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Articles

From Parental Bonding to Problematic Gaming: The Mediating Role of Adult Attachment Styles

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Abstract

Background: Research has found that parental failures of care during childhood and insecure attachment styles are positively associated with problematic gaming. From a developmental framework, it is possible to hypothesize that attachment styles mediate the relationship between parental bonding and problematic gaming.

Methods: This hypothesis was tested in a sample of 598 videogame players (410 males, 68.56%) aged between 18 and 61 years old (M = 26.68, SD = 7.23). Participants were recruited through an online survey. Self-report instruments were administered to assess problematic gaming, parental bonding, and adult attachment styles.

Results: Positive paternal care was a direct and negative predictor of problematic gaming, whereas maternal overprotection indirectly predicted problematic gaming through preoccupied attachment.

Conclusions: These findings suggest that positive paternal care represents a protective factor for problematic gaming; in contrast, maternal overprotection might foster a negative view of the self in the child, which increases the risk to excessively use videogames, perhaps as a maladaptive coping strategy to regulate negative feelings. Prevention programs might be aimed to improve the responsiveness of parents towards the child's emotional needs, to prevent the development of problematic gaming. Also, clinical intervention with problematic gamers might foster their feelings of security toward relationships, to promote both a healthier use of videogames and a better quality of life.

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1. Introduction

Online gaming is a widespread leisure activity. It has been estimated that 1,011.2 million people had played online games during 2020, and it is expected that the number of online gamers will increase to 1,277.6 million (Lindlahr, 2021). Online games may have a positive role in the individual's functioning, allowing players to obtain social rewards, find new friends who share common interests, enhance life with new experiences, achieve an individual growth, and find relief from boredom and stress (Arbeau et al., 2020).

However, it has been shown that some individuals may display an excessive and dysfunctional involvement in online gaming (Kuss & Griffiths, 2012; Sibilla et al., 2021). Diagnostic categories concerning an excessive and uncontrolled use of games have been recently included in the most relevant diagnostic manuals. The American Psychiatric Association (2013) has included "Internet Gaming Disorder" (IGD) in the third chapter of the fifth revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), among the clinical conditions needing further research. Under DSM-5 criteria, an individual must exhibit at least five of the nine criteria in the past year (withdrawal, preoccupation or obsession, tolerance, deceiving, loss of control, loss of interest, continued overuse, negative feelings, functional impairment) to be diagnosed as suffering from IGD. Similarly, the World Health Organization (2019) has introduced the "Gaming Disorder" (GD) diagnosis in the International Classification of Diseases, 11th Revision (ICD-11), among the "Disorders due to substance use or addictive behaviours". Compared to DSM-5, ICD-11 criteria for GD (i.e., impaired control over gaming, increasing priority given to gaming, continuation or escalation of gaming despite negative consequences) tend to emphasize the functional impairment of people displaying dysfunctional patterns of gaming rather than symptoms in the diagnosis.

Scholars have indeed expressed several concerns about the typical understanding of an excessive involvement in online gaming as a behavioral addiction, highlighting that problematic gaming activities may rather constitute a maladaptive coping strategy used to deal with psychological difficulties (Kardefelt-Winther, 2014; Kardefelt-Winther et al., 2017), which frequently occurs in a context of impaired or otherwise dysfunctional capacity for self-regulation (Perales et al., 2020). Accordingly, research has shown that the severity of problematic gaming is associated with maladaptive personality traits (Di Blasi et al., 2020; Gervasi et al., 2017; Musetti et al., 2019), emotion dysregulation (Di Blasi et al., 2019; Hollet & Harris, 2020; Maganuco et al., 2019), and dissociation (Casale et al., 2021; Guglielmucci et al., 2019), among other variables.

