



DELAYED GRATIFICATION AND ATTACHMENT STYLES AMONG YOUNG ADULTS WITH SMOKING URGES

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Abstract: The present study examined the intricate relationship between delayed gratification and attachment styles, and investigated their influence on smoking urges, among a sample of 80 young adults (40 male and 40 female), between the ages 18-25 years. Employing a two-group correlational design, the participants completed an online, self-report-based survey, comprising of the Delayed Gratification Inventory, Adult Attachment Scale and Questionnaire on Smoking Urges-Brief. Findings suggested that a moderately negative, significant correlation existed between Delayed Gratification and Smoking Urges in Female young adults ($r = -0.43$, $p = 0.006$). However, this association was not statistically significant for male young adults ($r = 0.24$, $p = 0.131$). Furthermore, close, dependent and anxious attachment styles showed no significant correlation in terms of their relationship with smoking urges. In terms of assessment of the relationship between Delayed Gratification levels and attachment styles, only anxiously attached individuals demonstrated a significant, negative correlation ($r = -0.22$, $p = 0.045$). These results highlight the potential gender differences in delaying gratification abilities and their impact on smoking urges, among young adult males and females. Although women may be better able to control urges due to their sensitivity to internal emotional states, there still exists potential

influence of the nature of emotional regulation. The insights from the overall findings, may contribute significantly towards an in-depth understanding of the psychological constructs which govern smoking behavior in young adulthood, which may be utilized in development of interventions and prevention programs which target the cessation of potential maladaptive coping behaviors.

Keywords: *Delayed Gratification, Adult Attachment Styles, Smoking Urges, Young Adults, Correlational Design*

1. INTRODUCTION

The transitional period of young adulthood (between 18-25 years of age) is marked by the highest tendency and vulnerability to engage in substance use, such as tobacco (Arnett, 2000). There is a rise in the number of opportunities, but they are often met with uncertainty, which may trigger certain negative mental health consequences such as feelings of stress (Greco and Roger, 2003), impacting the overall anxiety levels and behavior of the individual. Development of this behavior is a result of a wide variety of psychological factors, such as delayed gratification and attachment styles, which may serve as important determinants influencing urge to smoke (Peltzer, 2011), and contribute to its initiation, maintenance and the subsequent difficulties in its modification.

Delayed Gratification refers “to the ability to resist an immediate urge or temptation of receiving a small and quick reward over a more valuable reward later. It serves as a key component of self-regulation”. (Mischel, Shoda & Rodriguez, 1989). According to Walter Mischel, known for his Marshmallow Test, the ability to delay one’s wants and satisfaction improves with age and is linked directly with better impulse control, coping and decision-making skills. Research has indicated that delay gratification is inversely related to substance use (Mischel, Shoda & Peake, 1988). Attachment refers to a deep, enduring and lasting emotional bond between two people. It tends to develop in early childhood and is crucial in understanding the ways in which people learn to develop secure and trustful feelings among one another.

Attachment theory, which was pioneered by Bowlby (1969), suggests that the nature of interaction and relationship with the primary caregiver, mostly the mother, in childhood influences the ways in which individuals develop interpersonal relationships and manage emotions throughout their life. Attachment styles are primarily classified as secure, anxious and avoidant,

and play a key role in determining the way people interact with others throughout their lives. Research suggests that those with insecure attachment styles (anxious or avoidant), may be more susceptible to seeking immediate comfort for dealing with negative emotions, using maladaptive coping strategies like smoking (Mikulincer & Shaver, 2007).

Despite the extensive research which has been done upon both individual psychological constructs, there hasn't much attention paid to the roles that delay of gratification and attachment styles play in terms of influencing one's urge to smoke. This research aims to bridge the gap in research by exploring their impact and mediating role of various factors to understand how these constructions may impact smoking behavior in young adults. A deeper understanding of this relationship may assist in formulating long-term intervention strategies.

