ways by managing their feelings and emotions in challenging situations and applying problem-solving techniques. On the other hand, people who have lower mental toughness may be more prone to substance use in threatening situations ([Hamedinasab & Movahedikhah, 2016](#)). Put differently, people with different levels of toughness also have different ways of dealing with problems and life events. For tough individuals, life challenges are manageable and flexible, whereas people with lower levels of toughness cannot use their full potential in dealing with life events, are helpless, feel threatened and alienated, and are more likely to grow an inclination toward drugs ([Ebrahimzadeh & Sohrabi, 2021](#)).

## Conclusion

The results of this study demonstrated that mental toughness mediates the relationship between helicopter parenting and addiction tendency. Participants who scored higher on adaptive behaviors such as commitment, challenge, self-confidence, and having control over their own lives, had relatively less tendency to addiction. Therefore, the findings of this study show the potential of interventions based on mental toughness in reducing tendency to addiction. It is also possible to empower people by teaching parenting style in order to increase their mental toughness and thus reduce their tendency to addiction.

## Limitations

Although this research enjoys many strengths, it has a few limitations that need to be mentioned. First of all, it should be noted that the design of this study was cross-sectional, which reduces its generalizability. Moreover, although the sample size was large enough, a larger sample of participants could probably have more statistical power and thus could help generalize the findings more. Another limitation was the lack of face-to-face access to participants and the possibility of random sampling, which could play an important role in generalizing the results of this research further. Investigating the present model in other student communities and among teenagers in different cultures is suggested. In addition, parenting training workshops for parents should be implemented in schools because parenting style plays a significant role in the addiction tendency. Mental stability can be taught and transferred; therefore, courses and workshops are suggested for teaching it in educational systems.

## Acknowledgments

We sincerely thank all the students and those who helped us in this research.

## Conflict of interest

In this study, there was no conflict of interest.

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