In the context of research on psychosocial predictors of problematic gaming, it has been evidenced that negative experiences in the relationship with parents during childhood, such as emotional neglect and abuse, have a relevant role in the development of problematic gaming (Bussone et al., 2020). It is well established that an appropriate quality of parental bonding (i.e., characterized by high care and low overprotection) represents a protective factor for a variety of psychiatric disorders (Lima et al., 2010), including addictive behaviors (Musetti et al., 2016). Parental bonding refers to the perception of maternal and paternal behavior and attitudes toward the individual during childhood (Parker et al., 1979). It includes two principal dimensions of parental behavior, namely care and overprotection. The former ranges from closeness, empathy, and emotional warmth to indifference and neglect; the latter ranges from intrusion and inhibition of independent behavior to promotion of independence and autonomy support. In detail, it has been found that parental warm attitudes are associated with lower levels of problematic gaming, and that parental rejection, hostility, control, and abuse are linked to problematic gaming (Chen et al., 2020; Schneider et al., 2017; Yang et al., 2020).

Interactions with sensitive and available caregivers promote in the child the development of internal representations of the self as lovable and of the others as trustworthy (i.e., secure attachment); in contrast, failures of care during childhood may evoke feelings of unworthiness and/or distrust in close relationships (i.e., insecure attachment styles) that endure over the life span (Midolo et al., 2020; Mikulincer & Shaver, 2016). Research suggests that early bonds with parents influence subsequent adult attachment styles (Cassidy, 2000). Bartholomew and Horowitz (1991) have identified four adult attachment styles based on the representations of self and others: securely attached individuals display positive dispositions and attitudes toward themselves and others; dismissive individuals positively perceive themselves and negatively perceive others; preoccupied individuals negatively perceive themselves and positively perceive others; fearful individuals negatively perceive both themselves and others. A negative view of the self is linked to high levels of anxious attachment attitudes, and a negative view of others is characterized by high levels of avoidant attachment attitudes.

Research findings are consistent with the view that Internet applications might be employed to avoid the distress linked to insecure attachment relationships (Costanzo et al., 2021; Schimmenti & Caretti, 2017; Schimmenti et al., 2012, 2017). Research has also shown that both anxiety and avoidance in close relationships are positively associated with problematic gaming (Sung et al., 2020; Ünübol et al., 2020). Furthermore, it has been found that individuals who experienced

adverse events during childhood and display anxious attachment attitudes also show increased risk to develop problematic gaming symptoms (Grajewski & Dragan, 2020).

1.1 Aims of the study

In light of previous research, this study was aimed to test the mediating role of adult attachment styles in the association between parental bonding and problematic gaming. We hypothesized that problematic gaming would be (a) positively related with insecure attachment styles and parental overprotection, and (b) negatively related with secure attachment and parental care; we also predicted that (c) attachment styles would mediate the associations between parental bonding and problematic gaming, with secure attachment protecting from the effect of negative parental bonding, and insecure attachment styles involving a negative view of the self (preoccupied and fearful attachment styles) increasing the risk of developing problematic gaming.

In fact, parental coercion and overcontrol could engender anxious attachment attitudes in offspring, fostering expectations of rejections and feelings of social anxiety (Rowe et al., 2015). Thus, preoccupied and fearfully attached individuals could excessively use videogames in order to cope with unpleasant feelings experienced in close relationships (Kardefelt-Winther, 2014; Schimmenti & Caretti, 2017). In contrast, warming and caring parental behaviors could promote a secure attachment style (Mikulincer & Shaver, 2016), reducing the risk to play online games as a compensatory strategy.

It is noteworthy that research has found positive associations between problematic gaming and socio-demographic characteristics, such as being male (Su et al., 2020), a young age, low levels of education, and not being married (Ünüböl et al., 2020). Also, there is a wealth of research reporting a positive association between problematic gaming and time spent playing online games (Di Blasi et al., 2019; Musetti et al., 2019). Therefore, in the current study we controlled for the effects of socio-demographic characteristics and time spent playing online games on the relationship between parental bonding, adult attachment styles, and problematic gaming.

2. Method

2.1 Participants and Procedures

The study sample consisted of 598 videogame players (410 males, 68.56%). Participants were aged between 18 and 61 years old ($M = 26.68$, $SD = 7.23$). The average years of education were 13.53 ($SD = 2.70$). Seventy-six participants (12.7%) were married. Significant gender differences

were observed for the education variable: females reported higher levels of education than males ($t_{(596)} = -2.55, p = .01$). No significant gender differences were found for age ($t_{(596)} = -.19, p = .85$) or marital status ($\chi^2_{(1)} = .31, p = .58$).