2. Review of Literature

Romer et al. (2010), conducted research to explore the relationship between delayed gratification and risk-taking behaviors in adolescents and young adults aged 14-22 years old. It aimed to challenge brain immaturity cannot be the sole predictor of adolescent impulsivity and examined whether the ability to delay gratification could help in mitigating risk-taking substances such as alcohol, tobacco, and marijuana. They used a nationally representative sample (n=900) and applied structural equation modelling to derive results. Findings suggest that there exists a significant, inverse relationship between delayed gratification and risk-taking behaviors, which is relatively consistent across age, gender, and levels of sensation seeking. Furthermore, those individuals who had high sensation seeking capabilities showed their ability to be patient to delay long-term rewards, increased with age, indicating that the experience gained from engaging in risk-taking behaviors and substances fosters a substantial degree of self-control.

Chun and Chung (2013) aimed to examine the gender differences in South Korean adolescents based on initiation of behaviors like smoking, drinking and their cooccurrence. The methodology used involved time-dependent Cox regression analysis, with sample consisting of adolescents from the Korean Youth Panel Study (n= 3,188). It was found that the model for cooccurrence of these behaviors was identical for both genders, but there existed distinct gender differences in terms of initiation and onset of smoking, drinking or other substance use. Few factors influencing this were peers engaging in these behaviors, parental supervision, attachment to friends, self-

control and aggression. For alcohol use among males, stress was a more prevalent factor, and for females, it was family income. Men who smoked has significant relationship with parental attachment, while for women, smoking was more related to aggression levels. It was concluded how gender-specific interventions can help in effective prevention of these behaviors.

Another study aimed to assess the differential impact of sex on the relationship between severity of pain and smoking behaviors. Smit et al. (2018) conducted a cross-sectional study involving 100 daily smokers. They focused on factors like cigarette dependence, past cessation related problems and the potential barriers to cessation and found that higher levels of pain were associated significantly with increased dependence on smoking, and greater problems and barriers for its cessation. This was particularly true for women, in comparison to men smokers as they were more likely to experience and report a significant level of damaging pain and consequent smoking related outcomes. The results thus indicated that women constituted to be a more vulnerable group to effects of pain in maintenance of their dependence on tobacco and cigarettes in daily lives.

Maseiero et al. (2021) aimed to investigate the combined influence of adult attachment styles and personality on adolescent smoking behavior, with its focus on clarifying their role in the onset of smoking. The study was conducted on a convenience sample of 338 adolescents, consisting of 186 males and 152 females. The participants were expected to complete a set of standardized questionnaires, assessing factors like age of onset, nicotine dependence and frequency of smoking, and their relationship with attachment and personality. The results showed that those individuals having a dismissing attachment style, novelty seeking tendencies and older age were more likely to engage in smoking. However, self-directedness and gender (female) were associated with a decreased likelihood of a smoking experience. Those possessed secure and avoidant attachment styles had a later smoking onset than those having a dismissing attachment and reward dependence. It was concluded that various psycho-cognitive factors play a crucial role in determining these behaviors and may be beneficial in devising intervention strategies

3. METHODOLOGY

3.1 Aim

The aim of this study is to examine the effects of delayed gratification and attachment styles on smoking urges among male and female young adults. The research specifically seeks to explore the individual differences in one's attachment styles with their significant others and the

ability to delay gratification and how it may impact the intensity or frequency of their urge or cravings to engage in smoking.

3.2 Objectives

The primary aim of this research is to understand and examine the impacts of delayed gratification and attachment styles on the smoking urges among young adults. The specific objectives of this study are:

1. To find out the relationship between delayed gratification and smoking urges among male young adults
2. To measure the relationship between delayed gratification and smoking urges among female young adults
3. To study the relationship between attachment styles (secure, anxious and avoidant) and smoking urges young adults
4. To find out the relationship between delayed gratification and attachment styles
(secure, anxious and avoidant) among young adults

3.3 Hypotheses

This research aims to test the following hypotheses:

HI: There will be significant relationship between delayed gratification and smoking urges among male young adults

III: There will be significant relationship between delayed gratification and smoking urges among female young adults

IIII: There will be significant relationship between close attachment and smoking urges among young adults

