

IPA

International Journal of Psychology
Vol. 14, No.1, Winter & Spring 2020
PP. 163-191

Iranian Psychological
Association

**Role of Parasocial Interaction with Narcotic-
Addicted Celebrities and Worshiping
them in the Prediction of
Addiction Potential**

Reza Shabahang, MA

Department of Psychology
Faculty of Psychology and
Educational Sciences, University of
Tehran, Tehran, Iran.

Farzin Bagheri Sheykhangafshe, MA

Department of Psychology
Faculty of Literature and Humanities,
University of Guilan, Rasht, Iran.

Adeleh Yousefi Siahkoucheh, MA

Department of Psychology
Faculty of Literature and Human
Sciences, University of Guilan, Rasht,
Iran.

Benyamin Mokhtari Chirani, MA

Department of Psychology, Faculty of
Literature and Humanities, University
of Guilan, Rasht, Iran.

Seydeh Maryam Mousavi, PhD*

Department of Nursing and
Midwifery, Rasht Branch, Islamic
Azad University, Rasht, Iran.
Mmousavi.msc@gmail.com

Marzieh Akhavan, MA

Department of Art Studies, Faculty of
Art and Architecture, Tarbiat Modares
University, Tehran, Iran.

Received: 27/ 10/ 2019 Revised: 14/ 3/ 2020 Accepted: 16/3/ 2020
Doi: 10.22034/ijpb.2020.206719.1133

Given the remarkable expansion of celebrities' culture, celebrities and parasocial interaction with them are among the social factors that can influence the addiction susceptibility of their fans. The present study was conducted to determine the role of parasocial interaction with narcotic-addicted celebrities and worshipping them in the prediction of addiction potential. The research design was descriptive and correlational. The population of the study consisted of male students of

Guilan University in 2018. Among them, 120 people ($M = 24.16$, $SD = 7.58$) interested in narcotic-addicted celebrities were selected by purposive sampling. The Iranian addiction potential scale (Zargar, 2006), celebrity parasocial interaction scale (Bocarnea and Brown, 2007), and celebrity attitude scale (McCutcheon, Lange, & Houran, 2002) constituted the data collection instruments. Finally, the data were analyzed by Pearson correlation and stepwise multiple regression. The results of this study showed a significant positive correlation between parasocial interaction with narcotic-addicted celebrities and worshipping them with addiction potential ($p < .01$). Also, the results indicated the role of parasocial interaction, celebrity worship, and its subscales, including entertainment-social, intense-personal, and borderline-pathological, in the prediction of addiction potential ($p < .01$). Considering the role and prominence of parasocial interaction with narcotic-addicted celebrities and worshipping them in addiction potential, it is likely to reduce the addiction potential by designing and providing interventions that reduce parasocial interactions with narcotic-addicted celebrities and fascination with them.

Keywords: addiction potential, parasocial interaction, celebrity worship

Addictive behaviors may cause many side effects (Savolainen, Kaakinen, Sirola & Oksanen, 2018). Addiction, indeed, is defined as behaviors combined with a defect in control and harmful side effects in which one becomes fascinated by the behavior that initially has the pleasurable and pleasant effects (West, 2001). In general, these pleasant effects are due to changes in the mesolimbic dopaminergic system. Moreover, many neurotransmitters and hormones, such as Mu opioid, serotonin, and norepinephrine, can also be involved (Sussman, Lisha & Griffiths, 2011). Studies show that addiction is a compulsive cycle stabilized and expanded through a lack of regulation in the neural circuitry that governs motivation, enjoyable experiences, habitual behaviors, and executive functioning (Koob & Volkow, 2016). Addictive behavior can have different patterns and be manifested in different ways;

however, it always involves repetition and consuming much time in thinking and participating in behavior. In fact, addiction involves the inability to freely choose to either stop or continue behaving and thus experiencing adverse behavioral consequences (Sussman et al., 2011).

Generally, addiction can be related to various aspects, such as the internet, pathological gambling, compulsive sexual behavior, compulsive shopping, extreme exercise, food, and even work (Zilberman, Yadid, Efrati, Neumark & Rassovsky, 2018). Drug and tobacco addiction are among the most prominent and widespread types (Peacock et al., 2018). This addiction is considered a chronic disease and a persistent global social issue (Ghanbari & Sumner, 2018). In humans, drug addiction or substance use disorders are defined as having two or more of the eleven diagnostic criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders 5th Edition. These criteria include control defect over substance abuse, such as spending too much time and energy to find and consume substances, severe cravings, desire to consume, inability to reduce or discontinue consumption, and social impairment. Moreover, the compulsive consumption is another main criteria (Lynch, 2018). As two guide classification systems, indeed, the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, together with the International Statistical Classification of Diseases and Related Health Problems, provides a set of vital criteria for addiction. The criteria include difficulty in controlling consumption, overwhelming desire for drugs, increasing consumption of drugs to achieve favored effects, adverse effects of drug withdrawal, neglect of other interests, social and occupational

dysfunctions, unsuccessful attempts to quit, and also continued use despite awareness of the adverse physical and psychological effects of the substances (Rogers, 2017). In other words, substance use disorder is known as a complex brain disease that involves permanent changes, leading to a compulsive search, desire, and a high likelihood of return (Berridge, 2017; Volkow, Koob & McLellan, 2016).

