

# DIGITAL COMBAT: WHAT VIOLENT VIDEO GAMES INFLUENCE FORGIVENESS, SELF-COMPASSION, AND MENTAL WELL-BEING DURING THE COVID-19 PANDEMIC<sup>1</sup>

## *COMBATE DIGITAL: COMO OS JOGOS DE VÍDEO VIOLENTOS INFLUENCIAM O PERDÃO, A AUTO-COMPAIXÃO E O BEM-ESTAR MENTAL DURANTE A PANDEMIA DE COVID-19*

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### **ABSTRACT**

With the advent of the pandemic, reliance on screens, the internet, and the digital realm has intensified, impacting individuals in various ways. Initially beyond the comprehension of many, the pandemic soon manifested in a wide range of interests and behaviors. Notably, there has been a surge in social media usage and gaming interests. Violent digital games, which simultaneously excite and relax players, became more popular, eliciting feelings of ease, engagement, and a sense of inner freedom. While this sentiment has positively influenced mental well-being in virtual contexts, it has also had adverse effects on self-compassion and forgiveness. This study aims to investigate the relationship between individuals engaging in violent digital games and their levels of forgiveness, self-compassion, and mental well-being. The study involved a sample of 300 individuals aged 18 to 68 years. The results indicated that no significant connection emerged between the sub-dimension of forgiving others and self-judgment. However, a positive and significant relationship was observed among all other sub-dimensions and scales. The One-Way ANOVA analysis technique revealed differences in forgiveness, self-compassion, and mental well-being levels concerning participation in violent digital games. According to the analysis, individuals who play violent digital games exhibited

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greater forgiveness towards others and demonstrated enhanced self-compassion and understanding compared to non-players. These results underscore the impact of digital games on forgiveness, self-compassion, and mental well-being, highlighting the need for interventions aimed at promoting mental health and well-being.

**Keywords:** Covid 19, forgiveness, mental well-being, self-compassion, violent digital game.

### **RESUMO**

Com o advento da pandemia, a dependência dos ecrãs, da Internet e do mundo digital intensificou-se, afectando os indivíduos de várias formas. Inicialmente fora da compreensão de muitos, a pandemia rapidamente se manifestou numa vasta gama de interesses e comportamentos. Nomeadamente, registou-se um aumento da utilização das redes sociais e dos interesses nos jogos. Os jogos digitais violentos, que simultaneamente excitam e relaxam os jogadores, tornaram-se mais populares, suscitando sentimentos de facilidade, envolvimento e uma sensação de liberdade interior. Embora este sentimento tenha influenciado positivamente o bem-estar mental em contextos virtuais, também teve efeitos adversos na auto-compassão e no perdão. Este estudo tem como objetivo investigar a relação entre indivíduos que participam em jogos digitais violentos e os seus níveis de perdão, autocompaixão e bem-estar mental. O estudo envolveu uma amostra de 300 indivíduos com idades compreendidas entre os 18 e os 68 anos. Os resultados indicaram que não surgiu uma relação significativa entre a subdimensão de perdoar os outros e o auto-julgamento. No entanto, foi observada uma relação positiva e significativa entre todas as outras sub-dimensões e escalas. A técnica de análise One-Way ANOVA revelou diferenças nos níveis de perdão, auto-compassão e bem-estar mental relativamente à participação em jogos digitais violentos. De acordo com a análise, os indivíduos que jogam jogos digitais violentos apresentam um maior grau de perdão para com os outros e demonstram uma maior autocompaixão e compreensão em comparação com os não jogadores. Estes resultados sublinham o impacto dos jogos digitais no perdão, na auto-compassão e no bem-estar mental, salientando a necessidade de intervenções destinadas a promover a saúde mental e o bem-estar.