IIIV: There will be significant relationship between dependent attachment and smoking urges among young adults

HV: There will be significant relationship between anxious attachment and smoking urges among young adults

HVI: There will be significant relationship between delayed gratification and secure attachment styles among young adults

HVII: There will be significant relationship between delayed gratification and anxious attachment styles among young adults

HVIII: There will be significant relationship between delayed gratification and avoidant attachment styles among young adults

3.4 Sample

The sample comprised of eighty people. There were two groups, males and females between the ages of 18 and 25 years. Group I consisted of 40 female smokers, and Group II consisted of 40 male smokers. Both groups included current smokers (recurrent, few times a week), aged between 18-25 years, without any history of a diagnosed psychopathological disorder or ongoing treatment. In both groups, participants were recruited through an online survey constructed using google forms, and other social media platforms.

3.5 Sample Details

1. **Target Population:** Males and females, ranging from 18-25 years of age, who are current smokers.
2. **Sample Size:** Total number of participants taken is 80, among which 40 are males and 40 females.

3.6 Sampling Method

1. **Recruitment:** Participants were recruited through an online survey constructed using google forms, and other social media mediums.
2. **Inclusion Criteria:** Current smokers (recurrent, few times a week), aged between years, males or females, not diagnosed with any psychopathological disorder.
3. **Exclusion Criteria:** Past smokers or those who have left smoking, individuals with history of any psychiatric disorder and ongoing treatment.

3.7 Research Design: Two group correlation research design

3.8 Variables

3.8.1 Independent Variables:

1. **Delayed Gratification:** Refers to the ability to resist an immediate urge or temptation of receiving a small and quick reward over a more valuable reward later.
2. **Attachment Styles:** Patterns of deep, emotional bonds with significant others, which develop as a result of interactions with primary caregivers in childhood.

3.8.2 Dependent Variables

1. **Smoking Urges:** Primarily defined as the strong or sudden desire to inhale or burn a substance, usually involving presence of nicotine such as cigarettes.

3.8.3 Control Variables

1. **Age:** To ensure that sample is only within the age range of young adulthood
2. **Gender:** To specify and account for potential gender differences in smoking urges.
3. **Frequency of smoking/ dependence on other substances:** To control the impacts of frequency of daily smoking or addiction to any other substances like nicotine

3.9 Instruments

Delayed Gratification Inventory (DGI-35): It is a 35-item self-report measure, developed by Hoerger et al. (2010). The purpose of this test is to assess the individual's ability to delay gratification or wait for a larger reward in future over a smaller, immediate one. This is measured across five domains: *food* (item no. 1,6*,11*,16,21*,26,31), *physical pleasures* (item no. 2,7,12*,17,22*,27*,32*), *social interaction* (item no. 3*,8,13,18,23*,28*,33*), *money* (4,9*,14,19*,24*,29,34*) and *achievement* (item no. 5,10,15*,20*,25*,30,35*). The test shows high reliability ($\alpha = 0.88$) in both composite scores and individual scales, and strong validity correlated with self-control and well-being. Items are scored on a 5-point Likert scale (e.g.: 1= strongly disagree to 5= strongly agree), where items represented by an asterisk (*) are reverse coded (5 points=1, 4 points=2, 3 points=3, 2 points=4, 1 point=5). Subscales can also be assessed but are optional. Total score is the added score of all the items.

Adult Attachment Scale: Developed by Nancy Collin and Stephen Read in the year 1990, it is used to assess the individual's overall adult attachment styles. It involves a series of 18 self-report questions, measuring how individuals perceive and feel towards their significant others and places them into three distinct categories of six questions each: *Close* (secure and trustful), consisting of item no. 1,6,8*,12,13*,17*, *Dependent* (need for constant reassurance), consisting of item no. 2*,5,7*,14,16*,18* and *Anxious* (worried, insecure), consisting of item no. 3,4,9,10,11,15. The test shows good, adequate reliability ($\alpha = 0.69-0.75$), and strong construct and discriminant validity for attachment styles. Items are scored on a 5-point Likert scale (e.g.: 1= strongly disagree to 5= strongly agree), where items represented by an asterisk (*) are reverse coded (5 points=1, 4 points=2, 3 points=3, 2 points=4, 1 point=5). Total score of each subscale is added.