One of the important components of addiction is susceptibility or preparedness (Shabahang, Rezaei & Bagheri Sheykhangafshe, 2018). Generally, the tendency for drugs and tobacco begins before consumption (Ranjbaran, Mohammadshahi, Mani & Karimy, 2018). Studies show that unhealthy growth, aptitude, and readiness play a key role in drug addiction (Zeynali, 2015). In fact, drug addiction susceptibility assesses vulnerability to substance abuse, whether or not a person is currently addicted (Ghadimi, Karami & Yazdanbakhsh, 2015). To be exact, some people are susceptible to addiction and become addicted if exposed; however, if one does not have the potential to become addicted, they will not become then (Ghanbari-Talab & Fooladchang, 2015). In other words, before people start using drugs, the context and readiness are created, which is referred to as drug addiction (Zeynali, Vahdat & Hamednia, 2007).

The study of the addiction phenomenon should take into account the biological, psychological, and social dimensions (Jasso-Medrano & López-Rosales, 2018), in which social factors can play a crucial role in addiction. Given the remarkable expansion of celebrities' culture (Turner, 2010) and an insatiable appetite for information about them (Alexander, 2010), parasocial interaction

with celebrities and worshipping them are among the social factors that can influence the phenomenon of addiction susceptibility.

The parasocial phenomenon is described by researchers in the field of media to demonstrate the connections between media users and personalities (Giles, 2010), and it is known as a popular concept in the field and its influences (Dibble, Hartmann & Rosaen, 2016). Horton and Wohl (1956) state that creating the illusion of face-to-face communication with a performer is the prominent feature of the mass media defined as parasocial interaction. To put it differently, parasocial cohesions are one-way connections with celebrities and media persons (Gleason, Theran & Newberg, 2017) that refer to the reactions of media users to media executives as perceiving the presenters as intimate conversational partners, showing up as a give and take interaction (Dibble et al., 2016). Indeed, parasocial interactions can be characterized by intimacy, sympathy, and sociability, just like friend and family relations (Horton & Wohl, 1956). The power of parasocial communication, like the growth of real-life social communication, is correlated with time spent with the media personality. In other words, the continuous presence of a media personality in the media allows the audience to know more about the personality. That is to say, like real-world social relationships, continued exposure to media personalities can lead to increased parasocial interactions, reduced uncertainty, and ultimately enhanced parasocial communication (Bond, 2018).

With fans' attachment to their favorite celebrity, these blends can gradually become obsessive and addictive, and people literally are enthralled by their favorite celebrities. This extremist interest is

defined as the celebrity worship (McCutcheon, Lange & Houran, 2002), in which celebrities are highly respected, and their defects are overlooked (Aruguete, Griffith, Edman, Green & McCutcheon, 2014). In this regard, McCutcheon et al. (2002) introduce the absorption-addiction model to understand the phenomenon of celebrity worship better. The model assumes that some people are attracted to celebrities due to their defective personality and thus to facilitate the identity formation process and feel fulfilled. According to the addiction model, there are three levels of celebrity worship (McCutcheon et al., 2002; Maltby, Houran, Lange, Ashe & McCutcheon, 2002). Low levels of celebrity worship consist of individual behaviors, such as watching and reading about a favorite celebrity. At slightly higher levels, worship has more social characteristics. Finally, at the highest levels, we can see a combination of empathy with successes and failures, over-identification, and impulsive behaviors, such as obsession emergence in the details of celebrities' lives. In fact, celebrity worship consists of three sets of behaviors. The entertainment-social level is elementary that includes social aspects and intermingling with celebrities. The level of intense-personal that reflects the obsessive passions and feelings and the borderline-pathological level literally include the worship of celebrities (McCutcheon et al., 2002; McCutcheon, Ashe, Houran & Maltby, 2003).