Participants were recruited through advertisements posted on social media platforms. Each advertisement was linked to an anonymous online survey containing an informed consent schedule and a battery of self-report measures. Respondents who agreed to participate to the study were redirected to the survey. All questions were presented as mandatory, thus there were no missing data. Ethical clearance of the study was obtained from the IRB for psychological research of the UKE - Kore University of Enna. All procedures carried out in the study were in accordance with the Helsinki Declaration.

2.2 Measures

The *Internet Gaming Disorder Scale – Short Form* (IGDS9-SF; Pontes & Griffiths, 2015; Italian validation by Monacis et al., 2016) is a self-report instrument based on the diagnostic criteria of the IGD (American Psychiatric Association, 2013). It was used to assess the severity of problematic gaming. The IGDS9-SF consists of 9 items rated on a 5-point Likert scale (from 1 = “Never” to 5 = “Very often”). The following question is an example of an item: “Do you feel more irritability, anxiety or even sadness when you try to either reduce or stop your gaming activity?”. Total score is obtained by summing the responses of all items. IGDS9-SF has shown configural invariance across different countries (de Palo et al., 2019), and convergent and criterion validity in Italian samples (Monacis et al., 2016). Cronbach’s α was .84 in the present study.

The *Parental Bonding Instrument* (PBI; Parker et al., 1979; Italian validation by Scinto et al., 1999) is a self-report questionnaire that retrospectively assesses the maternal and paternal attitudes during the infancy and the adolescence of the individual. The PBI includes 50 items (25 for each parent) that assess two dimensions of parental bonding: parental care and parental overprotection. Participants are asked how much each item reflects their experiences with the parent on a Likert scale ranging from 0 (“not at all”) to 3 (“very true”). Examples of items are: “Appeared to understand my problems and worries” (care subscale); “Invaded my privacy” (overprotection subscale). The PBI has demonstrated robust psychometric properties, such as long-term stability and high reliability (Murphy et al., 2010; Wilhelm et al., 2005; Wilhelm & Parker, 1990), as well as predictive and concurrent validity (Parker, 1989, 1990). In the present study, Cronbach’s α was .93 for maternal care, .89 for maternal overprotection, .94 for paternal care, and .86 for paternal overprotection.

The *Relationship Questionnaire* (RQ; Bartholomew & Horowitz, 1991; Italian translation by Carli, 1991) is a self-reported instrument assessing four adult attachment styles: secure, dismissing, preoccupied and fearful. Each attachment style is evaluated through a brief prototypical description. Participants are asked to read each item and express their agree on a 7-point Likert scale (1= “Strongly disagree”; 7= “Strongly agree”). The following statement is an example of an item: “I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me” (related to dismissing attachment style).

A schedule was also administered in order to collect information about socio-demographic variables (such as gender, age, years of education and marital status) and the number of hours spent playing online games per day.

2.3 Data Analysis

Descriptive statistics were calculated for all the variables. Gender differences were examined through chi-squared test and t-test. The associations among age, years of education, time spent playing online games, parental bonding styles, adult attachment styles, and problematic gaming were investigated through Pearson’s r correlations. The effects of gender, age, marital status, time spent playing online games, parental bonding styles, and adult attachment styles on problematic gaming were examined through multiple regression analysis. Finally, mediation analyses were computed to test if adult attachment styles mediated the relationship between parental bonding and problematic gaming. Control variables (gender, age, years of education, marital status, time spent playing online games) were included in the model as covariates. Coefficients were computed through the Maximum Likelihood (ML) method. The significance of the indirect effects of parental attitudes was examined through 5,000 bootstraps. Confidence intervals comprising a value of 0 indicates no significant indirect effect (Hayes, 2009). Mediation analyses were computed through the statistical software JASP 0.10.2 (JASP Team, 2019).

3. Results

Descriptive statistics and gender differences are reported in **Table 1**. Significant gender differences were observed through t-test. Females reported higher scores on maternal overprotection, paternal overprotection, and fearful attachment style, whereas males reported higher scores on secure attachment and problematic gaming. No significant gender differences were found for time spent playing online, maternal and paternal care, and dismissing and preoccupied attachment styles.