Questionnaire on Smoking Urges- Brief (QSU-Brief): Tiffany and Drobes (1991), designed the QSU to understand the various dimensions characterized with smoking urges. It was a self-reported measure of smoking urges, involving 32 items. Building upon this, **QSU-Brief** was developed by Cox, Tiffany and Christen (2001) as a shorter 10-item version of the original test to provide a more efficient and less time-consuming way to measure the similar aspects. The test is highly reliable ($\alpha = 0.94$) and shows strong validity across cultures with a stable two factor structure depicting desire to smoke and relief from negative effects. Items are scored on a 7-point Likert scale (e.g.: 1= strongly disagree to 7= strongly agree), and there are no reverse items. Total score is added score of all items.

3.10 Procedure

The data was collected using an online survey method, developed through google forms. A sample of 80 young adults, 40 males and 40 females and ranging between the age group of 18-25 years was asked to fill the required questionnaires. Before proceeding towards the assessment, the participants were provided clear explanation of the purpose of this study, assurance of confidentiality and anonymity, and the voluntary nature of their involvement. Once the participants consented to proceed, they were asked to fill in the survey consisting of three sections, which comprised the Delayed Gratification Inventory (DGI-35), Adult Attachment Scale (AAS) and Questionnaire on Smoking Urges-Brief (QSU-Brief), along with instructions on how to rate their responses. The average time taken to complete the survey was about 10-15 minutes, which

was consistent with all the participants. After the data was collected, responses were calculated through IBM SPSS 21 (statistical package for social sciences) and were analyzed using the statistical technique of correlation. The interpretation of the results was done based on the instructions provided in the respective manuals of the three assessments.

4. RESULTS

Table 1: *Correlation Between Delayed Gratification and Smoking Urges in Male young adults*

Variable 1	Variable 2	Pearson r	p-value
Delayed Gratification (Male)	Smoking Urges (Male)	-0.24	Insig

The data was analyzed through Pearson's correlation coefficient. Results indicate a negative, non-significant correlation between Delayed Gratification and Smoking Urges in Male young adults ($p > 0.05$), indicating that as levels of delaying gratification increase, smoking urges tend to reduce, but in a small amount.

Table 2: *Correlation Between Delayed Gratification and Smoking Urges in Female young adults*

Variable 1	Variable 2	Pearson r	p-value
Delayed Gratification (Female)	Smoking Urges (Female)	-0.43	Sig***

The data was analyzed through Pearson's correlation coefficient. Results indicate a moderately negative, significant correlation between Delayed Gratification and Smoking Urges in Female young adults ($p < 0.05$, $p < 0.01$), indicating that as levels of delaying gratification increase, smoking urges tend to reduce in female young adults.

Table 3: *Correlation Between Close Attachment Style and Smoking Urges in young adults*

Variable 1	Variable 2	Pearson r	p-value
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Close Attachment Style	Smoking Urges	-0.02	Insig
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The data was analyzed through Pearson's correlation coefficient. Results indicate a nonsignificant correlation between Close Attachment Styles and Smoking Urges in young adults ($p > 0.05$), indicating that there is almost no relationship between people possessing a Close Attachment Style and their smoking urges.

Table 4: *Correlation Between Dependent Attachment Style and Smoking Urges in young adults*

Variable 1	Variable 2	Pearson r	p-value
Dependent Attachment Style	Smoking Urges	-0.09	Insig

The data was analyzed through Pearson's correlation coefficient. Results indicate a negative, non-significant correlation between Dependent Attachment Styles and Smoking Urges in young adults ($p > 0.05$), indicating that there is almost no relationship that can be established between people possessing a Dependent Attachment Style and their smoking urges.