Medical studies show that addiction is a common contributor cause to the deaths of many celebrities, such as Elvis Presley, Marlin Monroe, Jackie Wilson, and Hank Williams (Lathan, 2009). A topic that has been prominent in their media programs (smoking

in movies) and attracted the attention of many fans. Considering the impact of parasocial interaction with celebrities and their worship on a wide range of psychological modules, such as mental health (Maltby, Day, McCutcheon, Gillett, Houran & Ashe, 2004), psychological wellbeing (Maltby, McCutcheon, Ashe & Houran, 2001), identification (Brown, 2015), identity formation, independence development (Gleason, Theran & Newberg, 2017), wishful identification (Hoffner, 1996), personality (Maltby, McCutcheon & Lowinger, 2011), self-concept (Reeves, Baker & Truluck, 2012), homophily (Turner, 1993), attachment (Cole & Leets, 1999), social cohesion (Bond, 2018), cognitive aspects (Horton & Wohl, 1956), and many others, the importance and impact of parasocial interaction with celebrities and worshipping them can be understood in enhancing their fans' addiction potential. Indeed, increasing parasocial interaction with narcotic-addicted celebrities and worshipping them can be effective contributors to increase the addiction potential of their fans. Very few researches have been done on the relationship between blends with celebrities and their fans' addiction. However, the critical point is that most of the studies show the relation between fans' addiction and their favorite celebrities. Baek, Bae & Jan (2013) conduct a study on social network sites. They find correlations between parasocial relationships and addiction to the social network sites, which indicates a relationship between parasocial integration and addiction. Sheridan, North, Maltby & Gillett (2007) State that addictive attributes are an important part of celebrity worship. More specifically, Dwyer & Fraser (2017) examine whether celebrity recommendations can influence the current cultural concept and the

meaning of addiction plus addicts. To answer the question, they look at the Twitter messages about addiction shared by celebrities and examine how users come to the post, the indirect impact of messages, and how users discuss celebrities' posts. The results indicate a distinct effect of messages on addiction and its related dimensions. Tiger (2013), by case studies of celebrity gossip blogs, suggests that blogs play an important role in the interactive structure of addiction and can be effective in creating, maintaining, and reinvigorating addiction and many other social problems. Consistent with other studies, Oksanen (2012) examines *Celebrity Rehab* reality television show and its impact. The results show the effect of this program on addiction.

Accordingly, a strong attachment to the narcotic-addicted celebrities can be seen as a contributing factor to the addiction susceptibility of fans, which requires more specific studies. Given the role of parasocial interaction with celebrities and their worship in relation to a wide variety of phenomena and consequences, investigating the relationship of the fascination with narcotic-addicted celebrities and their fans' addiction can be very helpful in identifying another contributing factor to the addiction phenomenon. Lack of sufficient research and, of course, new research in this field, also doubles the importance of examining the relationship between narcotic-addicted celebrities and their fans' addiction. Overall, it is useful to find out whether there is a link between parasocial interaction with narcotic-addicted celebrities and their worship and their fans' susceptibility to addiction. Accordingly, the present study is conducted to determine the role of

parasocial interaction with narcotic-addicted celebrities and worshipping them in the prediction of addiction potential.

Method

The research method was descriptive and correlational. The statistical population included male students of Guilan University in 2018. Using purposive sampling, non-parametric bootstrap was used to evaluate sample size according to the sampling method of Guarte and Barrios (2006). Based on the results, 120 participants interested in narcotic-addicted celebrities were selected. Participants' criteria for entry into the study included belonging to the research population, interest in a narcotic-addicted celebrity, age between 18 and 40 years, and participant satisfaction; exclusion criteria included observable physical and mental disabilities, besides a lack of personal desire. After coordinating with relevant agencies, 120 male students interested in narcotic-addicted celebrities were selected using purposive sampling, and they completed data collection instruments, including The Iranian Addiction Potential Scale (Zargar, 2006), the Celebrity Parasocial Interaction Scale (Bocarnea & Brown, 2007), and the Celebrity Attitude Scale (McCutcheon, Lange & Houran 2002).

Instruments

Iranian Addiction Potential Scale

Addiction potential scale was designed by Weed, Butcher, McKenna & Ben-Porath (1992), Iranian format of which was prepared by Zargar (2006) with regard to the psychological and social status of Iranian society. The Iranian Addiction Potential

Scale consists of 36 items and five lie scales with two subscales: active addiction, including antisocial behaviors, desire for substance use, positive attitude to substance, depression, and sensation seeking; passive addiction comprising lack of self-esteem and depression. Items are rated Likert-type scale from strongly disagree (zero) to strongly agree (three), with higher scores being higher readiness for addiction and lower scores being less readiness for addiction. Zarger (2006) reports appropriate construct validity of the scale through proper correlation with SCL-25. Moreover, Zargar (2006) expresses Cronbach's alpha of .90. In another study, Zargar, Najarian & Naami (2008) suggest a good validity and reliability for the Iranian addiction potential scale; the reliability of scale using Cronbach's alpha coefficient is .90, .91, and .75 for the whole scale, active and passive subscales, respectively. Also, in the study of Vojudi, Abdolpour, Bakhshipour, & Otared (2014), full-scale reliability using Cronbach's alpha is .82. In the present study, Cronbach's alpha is found to be appropriate for the whole scale ($\alpha = .86$), indicating good internal consistency of the scale.