Table 1. *Descriptive statistics and gender differences*

| | Full sample (N= 598) | | | Males (n=410) | | Females (n= 188) | | $t_{(596)}$ | p |
|-------------------------------------|-------------------------|--------|-------|------------------|--------|---------------------|--------|-------------|------|
| | M | (SD) | Range | M | (SD) | M | (SD) | | |
| <i>Age</i> | 26.68 | (7.23) | 18-61 | 26.64 | (7.08) | 26.76 | (7.55) | -1.19 | .85 |
| <i>Years of education</i> | 13.53 | (2.70) | 5-21 | 13.34 | (2.68) | 13.95 | (2.71) | -2.55 | .01 |
| <i>Hours spent on online gaming</i> | 3.01 | (1.89) | 0-12 | 2.95 | (1.78) | 3.14 | (2.12) | -1.12 | .26 |
| <i>Maternal Care</i> | 26.07 | (7.95) | 0-36 | 26.37 | (7.58) | 25.40 | (8.70) | 1.38 | .17 |
| <i>Paternal Care</i> | 22.02 | (9.51) | 0-36 | 21.67 | (9.27) | 22.79 | (9.98) | -1.33 | .18 |
| <i>Maternal Overprotection</i> | 12.73 | (7.91) | 0-39 | 12.09 | (7.38) | 14.12 | (8.81) | -2.93 | <.01 |
| <i>Paternal Overprotection</i> | 10.55 | (7.39) | 0-36 | 9.88 | (7.23) | 12.01 | (7.53) | -3.31 | <.01 |
| <i>Secure attachment</i> | 3.91 | (1.94) | 1-7 | 4.01 | (1.94) | 3.69 | (1.92) | 1.93 | .05 |
| <i>Dismissing attachment</i> | 4.40 | (1.89) | 1-7 | 4.40 | (1.92) | 4.43 | (1.84) | -.18 | .86 |
| <i>Preoccupied attachment</i> | 3.33 | (1.98) | 1-7 | 3.32 | (1.99) | 3.35 | (1.95) | -.14 | .89 |
| <i>Fearful attachment</i> | 3.41 | (2.14) | 1-7 | 3.26 | (2.08) | 3.74 | (2.22) | -2.57 | .01 |
| <i>IGDS-SF9 total score</i> | 15.88 | (6.00) | 9-35 | 16.38 | (5.98) | 14.77 | (5.91) | 3.08 | <.01 |

Note. IGDS-SF9: The Internet Gaming Disorder Scale – Short Form.

Pearson's r coefficients are reported in **Table 2**. Age was positively correlated with years of education, and with secure and dismissing attachment. Also, age was negatively correlated with time spent playing online games, preoccupied and fearful attachment, and problematic gaming. Years of education were positively correlated with maternal and paternal care and negatively correlated with time spent playing online games, preoccupied and fearful attachment, and problematic gaming. Moreover, time spent playing online games was negatively correlated with paternal care and positively correlated with problematic gaming. Maternal and paternal care were positively associated with secure attachment, and negatively associated with preoccupied and fearful attachment and problematic gaming. Maternal and paternal overprotection were negatively correlated with secure attachment and positively correlated with preoccupied attachment, fearful attachment, and problematic gaming. Preoccupied and fearful attachment styles were positively associated with problematic gaming.

Table 2. Pearson's *r* correlations between the investigated variables

| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------------------------------|-------|--------|------|--------|--------|--------|-------|--------|--------|--------|--------|
| 1. Age | .25** | -.18** | .05 | .02 | -.04 | -.06 | .16** | .13** | -.27** | -.25** | -.09* |
| 2. Years of education | - | -.12** | .09* | .12** | -.02 | -.05 | .07 | .01 | -.08* | -.13** | -.09* |
| 3. Hours spent on online gaming | | - | -.07 | -.11** | .02 | .07 | -.07 | .02 | .03 | .05 | .21** |
| 4. Maternal Care | | | - | .47** | -.52** | -.34** | .10* | -.01 | -.15** | -.22** | -.20** |
| 5. Paternal Care | | | | - | -.25** | -.46** | .11* | .01 | -.14** | -.17** | -.23** |
| 6. Maternal Overprotection | | | | | - | .45** | -.10* | -.04 | .22** | .21** | .18** |
| 7. Paternal Overprotection | | | | | | - | -.09* | -.07 | .17** | .20** | .14** |
| 8. Secure attachment | | | | | | | - | -.11** | -.33** | -.50** | -.14** |
| 9. Dismissing attachment | | | | | | | | - | -.25** | .00 | -.01 |
| 10. Preoccupied attachment | | | | | | | | | - | .42** | .26** |
| 11. Fearful attachment | | | | | | | | | | - | .15** |
| 12. IGDS9-SF total score | | | | | | | | | | | - |