Table 5: *Correlation Between Anxious Attachment Style and Smoking Urges in young adults*

Variable 1	Variable 2	Pearson r	p-value
Anxious Attachment Style	Smoking Urges	-0.15	Insig

The data was analyzed through Pearson's correlation coefficient. Results indicate a negative, non-significant correlation between Anxious Attachment Styles and Smoking Urges in young adults ($p > 0.05$), indicating that no relationship that can be established between people possessing an Anxious Attachment Style and their smoking urges.

Table 6: *Correlation Between Delayed Gratification and Close Attachment Style in young adults*

Variable 1	Variable 2	Pearson r	p-value
Delayed Gratification	Close Attachment Style	-0.08	Insig

The data was analyzed through Pearson's correlation coefficient. Results indicate a negative, non-significant correlation between Delayed Gratification and Close Attachment Style in young adults ($p > 0.05$), indicating that there exists close to no association between the individual's Delayed Gratification and a Close Attachment Style.

Table 7: *Correlation Between Delayed Gratification and Dependent Attachment Style in young adults*

Variable 1	Variable 2	Pearson r	p-value
Delayed Gratification	Dependent Attachment Style	0.07	Insig

The data was analyzed through Pearson's correlation coefficient. Results indicate a positive, non-significant correlation between Delayed Gratification and Dependent Attachment Style in young adults ($p > 0.05$), indicating that no relationship that can be established between individual's Delayed Gratification and Dependent Attachment Style.

Table 8: *Correlation Between Delayed Gratification and Anxious Attachment Style in young adults*

Variable 1	Variable 2	Pearson r	p-value
Delayed Gratification	Close Attachment Style	-0.22	Sig**

The data was analyzed through Pearson's correlation coefficient. Results indicate a negative, significant correlation between Delayed Gratification and Anxious Attachment Style in young adults ($p > 0.05$, $p < 0.01$), indicating that a higher ability to delay gratification is associated with individuals to be less anxious and worried when separated from their significant others, and possessing lower feelings of anxiety and distress.

5. DISCUSSION

Table 1 represents the relationship between delayed gratification and smoking urges among young adult males, indicating a negative, non-significant correlation ($r = -0.24$, $p = 0.131$). It suggests that as levels of delaying gratification increase, smoking urges tend to reduce, but the

association is not statistically significant. These results may be aligned by findings by Bickel and Marsch (2001), suggesting that those who have a better capacity to delay gratification may be show improved self-regulation strategies, including that of substance use. However, due to lack of significant findings, we may conclude that delayed gratification may not be enough to act as the sole contributor towards smoking urges in male young adults. The weak nature of this relationship may be explained through the understanding how there seems to exist gender differences in self-regulation and impulsivity levels, wherein males may often exhibit higher level of impulsivity (Cross, Copping & Campbell, 2011).

Table 2 represents the relationship between delayed gratification and smoking urges among young adult females, indicating a moderately negative, significant correlation ($r = 0.43$, $p = 0.006$), signifying that as levels of delaying gratification increase, smoking urges tend to reduce in female young adults. These findings are consistent with the studies explaining how women who possess greater capacity to self-regulate, show greater resistance towards maladaptive or addictive behaviors, like smoking (Doran et al. 2004). Additionally, women are better able to control these urges due to their sensitivity to internal emotional states, through which they may be able to build self-regulation skills effectively (Piko, 2011). Thus, women who are better able to delay gratification show lower urges to smoke.

Table 3 characterizes the relationship between Close Attachment Style and Smoking Urges in young adults, indicating a weak, non-significant correlation between Close Attachment Styles and Smoking Urges in young adults ($r = -0.02$, $p = 0.857$), representing that there is almost no relationship between people possessing a Close, Secure Attachment Style and their smoking urges in this sample. This may be due to various factors, particularly noted by Schindler et al. (2015) in their research reviewing attachment styles and substance use. They noted how even though insecure attachment styles may be a predictor of substance misuse risk, secure attachment is not necessarily associated with or guarantee the tendency to avoid developing unhealthy coping strategies such as that of smoking, which may emerge due to extreme stressors in one's psychological or social environment.