Celebrity Parasocial Interaction Scale

Bocarnea and Brown (2007) designed a scale of celebrity parasocial interaction in order to measure how users of media interact with celebrities. This scale has been extracted from other tools and studies related to parasocial interactions, including Rubin, Perse & Powell (1985); Cole and Leets (1999); and Auter & Palmgreen (2000). While most tools for parasocial communication are designed to measure the power of parasocial interactions through television, this scale includes parasocial interactions

beyond television as well. The scale of parasocial interaction with a celebrity is a self-reported and single-factor tool, consisting of 20 questions about the extent of agreement with sentences related to parasocial interaction with celebrities. Responses are obtained on a 5-point Likert-type scale from strongly disagree (1) to strongly agree (5). Studies report appropriate reliability of the scale with Cronbach's alpha in the range of .80 to .90. Also, the criterion-related validity of the Celebrity Parasocial Interaction Scale is also appropriate. Researches show that the items of the scale can predict identifying celebrities and exposing personalities and individuals in the mass media. The validity of the scale is also satisfactory. In sum, factor analyses of scale items show that this scale can validly measure the parasocial relationship (Bocarnea and Brown, 2007). In the present study, the Cronbach's alpha for the Celebrity Parasocial Interaction Scale is obtained .91.

Celebrity Attitude Scale-23 items

The Celebrity Attitude Scale is used to identify individuals who are over-absorbed or addicted to celebrities. The scale is answered and scored on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree) and includes 3 subscales of Entertainment-Social, Intense-Personal, and Borderline-pathological (McCutcheon et al., 2002). The scale is available in 32-item, 23-item, and 22-item versions, each assessing respondents' attitudes toward their favorite celebrities (Sansone & Sansone, 2014). McCutcheon et al. (2002) provide good internal consistency and convergent validity for the 32-item version of the scale. The results also show the appropriate validity and reliability of the 23-item and 22-item versions of the

celebrity attitude scale (Maltby et al., 2004; Maltby et al., 2011). In this study, the 23-item version of the scale is used. In Iran, Shabahang, Besharat, Nikoogoftar, and Bagheri Sheykhangafshe (2019) obtain Cronbach's alpha of .92 for the whole scale, and .83, .90, and .85 for subscales of Entertainment-Social, Intense-Personal, and Borderline-Pathological, respectively. Further, good internal consistency is found for the whole scale ($\alpha = .89$), as well as entertainment-social ($\alpha = .80$), intense-personal ($\alpha = .75$), and borderline-pathological ($\alpha = .60$) subscales.

The participants were asked to think about their favorite celebrity, who is narcotic-addicted, and respond to scales. To analyze the data, Pearson correlation and stepwise multiple regression were used. It should be noted that all necessary permits were obtained from the relevant organizations before conducting the research. According to the ethical principles of Helsinki (World Medical Association, 2013), the ethical considerations of this study were also fully respected. In order to adhere to the research ethics, the participants were first allowed and satisfied to withdraw at any time they wished, and they were also assured that the research data would be group-analyzed and that their personal information would be kept confidential. Finally, the participants were fully informed about the topic, goals, and importance of the research.

Results

Descriptive statistics of the demographic variables of the respondents are presented in Table 1.

Table 1
Descriptive Statistics of the Demographic Variables of the Subjects

Demographic variables	Frequency	Percent
Age of the respondents		
18-25 y.o	67	55.8
26-30 y.o	34	28.4
31-40 y.o	19	15.8
Marital status		
Single	83	69.2
Married	37	30.8
Faculty		
Architecture and art	47	39.2
Technical	25	20.8
Literature and Humanities	33	27.5
Agriculture	15	12.5
Duration of addiction		
2-5 y.o	71	59.2
6-9 y.o	35	29.2
10 years and up	14	11.6
Gender of the narcotic addicted celebrity		
Male	79	65.8
Female	41	34.2

Table 2 presents the descriptive indicators of variables, including mean, standard deviation, skewness, and kurtosis. Kline (2011) proposes that the absolute values of the skewness and kurtosis of the variables should not be greater than 3 and 10, respectively. According to Table 2, the absolute value of the skewness and kurtosis of all variables is lower than the values proposed by Kline.

Table 2
Descriptive Characteristics of Research Variables (n = 120)

Variable	Mean	SD	Skewness	Kurtosis
Parasocial interaction	66.85	9.31	.032	-1.45
Entertainment-social	25.67	3.85	-.597	-.923
Intense-personal	18.45	5.97	.401	-.844
Borderline-pathological	6.43	2.25	1.46	2.99
Celebrity worship	47.96	13.17	.137	-1.58
Addiction potential	83.74	17.91	.650	-.296

Table 3 reports the descriptive indicators and the research variables. According to this Table, parasocial interaction ($r = .454$), entertainment-social ($r = .384$), intense-personal ($r = .293$), borderline-pathological ($r = .358$), and celebrity worship ($r = .335$) have a significant positive relationship at the significance level of .01 with addiction potential.