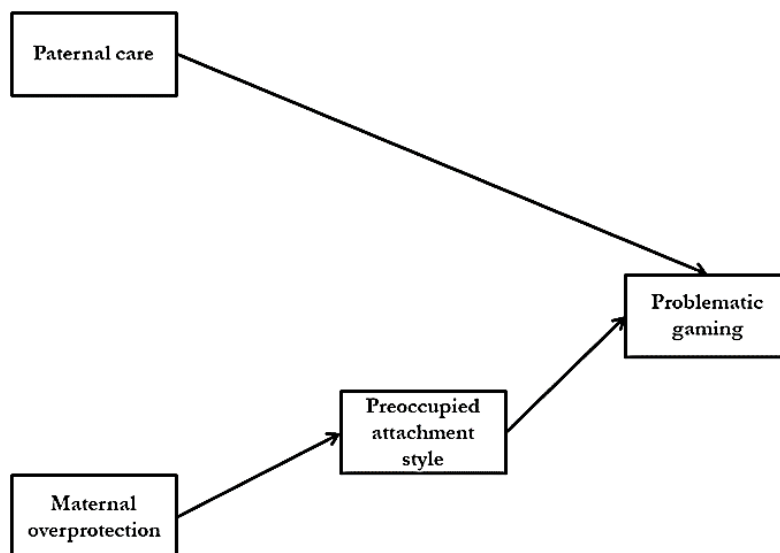
Note. IGDS9-SF: The Internet Gaming Disorder Scale – Short Form; * $p < .05$, ** $p < .01$.

The results of multiple linear regression analysis are reported in **Table 3**. We found that problematic gaming was predicted by male gender, a greater amount of time spent playing online, reduced levels of paternal care, increased levels of maternal overprotection, and preoccupied attachment. Mediation analyses showed that preoccupied attachment fully mediated the association between maternal overprotection and problematic gaming (direct effect: $B = .073$, $SE = .036$, 95% CI $[-.005, .154]$, $p = .043$, indirect effect: $B = .026$, $SE = .010$, 95% CI $[.011, .048]$, $p = .006$; total effect: $B = .100$, $SE = .036$, 95% CI $[.021, .178]$, $p = .006$). Paternal care was a significant predictor of problematic gaming (direct effect: $B = -.073$, $SE = .029$, 95% CI $[-.136, -.014]$, $p = .013$; total effect: $B = -.084$, $SE = .030$, 95% CI $[-.147, -.024]$, $p = .005$), but no significant indirect effects were found in the relationship between paternal care and problematic gaming. Findings of mediation analyses are summarized in **Figure 1**.

Table 3. Linear regression model predicting problematic gaming

| | B | SE | Partial <i>r</i> | <i>t</i> | <i>p</i> |
|-------------------------------------|-------|-----|------------------|----------|----------|
| <i>Gender</i> | -1.89 | .50 | -.15 | -3.74 | <.01 |
| <i>Age</i> | .01 | .04 | .01 | .28 | .78 |
| <i>Marital status</i> | .22 | .84 | .01 | .26 | .80 |
| <i>Years of education</i> | -.03 | .09 | -.01 | -.28 | .78 |
| <i>Hours spent on online gaming</i> | .61 | .12 | .20 | 4.95 | <.01 |
| <i>Maternal Care</i> | -.04 | .04 | -.04 | -.98 | .33 |
| <i>Paternal Care</i> | -.07 | .03 | -.10 | -2.45 | .02 |
| <i>Maternal Overprotection</i> | .07 | .04 | .08 | 2.00 | .05 |
| <i>Paternal Overprotection</i> | .00 | .04 | .00 | .03 | .98 |
| <i>Secure attachment</i> | -.11 | .14 | -.03 | -.80 | .43 |
| <i>Dismissing attachment</i> | .12 | .13 | .04 | .96 | .34 |
| <i>Preoccupied attachment</i> | .65 | .14 | .19 | 4.78 | <.01 |
| <i>Fearful attachment</i> | .01 | .13 | .00 | .11 | .91 |