Table 4 shows the relationship between Dependent Attachment Style and Smoking Urges in young adults, indicating a small, negative, and non-significant correlation between Dependent Attachment Styles and Smoking Urges in young adults ($r = -0.09$, $p = 0.408$), demonstrating that

there is almost no relationship between people possessing a dependent, Attachment Style and their smoking urges in this sample. This association may be observed through the traits associated with those who are dependently attached to others, such as reassurance seeking and social support. McNally et al. (2003), noted in their study how individuals with dependent attachment styles are more likely to seek interpersonal reassurance in situations of stress, rather than engaging in substances like cigarettes, and their behavior is directed towards maintaining relationships rather than comforting self.

Table 5 shows the relationship between Anxious Attachment Style and Smoking Urges in young adults, indicating a small, negative, and non-significant correlation between Anxious Attachment Styles and Smoking Urges in young adults ($r = -0.15$, $p = 0.170$), explaining that there is no associated between people possessing an Anxious Attachment Style and their smoking urges in this sample. Thorberg & Lyvers (2010) described how anxiously attached individuals are characterized by an increased emotional distress and are vulnerable to seeking external means of regulation of their emotions, this may not translate to smoking unless specific personal or social factors are present.

Table 6 indicated a weak, negative, and non-significant correlation between Delayed Gratification and Close Attachment Style in young adults ($r = -0.08$, $p = 0.505$), explaining that there exists close to no association between the individual's ability to Delay Gratification and possessing a Close Attachment Style. Although secure attachment styles are significantly related to emotional stability and improved coping skills, research has been successful in identifying that delayed gratification is a self-regulatory ability, which is more influenced by individual temperament and cognitive coping styles, than by the individual's nature of attachment (Duckworth, Tsukayama & Kirby, 2013) and hence, may not be a factor associated with attachment security.

Table 7 indicated a small, positive, but statistically non-significant correlation between Delayed Gratification and Dependent Attachment Style in young adults ($r = 0.07$, $p = 0.558$), demonstrating that there exists close to no association between the individuals with dependent attachment style and their ability to Delay Gratification. Since dependent or preoccupied attachment styles are generally categorized by excessive reassurance seeking, studies explained that they are more likely to be associated with interpersonal reliance and their own emotional

needs, rather than cognitive processes leading to self-control. (Wei et al. 2015). Thus, in case of maladaptive behaviors, making use of delayed gratification abilities may not be significant to them.

Table 8 demonstrated a moderate, negative and statistically significant correlation between Delayed Gratification and Anxious Attachment Style in young adults ($r = -0.22$, $p = 0.045$), indicating that individuals with higher anxious attachment tendencies may exhibit a reduced ability to delay gratification. This is because individuals with high attachment anxiety tend to struggle with emotion regulation and impulsivity. They are more likely to display preference for an immediate response than wait for a long-term reward in future (Pincus & Wilson, 2001), due to difficulties in managing their distress levels and heightened fear of uncertainty and abandonment.

Thus, out of the eight proposed hypotheses, HIII and HVIII are accepted due to the significant relationships proven between delayed gratification and smoking urges among young adult females, indicating a moderately negative, significant correlation ($r = -0.43$, $p = 0.006$), and Delayed Gratification and Anxious Attachment Style in young adults ($r = -0.22$, $p = 0.045$), indicating that individuals with higher anxious attachment tendencies may exhibit a reduced ability to delay gratification. The remaining hypotheses (HI, HIII, HIV, HV, HVI, HVII) are rejected since they couldn't be supported by statistical evidence.