Table 3
Correlation Matrix of Research Variables

Row	Variables	1	2	3	4	5	6
1	Parasocial interaction	1					
2	Entertainment-social	.156	1				
3	Intense-personal	.047	.625**	1			
4	Borderline- pathological	.240**	.408**	.487**	1		
5	Celebrity worship	.291**	.543**	.436**	.255**	1	
6	Addiction potential	.345**	.384**	.239**	.358**	.335**	1

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

Stepwise multiple regression is used to predict addiction potential through parasocial interaction with narcotic-addicted celebrities and worshiping them. In the first step, parasocial interaction, in the second step, entertainment-social, in the third step, intense-personal, in the fourth step, borderline-pathological, and, in the fifth step, celebrity worship is entered into the equation and retained their significance over 5 steps. Table 4 reports the results of the regression analysis.

Table 4
Summary of Regression Model, Analysis of Variance and Statistical Characteristics of Addiction Potential Regression on Predictive Variables

Step	Model	Sum of Squares	df	Mean Squares	F	P	R	R ²	ΔR ²
1	Regression	4538.67	1	4538.67	15.92	.001	.345	.119	.111
	Residual	33634.32	118	285.03					
2	Regression	8798.72	2	4399.36	17.52	.001	.480	.230	.217
	Residual	29374.26	117	251.06					
3	Regression	8908.76	3	2969.58	11.77	.001	.483	.233	.214
	Residual	29264.23	116	252.27					
4	Regression	19756.74	4	4939.18	30.84	.001	.719	.518	.501
	Residual	18416.24	115	160.14					
5	Regression	21797.77	5	4359.55	30.35	.001	.756	.571	.552
	Residual	16375.21	114	143.64					

Step 1: Predictor variable: Parasocial interaction

Step 2: Predictor variable: Parasocial interaction, entertainment-social

Step 3: Predictor variable: Parasocial interaction, entertainment-social, intense-personal

Step 4: Predictor variable: Parasocial interaction, entertainment-social, intense-personal, borderline-pathological

Step 5: Predictor variable: Parasocial interaction, entertainment-social, intense-personal, borderline-pathological, celebrity worship

Based on the results presented in Table 4, it can be concluded that the sum of the predictor variables explains and predicts .57 of the variances of the addiction potential. That is, predictor variables account for 57% of the addiction potential score. The observed F for the predictor variables is significant at the level of .001. The findings show that these 5 variables are significantly able to predict addiction potential.

Table 5
Regression Coefficients of Addiction Potential based on Predictor Variables

Predictive Variables	B	Standard Error	β	t	Sig.
Constant	85.32	13.31	-	6.40	.001
Parasocial interaction	.50	.143	.26	3.49	.001
Entertainment-social	1.25	.449	.27	2.78	.006
Intense-personal	.71	.252	.24	2.85	.005
Borderline-pathological	4.77	.598	.60	7.98	.001
Celebrity worship	.42	.113	.31	3.76	.001

According to Table 5, the effect of parasocial interaction on addiction potential ($\beta = .26$) is positive and significant at the level of .01. The effect of entertainment-social on addiction potential ($\beta = .27$) is positive and significant at the level of .01. The effect of intense-personal on addiction readiness ($\beta = .24$) is positive and significant at the level of .01. Borderline-pathological effect on addiction potential ($\beta = .60$) is positive and significant at .01 level. The effect of celebrity worship on addiction potential ($\beta = .31$) is positive and significant at the .01

level. Indeed, parasocial interaction with narcotic-addicted celebrity and worshipping them predict addiction potential. To put it differently, the higher the level of parasocial interaction with narcotic-addicted celebrity and worshipping them, the higher the level of potential for addiction and vice versa.

Discussion

This study aims to investigate the relationship between parasocial interaction with celebrity, celebrity worship, and addiction potential among male students interested in narcotic-addicted celebrity. To be precise, whether susceptibility to addiction is correlated to parasocial interaction with narcotic-addicted celebrity and worshipping them or not. Moreover, to find out whether it is possible to predict addiction potential by examining the parasocial interaction with narcotic-addicted celebrity and worshipping them or not. According to the results, parasocial interaction with narcotic-addicted celebrities and worshipping them are correlated to their fans' addiction potential. The results also suggest the possibility of predicting the addiction potential by examining the parasocial interaction and worshipping narcotic-addicted celebrity. Indeed, the findings indicate the importance and prominence of extreme fascination with such celebrities in enhancing their fans' addiction potential.