Model: $F(13.584) = 9.39, p < .001; R^2 = .17$

**Figure 1.** Model depicting direct and indirect effects of parental bonding on problematic gaming

4. Discussion

This study tested the hypothesis that adult attachment styles mediate the relationship between parental bonding and problematic gaming. We found significant gender differences in our sample. Females reported higher levels of maternal and paternal overprotection, higher levels of fearful attachment, lower levels of secure attachment, and less symptoms of problematic gaming than males. These findings support previous research showing that females are more likely to receive overprotection in the Mediterranean countries (Rosenthal & Roer-Strier, 2001) and are more prone to develop a negative view of the self (Schimmenti, 2016). Also, a recent meta-analysis reported significant gender differences in the problematic use of Internet platforms, with males displaying higher levels of problematic gaming and females displaying higher levels of problematic social media use (Su et al., 2020). Due to a variety of constraining influences, ranging from biological predisposition to cultural norms, males may be more likely to engage in specific at-risk and addictive behaviors, including problematic gaming, gambling, and substance use (Desai et al., 2005; Frisone et al., 2020; Ladouceur et al., 1999; Moore & Ohtsuka, 1999; Wickwire et al., 2007).

Correlation analyses showed significant associations among the investigated variables. In line with previous studies (Di Blasi et al., 2019; Ünübol et al., 2020), we found that a younger age, a lower education and a greater amount of time spent playing online games were associated with increased levels of problematic gaming. Furthermore, problematic gaming was negatively correlated with paternal and maternal care, and positively correlated with paternal and maternal overprotection. These results are consistent with previous research reporting significant associations between parental bonding styles and problematic Internet activities (Faltýnková et al., 2020; Kumcağız, 2019).

Correlation analyses also showed that maternal and paternal care were positively associated with secure attachment and negatively associated with preoccupied and fearful attachment; in contrast, maternal and paternal overprotection were negatively associated with secure attachment and positively associated with preoccupied and fearful attachment. According to the attachment theory, the responsiveness of caregivers towards the child's attachment needs promotes a sense of security in close relationships (Mikulincer & Shaver, 2016), whereas the presence of significant failures of care during childhood might engender the risk of developing excessive anxious attitudes (Midolo et al., 2020; Schimmenti & Bifulco, 2015). From a theoretical standpoint, it has been highlighted that a disavowal of child's emotional needs in childhood attachment experiences, manifested through lack of care and overprotection, may

impair the development of emotion regulation abilities, thus increasing the risk to suffer from emotion dysregulation in adulthood (Schimmenti, 2017). Research has indeed provided evidence that failures of care during childhood might be linked to excessive and inappropriate gaming patterns (Kircaburun et al., 2019).

Finally, lower levels of secure attachment and higher levels of preoccupied and fearful attachment were associated with higher levels of problematic gaming. Despite previous research has shown that insecure attachment attitudes are associated with problematic gaming, literature has reported inconsistent findings about the role of avoidant attachment (Liese et al., 2020; Sung et al., 2020). Our results suggest that the anxious attitudes embedded in a negative view of the self are more relevant than the avoidant attitudes linked to a negative view of the others in relation to maladaptive engagement in gaming. It is possible that individuals with preoccupied or fearful attachment could use videogames in order to satisfy the needs of social acceptance (King & Delfabbro, 2014) and/or to avoid the distress experienced in real interactions (Marino et al., 2020; Sioni et al., 2017).