Limitations of the study include, relatively small size of the sample, impacting the overall generalizability of results, measures used are self-report, which may pose a risk to social desirability bias, correlational research design may not be able to explore and establish causality between all the three variables, focus on only current smokers, limiting the scope of the study, potential risk of selection bias due to online mode of recruitment and findings may be specific to the Indian culture, thus may not be applicable worldwide. Future recommendations may be to expand the sample size, with more diverse samples for increased generalizability and assessment of cross-cultural validity, employing longitudinal research designs may serve as a better predictor of causality and temporal relationships among variables, examine potential moderating and mediating factors which may influence the relationship between all variables, using multi-method approaches to eliminate risk of bias and increase scope of the study. Further research may be conducted with the aim of developing and understanding how the role of interventions targeting delayed gratification and attachment styles may influence smoking behavior

6. CONCLUSION

The aim of this study was to examine the effects of delayed gratification and attachment styles on smoking urges among a sample of 80 young adults (40 male and 40 female), through Delayed Gratification Inventory (DGI-35), Adult Attachment Scale (AAS) and Questionnaire on Smoking Urges-Brief (QSU-Brief). Findings indicate that there exists negative, non-significant correlation between Delayed Gratification and Smoking Urges in Male young adults, moderately negative, significant correlation between Delayed Gratification and Smoking Urges in Female young adults, Negative, non-significant correlation between Close Attachment Styles and Smoking Urges in young adults, negative, non-significant correlation between Dependent Attachment Styles and Smoking Urges in young adults, negative, non-significant correlation between Anxious Attachment Styles and Smoking Urges in young adults, negative, non-significant correlation between Delayed Gratification and Close Attachment Style in young adults, positive, non-significant correlation between Delayed Gratification and Dependent Attachment Style in young adults, negative, significant correlation between Delayed Gratification and Anxious Attachment Style in young adults. Future recommendations may include focusing on expanding the sample size, for increased generalizability and assessment of cross-cultural validity, employing longitudinal research designs to improve prediction of causality and temporal relationships among variables and examining potential moderating and mediating factors which may influence the relationship between all the variables, using multi-method approaches to eliminate risk of bias and increase scope of the study.

REFERENCES

- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469–480. <https://doi.org/10.1037/0003-066x.55.5.469>
- Bickel, W. K., & Marsch, L. A. (2001). Toward a behavioral economic understanding of drug dependence: Delay discounting processes. *Addiction*, 96(1), 73–86. <https://doi.org/10.1046/j.1360-0443.2001.961736.x>
- Bowlby, J. (1982). Attachment and loss: Retrospect and prospect. *American Journal of Orthopsychiatry*, 52(4), 664–678. <https://doi.org/10.1111/j.1939-0025.1982.tb01456.x>

- Chun, J., & Chung, I. (2012). Gender Differences in Factors Influencing Smoking, Drinking, and Their Co-occurrence among Adolescents in South Korea. *Nicotine & Tobacco Research*, 15(2), 542–551. <https://doi.org/10.1093/ntr/nts181>
- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, 58(4), 644–663. <https://doi.org/10.1037/0022-3514.58.4.644>
- Cox, L. S., Tiffany, S. T., & Christen, A. G. (2001). Evaluation of the brief questionnaire of smoking urges (QSU-brief) in laboratory and clinical settings. *Nicotine & Tobacco Research*, 3(1), 7–16. <https://doi.org/10.1080/14622200020032051>
- Cross, C. P., Copping, L. T., & Campbell, A. (2011). Sex differences in impulsivity: A meta-analysis. *Psychological Bulletin*, 137(1), 97–130. <https://doi.org/10.1037/a0021591>
- Doran, N., McChargue, D., & Cohen, L. (2006). Impulsivity and the reinforcing value of cigarette smoking. *Addictive Behaviors*, 32(1), 90–98. <https://doi.org/10.1016/j.addbeh.2006.03.023>
- Duckworth, A. L., Tsukayama, E., & Kirby, T. A. (2013). Is it really Self-Control? Examining the predictive power of the delay of gratification task. *Personality and Social Psychology Bulletin*, 39(7), 843–855. <https://doi.org/10.1177/0146167213482589>
- Greco, V., & Roger, D. (2003). Uncertainty, stress, and health. *Personality and Individual Differences*, 34(6), 1057–1068. [https://doi.org/10.1016/S0191-8869\(02\)00091-0](https://doi.org/10.1016/S0191-8869(02)00091-0)
- Hoerger, M., Quirk, S. W., & Weed, N. C. (2011). Development and validation of the Delaying Gratification Inventory. *Psychological Assessment*, 23(3), 725–738. <https://doi.org/10.1037/a0023286>
- Masiero, M., Cutica, I., Mazzocco, K., Zunino, A., Cropley, M., & Pravettoni, G. (2021). A Comprehensive Model of Tobacco Cigarette Smoking in Adolescence: The Role of Attachment Style and Personality. *The Journal of Psychology*, 155(7), 589–605. <https://doi.org/10.1080/00223980.2021.1934374>
- McNally, A. M., Palfai, T. P., Levine, R. V., & Moore, B. M. (2003). Attachment dimensions and drinking-related problems among young adults. *Addictive Behaviors*, 28(6), 1115–1127. [https://doi.org/10.1016/s0306-4603\(02\)00224-1](https://doi.org/10.1016/s0306-4603(02)00224-1)
- Mikulincer, M., & Shaver, P. R. (2008). Attachment in adulthood: structure, dynamics, and change. *Choice Reviews Online*, 45(05), 45–2903. <https://doi.org/10.5860/choice.45-2903>