Parasocial interaction is defined as the face-to-face interaction (Horton & Wohl, 1956) and integration of the media user and personality (Giles, 2010) with one-way connectivity with him or her (Gleason, Theran & Newberg, 2017) that, like an intimate conversation, can have a sense of give and take interaction (Dibble et al., 2016). Increasing these interactions and affiliations with celebrities results in a fascination in their fans, i.e., known as celebrity worship. In fact, celebrity worship

is defined as an extreme fascination with the celebrity of interest, which can have obsessive, erotomanic, and addictive attributes (McCutcheon et al., 2002; McCutcheon et al., 2003). Such parasocial interactions with celebrities and their worship through the wide-ranging connections that they have with various components, such as identification (Brown, 2015), identity formation (Gleason et al., 2017), wishful identification (Hoffner, 1996), personality (Maltby et al., 2011), and social cohesion (Bond, 2018), can be influential in fans, especially when that celebrity is a narcotic addict. That is, given the characteristics that this type of interaction has an important role in connecting with celebrities in the process of forming an identity and the feeling of being completed, fans are attracted to celebrities and fascinated by their behavioral and cognitive characteristics like addiction to a narcotic substance, which has an overriding interest in addiction-related components, such as addiction potential. The present study is in line with previous researches (Baek et al., 2013; Oksanen, 2012) in that indicates the association between extreme merging with narcotic-addicted celebrity and addiction potential, which demonstrates the importance and impact of extreme fascination with addicted celebrities and the addiction potential of their fans. To be exact, through the increased parasocial interaction with celebrities of interest and being fascinated with them, they are more likely to predict fans' addiction potential, if they are narcotic-addicted, due to the relationships they have with their fans' identity, personality, ideal identity, and attachment. Therefore, according to the results of the present study, parasocial interaction and celebrity worship can be effective in addiction phenomenon. That is to say, increasing levels of parasocial interaction with narcotic-addicted celebrities and worshipping them can increase

the addiction potential of fans. In contrast, lower levels of emergence and fascination with them can be linked to the diminished effectiveness of celebrity addiction. In fact, the increased emergence of celebrities leads to fans getting closer to their favorite celebrities and striving to be more like them. If the celebrity of interest is a narcotic-addicted one, it can create a proneness in their fans to be more receptive to narcotic substances. The fans ignore the negative consequences and side effects of the substances. It is very important to note that reducing celebrity smoking imagery can be effective in the short term; however, it is actually a form of ignoring the problem. Indeed, enhancing abilities, such as cognitive flexibility and emotion regulation, along with implementing programs to improve personality development and resolve identity and personality crises, can reduce the addiction potential by reducing the influence of celebrities. Therefore, using strategies to reduce parasocial interaction with narcotic-addicted celebrities and worshipping them can be very effective in reducing the levels of addiction potential and, accordingly, its consequences.

Finally, it is necessary to state that the present study has some limitations to be considered. The study population consists of male students of Guilan University in 2018. Therefore, generalizing the findings to the female population and other age groups should be carried out with caution. It is, therefore, recommended to conduct similar studies in another gender (women) and age groups, especially adolescents and young people (according to the key role and personality/identity development process). Another limitation is using the self-report questionnaires. The use of a non-probability sampling method is also effective in limiting the generalizability of the present results. Experimental studies, such as using smoking celebrity

images or clips and investigating their impact on the respondents, can better identify and explain the impact of parasocial interactions with narcotic-addicted celebrities and worshipping them on fans. Longitudinal and cross-sectional studies on the role and importance of these two components in addiction potential can also be very useful. Finally, it is suggested to link parasocial interaction with narcotic-addicted celebrities and worshipping them with the potential of addicts in different environments and with a larger population to enhance the power of results by providing comparability.

According to findings, parasocial bonds with narcotic-addicted celebrities can bring about an increase in addiction potential. Considering the role and prominence of parasocial interaction with narcotic-addicted celebrities and worshipping them in addiction potential, it is plausible to reduce the addiction potential by designing and providing interventions that reduce parasocial interactions with narcotic-addicted celebrities and fascination with them.

There is no conflict of interest for this research from the authors.

Acknowledgements

We would like to thank the research participants who made it possible for us to conduct the research.

References

- Alexander, J. C. (2010). The Celebrity-Icon. *Cultural Sociology*, 4(3), 323-336.
- Aruguete, M., Griffith, J., Edman, J., Green, T., & McCutcheon L. (2014). Body Image and Celebrity Worship. *Implicit Religion*, 17(2), 223-234.

- Auter, P., & Palmgreen, P. (2000). Development and validation of a parasocial interaction measure: The audience-persona interaction scale. *Communication Research Reports, 17*(1), 79-89.
- Berridge, K. C. (2017). Is addiction a brain disease? *Neuroethics, 10*(1), 29-33.
- Baek, Y. M., Bae, Y., & Jan, H. (2013). Social and parasocial relationships on social network sites and their differential relationships with users' psychological well-being. *Cyberpsychology, Behavior and Social Networking, 16*(7), 512-517.
- Bocarnea, M. C., & Brown, W. J. (2007). *Celebrity-Persona Parasocial Interaction Scale*. In R. A. Reynolds, R. Woods & J. D. Baker (EDs). *Handbook of Research on Electronic Surveys and Measurements* (pp. 309-312). Hershey, PA: Idea Group Reference.
- Bond, B. J. (2018). Parasocial Relationships with Media Personae: Why They Matter and How They Differ Among Heterosexual, Lesbian, Gay, and Bisexual Adolescents. *Media Psychology, 21*(3), 457-485.
- Brown, W. J. (2015). Examining Four Processes of Audience Involvement with Media Personae: Transportation, Parasocial Interaction, Identification, and Worship. *Communication Theory, 25*(3), 259-283.
- Cole, T., & Leets, L. (1999). Attachment Styles and Intimate Television Viewing: Insecurely Forming Relationships in a Parasocial Way. *Journal of Social and Personal Relationships, 16*(4), 495-511.
- Dwyer, R., & Fraser, S. (2017). Celebrity enactments of addiction on Twitter. *Convergence: The International Journal of Research into New Media Technologies, 1*-19.