Multiple regression analysis has shown that problematic gaming was positively predicted by male gender, hours spent online and maternal overprotection, and negatively predicted by paternal care. As previously reported, males are more prone to develop problematic online gaming than females (Su et al., 2020). Moreover, it has been consistently shown that a higher amount of time spent playing online games is associated with higher levels of problematic gaming (e.g., Di Blasi et al., 2019). From a compensatory perspective, time spent online in problematic Internet activities could be related to distress and impairments in personal functioning (Kardefelt-Winther, 2014; Musetti et al., 2019). Mediation analyses have provided further insights on the relationship between parental bonding and problematic gaming, suggesting that maternal and paternal attitudes could play different roles on the cognitive and affective development of the child and, in turn, on the onset of problematic gaming. We found that problematic gaming was directly predicted by low paternal care, and indirectly predicted by high maternal overprotection through preoccupied attachment.

Positive child-father interactions promote the exploration of the external environment and foster self-esteem and a sense of mastery in the child (Grossmann & Grossmann, 2019; Pinto et al., 2015). Therefore, positive paternal care could prevent the excessive use of videogame as a strategy to cope with low levels of self-esteem and self-efficacy in real world (Cudo et al., 2019; King & Delfabbro, 2014; Throuvala et al., 2019). It is noteworthy that mothers are more prone to excessively protect their offspring in the Mediterranean countries (Rosenthal & Roer-Strier,

2001), and that the interactions with the primary caregiver (usually the mother in the Mediterranean countries) is critical for the development of internal representations of self and others, influencing the individual attitudes towards close relationships in adolescence and adulthood (Bowlby, 1973). Also, it has been found that maternal overcontrolling attitudes are associated with social anxiety in the child (Garcia et al., 2021). Thus, overprotecting mothers could foster a representation of the self as unworthy and/or ineffective in relationships, which might increase the risk to excessively use videogames to feel accepted from the community of players (King & Delfabbro, 2014) or to regulate negative feelings (Di Blasi et al., 2019).

This study comes with several limitations. First, the sample was recruited from the community. Thus, the findings should be not automatically extended to people suffering from serious impairments due to excessive engagement in gaming. Moreover, despite the measures employed in the current study have shown satisfactory psychometric characteristics in worldwide research, the use of retrospective and self-report measures could have increased the risk of bias. Third, causal relationships among parental attitudes, adult attachment styles and problematic gaming should be cautiously interpreted due to the cross-sectional nature of the study. It is advisable that future research adopts a longitudinal design to obtain more reliable results regarding the role of parental attitudes in the onset of problematic gaming. Also, future research might involve the use of clinical interviews to obtain more reliable information about failures of care during childhood, attachment styles, and problematic gaming. Finally, further studies are needed to test the mediating effects of other variables (e.g., self-esteem, emotion dysregulation, social support) that could further explain the association between parental bonding and problematic gaming.

5. Conclusions

Its limitations notwithstanding, the present study shed some light on the developmental factors involved in problematic gaming. Our findings suggest that a positive paternal care could reduce the risk for problematic gaming, whereas maternal overprotection could foster the excessive use of videogames, perhaps as a way to satisfy one's own social needs while averting the potential anxiety related to a negative view of the self.

The study might also have relevant implications for the prevention and treatment of problematic gaming. Prevention programmes aimed to improve parental abilities in monitoring their offspring's gaming activities and adequately responding to their emotional needs could prevent the development of problematic gaming during childhood and later in life (Li et al., 2019). Also, psychoeducation with patients who display preoccupied attachment attitudes and suffer from problematic gaming might help them to better understand how their anxiety in close

relationships may result in a compensatory yet excessive use of videogames that may generate functional impairment in several life domains. Also, clinicians working with clients suffering from problematic gaming might help them to foster security in their current relationships, also by providing a “secure base” (Bowlby, 1988) in the therapeutic relationship that allows these clients to better understand and work through the potential failures in their interactions with parents during childhood , as these interactions might be responsible for the patients’ feelings of inadequacy that resulted in seeking a dysfunctional “psychic retreat” in the excessive use of videogames (Schimmenti & Caretti, 2010). This might reduce the maladaptive use of videogames as a compensatory strategy and might promote the use of more adaptive self-regulation abilities.

Conflict of Interest Statement

The authors declare that the research was conducted in the absence of any potential conflict of interest.

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