- Mischel, W., Shoda, Y., & Peake, P. K. (1988). The nature of adolescent competencies predicted by preschool delay of gratification. *Journal of Personality and Social Psychology*, 54(4), 687–696. <https://doi.org/10.1037/0022-3514.54.4.687>
- Mischel, W., Shoda, Y., & Rodriguez, M. L. (1989). Delay of gratification in children. *Science*, 244(4907), 933–938. <https://doi.org/10.1126/science.2658056>
- Peltzer, K. (2011). Early smoking initiation and associated factors among in-school male and female adolescents in seven African countries. PubMed. <https://pubmed.ncbi.nlm.nih.gov/22275919>
- Piko, B. (2001). Gender differences and similarities in adolescents' ways of coping. *The Psychological Record*, 51(2), 223–235. <https://doi.org/10.1007/bf03395396>
- Pincus, A. L., & Wilson, K. R. (2001). Interpersonal variability in dependent personality. *Journal of Personality*, 69(2), 223–251. <https://doi.org/10.1111/1467-6494.00143>
- Romer, D., Duckworth, A. L., Sznitman, S., & Park, S. (2010). Can Adolescents Learn Self-control? Delay of Gratification in the Development of Control over Risk Taking. *Prevention Science*, 11(3), 319–330. <https://doi.org/10.1007/s11121-010-0171-8>
- Schindler, A., Thomasius, R., Sack, P. M., Gemeinhardt, B., KÜstner, U., & Eckert, J. (2005). Attachment and substance use disorders: A review of the literature and a study in drug dependent adolescents. *Attachment & Human Development*, 7(3), 207–228. <https://doi.org/10.1080/14616730500173918>
- Smit, T., Garey, L., Langdon, K. J., Ditre, J. W., Rogers, A. H., Orr, M. F., & Zvolensky, M. J. (2018). Differential effect of sex on pain severity and smoking behavior and processes. *Addictive Behaviors*, 90, 229–235. <https://doi.org/10.1016/j.addbeh.2018.11.007>
- Thorberg, F. A., & Lyvers, M. (2010). Attachment in relation to affect regulation and interpersonal functioning among substance use disorder in patients. *Addiction Research & Theory*, 18(4), 464–478. <https://doi.org/10.3109/16066350903254783>
- Tiffany, S. T., & Drobes, D. J. (1991b). The development and initial validation of a questionnaire on smoking urges. *British Journal of Addiction*, 86(11), 1467–1476. <https://doi.org/10.1111/j.1360-0443.1991.tb01732.x>
- Wei, M., Liao, K. Y., Ku, T., & Shaffer, P. A. (2010b). [Attachment](#), Self-Compassion, Empathy, and Subjective Well-Being among college students and community adults. *Journal*

of Personality,
[6494.2010.00677.x](#)

79(1), 191–221. <https://doi.org/10.1111/j.1467->