- Dibble, J. L., Hartmann, T., & Rosaen, S. F. (2016). Parasocial Interaction and Parasocial Relationship: Conceptual Clarification and a Critical Assessment of Measures. *Human Communication Research, 42*(1), 21-44.
- Ghadimi, A., Karami, J., & Yazdanbakhsh, K. (2015). The relationship between primary maladaptive schemas and meta-cognitive beliefs with addiction potential. *Journal of Fundamentals of Mental Health, 17*(2), 67-73. [In Persian].
- Ghanbari, R., & Sumner, S. (2018). Using metabolomics to investigate biomarkers of drug addiction. *Trends in molecular medicine, 24*(2), 197-205.
- Ghanbari-Talab, M., & Fooladchang, M. (2015). On the Relationship of Resilience and Mental Vitality with Addiction Potential among Students. *Research on Addiction, 9*(34), 9-22. [In Persian].
- Giles, D. C. (2010). Parasocial Interaction: A Review of the Literature and a Model for Future Research. *Media Psychology, 4*(3), 279-305.
- Gleason, T. R., Theran, S. A, & Newberg, E. M. (2017). Parasocial Interactions and Relationships in Early Adolescence. *Frontiers in Psychology, 8*, 255.
- Guarte, J. M., & Barrios, E. B. (2006). Estimation Under Purposive Sampling. *Communications in Statistics - Simulation and Computation, 35*(2), 277-284.
- Hoffner, C. (1996). Children's wishful Identification and Parasocial Interaction with Favorite Television Characters. *Journal of Broadcasting & Electronic Media, 40*(3), 389-402.
- Horton, D., & Wohl, R. R. (1956). Mass Communication and Para-Social Interaction. *Psychiatry, 19*(3), 215-229.

- Jasso-Medrano, J. L., & López-Rosales, F. (2018). Measuring the relationship between social media use and addictive behavior and depression and suicide ideation among university students. *Computers in Human Behavior, 87*, 183-191.
- Kline, R. B. (2011). Principles and practice of structural equation modeling. Second Edition, New York: The Guilford Press.
- Koob, G. F., & Volkow, N. D. (2016). Neurobiology of addiction: a neurocircuitry analysis. *The Lancet Psychiatry, 3*(8), 760-773.
- Lathan, S. R. (2009). Celebrities and substance abuse. *Proceedings (Baylor University. Medical Center), 22*(4), 339-341.
- Lynch, W. J. (2018). Modeling the development of drug addiction in male and female animals. *Pharmacology Biochemistry and Behavior, 164*, 50-61.
- McCutcheon, L. E., Ashe, D. D., Houran, J., & Maltby, J. (2003). A Cognitive Profile of Individuals Who Tend to Worship Celebrities. *The Journal of Psychology Interdisciplinary and Applied, 137*(4), 309-322.
- McCutcheon, L. E., Lange, R., & Houran, J. (2002). Conceptualization and measurement of celebrity worship. *British Journal of Psychology, 93*(1), 67-87.
- Maltby, J., Houran, J., Lange, R., Ashe, D., & McCutcheon, L. E. (2002). Thou shalt worship no other gods—unless they are celebrities: the relationship between celebrity worship and religious orientation. *Personality and Individual Differences, 32*(7), 1157-1172.
- Maltby, J., Day, L., McCutcheon, L. E., Gillett, R., Houran, J., & Ashe, D. D. (2004). Personality and coping: a context for

- examining celebrity worship and mental health. *British Journal of Psychology*, 95(4), 411-428.
- Maltby, J., McCutcheon, L. E., Ashe, D. D., & Houran, J. (2001). The Self-Reported Psychological Well-Being of Celebrity Worshipers. *North American Journal of Psychology*, 3(3), 441-52.
- Maltby, J., McCutcheon L. E., & Lowinger, R. J. (2011). Brief Report: Celebrity Worshipers and the Five-factor Model of Personality. *North American Journal of Psychology*, 13(2), 343-348.
- Oksanen, A. (2012). Affect and addiction in the Celebrity Rehab reality television show. *Addiction Research & Theory*, 22(2), 137-146.
- Peacock, A., Leung, J., Larney, S., Colledge, S., Hickman, M., Rehm, J.,, & Ali, R. (2018). Global statistics on alcohol, tobacco and illicit drug use: 2017 status report. *Addiction*, 113(10), 1905-1926.
- Ranjbaran, M., Mohammadshahi, F., Mani, S., & Karimy, M. (2018). Risk factors for addiction potential among college students. *International Journal of Preventive Medicine*, 9(1), 17.
- Reeves, R. A., Baker, G. A., & Truluck, C. S. (2012). Celebrity Worship, Materialism, Compulsive Buying, and the Empty Self. *Psychology and Marketing*, 29(9), 674-679.
- Rogers, P. J. (2017). Food and drug addictions: Similarities and differences. *Pharmacology Biochemistry and Behavior*, 153, 182-190.
- Rubin, A. M., Perse, E. M., & Powell, R. A. (1985). Loneliness , parasocial interaction, and local television news viewing. *Human Communication Research*, 12, 155-180. DOI:10.1111/j.1468-2958.1985.tb00071.x

- Sansone, R. A., & Sansone, L. A. (2014). I'm your number one fan- A clinical look at celebrity worship. *Innovations in Clinical Neuroscience, 11*(1-2), 39-43.
- Savolainen, I., Kaakinen, M., Sirola, A., & Oksanen, A. (2018). Addictive behaviors and psychological distress among adolescents and emerging adults: a mediating role of peer group identification. *Addictive Behaviors Reports, 7*, 75-81.
- Shabahang, R., Besharat, M. A., Nikoogoftar, M., & Bagheri Sheykhangafshe, F. (2019). Role of cognitive flexibility and emotional regulation problems in prediction of celebrity worship among university students. *Knowledge & Research in Applied Psychology, 20*(1), 13-25. [In Persian]
- Shabahang, R., Rezaei, S., & Bagheri Sheykhangafshe, F. (2018). The Effect of Subliminal Presentation of Smoking Pictures on Addiction Potential, Addiction Acknowledgement, and Addiction Craving. *Research on Addiction, 12*(47), 157-176. [In Persian].
- Sheridan, L., North, A., Maltby, J., & Gillett, R. (2007). Celebrity worship, addiction and criminality. *Psychology, Crime & Law, 13*(6), 559-571.
- Sussman, S., Lisha, N., & Griffiths, M. (2011). Prevalence of the addictions: a problem of the majority or the minority? *Evaluation & the Health Professions, 34*(1), 3-56.
- Tiger, R. (2013). Celebrity gossip blogs and the interactive construction of addiction. *New Media & Society, 17*(3), 340-355.
- Turner, J. R. (1993). Interpersonal and psychological predictors of parasocial interaction with different television performers. *Communication Quarterly, 41*(4), 443-453.
- Turner, G. (2010). Approaching celebrity studies. *Celebrity Studies, 1*(1), 11-20.

- Volkow, N. D., Koob, G. F., & McLellan, A. T. (2016). Neurobiologic advances from the brain disease model of addiction. *New England Journal of Medicine*, *374*(4), 363-371.
- Vojudi, B., Abdolpour, G., Bakhshipour, A., & Otared, N. (2014). Prediction of drug addiction preparation based on identity styles, parenting styles and coping strategies in high school students. *Journal of Police Medicine*, *3*(2), 123-134. [In Persian]
- Weed, N. C., Butcher, N., McKenna, T., & Ben-Porath, Y. S. (1992). New measures for assessing alcohol and drug abuse with the MMPI-2: The APS and AAS. *Journal of Personality Assessment*, *58*(2), 389-404.
- West, R. (2001). Theories of addiction. *Addiction*, *96*(1), 3-13.
- World Medical Association. (2013). World Medical Association Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects. *JAMA*, *310*(20), 2191–2194.
- Zargar, Y. (2006). Developing Iranian addiction potential scale. Second congress of Iran psychology association. IR Iran. [In Persian].
- Zargar, Y., Najarian, B., & Naami, A. (2008). The relationship between personality traits (sensation seeking, assertiveness, psychological hardiness), the religious attitude and marital satisfaction with readiness for drug abuse. *Journal of Education and Psychology Chamran University*, *1*(3), 99-120. [In Persian].
- Zeinali, A. (2014). Development and Validation of addiction susceptibility Questionnaire-student version (ASQ-SV). *Quarterly Journal of Educational Psychology*, *4*(16), 1-11. [In Persian].

Zeynali, A., Vahdat, R., & Hamednia, S. (2007). The study of preaddictional status in addicts and comparison with normal adults. *Knowledge and Research in Applied Psychology*, 9(33), 149- 168. [In Persian].

Zilberman, N., Yadid, G., Efrati, Y., Neumark, Y., & Rassovsky, Y. (2018). Personality profiles of substance and behavioral addictions. *Addictive Behaviors*, 82, 174-181.