**Palavras-chave:** Covid 19, perdão, bem-estar mental, auto-compassão, jogo digital violento.

### **Introduction**

With the advancement of technology, both conveniences and societal changes have emerged. The 2020 COVID-19 outbreak intensified our dependence on screens, the internet, and digital content. As many grappled with understanding the pandemic's ramifications, it transformed daily habits and occupational landscapes. Global lockdown measures heightened the consumption of social media and digital games, with violent games gaining traction due to their exhilarating and comforting features. These games bestow players with a sense of agency and liberation, augmenting mental well-being. Conversely, they may attenuate self-compassion and forgiveness levels. Research suggests that digital games can mitigate stress, enrich recreational activities, provide relaxation, sharpen coping

mechanisms, and enhance visual-attention capacities while bolstering self-esteem (Green & Bavelier, 2003; Griffiths, 2005). Educational games, notably, can amplify academic achievements (Green et al., 2003; Prot et al., 2014). While digital games offer a plethora of advantages, their type and duration can determine their impacts. When engaged with judiciously, games serve as an escape from daily stressors (Green & Bavelier, 2003; Prot et al., 2014), foster collaborative skills, amplify concentration, and become pedagogical instruments (De Lisi & Wolford, 2002; Green & Bavelier, 2003; Griffiths, 2005). However, protracted gameplay can usher in psychosocial, behavioral, and physiological challenges. Genres such as war, action, simulation, and strategy games frequently incorporate elements that can elicit aggression, potentially engendering maladaptive behaviors. Therefore, individuals engrossed in violent games might confront psychosocial dilemmas. Given the games' motifs of aggression and vendetta, they could modulate players' capacity for forgiveness—an act symbolizing the relinquishment of adverse sentiments towards others. Moreover, these games may sway attributes associated with self-compassion, encompassing self-forgiveness and benevolence.

Forgiveness, pivotal in resolving communication problems, is a central concept across philosophy, diverse religions, psychology, ethics, and various political systems (Meninger, 1996). The inaugural empirical study on forgiveness emerged in 1964, with research in the psychological domain gaining momentum by the 1980s. By the turn of the millennium, forgiveness had carved a niche in both religious and secular psychology. The rise of positive psychology further underscored its significance in the realms of psychology and psychotherapy. From 1988 to 1999, there were 362 articles on forgiveness, a figure that surged to 634 between 2000 and 2005—a notably shorter timeframe. Worthington (2015) characterized forgiveness as both an "art" and a "science." According to North's (1987) perspective on internal forgiveness, individuals can transcend negative judgments and emotions through channels of compassion, benevolence, and love. McCullough et al. (2000) offered a psychosocial and interpersonal lens to forgiveness, indicating that individuals who forgive undergo a positive shift in interpersonal motivations. Such individuals not only become more benevolent but

also less guarded and vindictive. Furthermore, they highlighted a dwindling inclination for revenge and distancing from the offender.

Self-compassion involves being receptive to one's painful experiences, emotions, and thoughts, accepting them as innate aspects of human life. It means understanding oneself without judgment, not attributing pain to inadequacy or failure, taking responsibility for one's experiences, and maintaining a loving self-regard (Neff, 2003). Three foundational elements, intricately connected, underpin self-compassion: self-kindness, common humanity, and mindfulness. Self-kindness is characterized by understanding oneself with kindness and gentleness instead of harsh judgment. Common humanity refers to recognizing that negative experiences are not isolated incidents unique to oneself. Mindfulness allows individuals to observe their current state with balanced awareness, avoiding excessive identification with painful emotions and thoughts (Kirkpatrick, 2005). Those with robust self-compassion handle mistakes or adversities with kindness and recognize that others too face similar situations. They neither dismiss their negative emotions entirely nor let them cause self-harm (Öveç, 2007). Self-compassion impacts an individual's mental well-being and influences numerous other concepts. Although mental well-being is a common term in psychology, it eludes a precise definition. Many definitions primarily focus on individuals' quality of life, making mental well-being a broad concept (Dodge et al., 2012). This term encompasses life satisfaction as well as the positive and negative facets of emotions. High subjective wellbeing implies an individual's positive emotions outweighing negative ones and a generally optimistic outlook on life. Factors influencing life satisfaction include age, gender, mental health, personality, economic status, physical health, social relationships, and religion. Notably, each factor has uniquely affected people during the pandemic, prompting them to seek diverse sources of contentment.

### ***Objective of the Study***

This research seeks to understand the dynamics between forgiveness, self-compassion, and mental well-being among individuals who engage in violent digital games compared to those who refrain from such activities. Notably, the popularity of these games, especially in the wake of the COVID-19 pandemic, has been observed across various age demographics. A secondary aim of this investigation is to delve into the correlation between individuals' levels of forgiveness, self-compassion, and mental well-being. To this end, the following questions were addressed:

1. Is there a significant difference in the forgiveness levels of individuals who play violent digital games compared to those who do not?
2. Does playing violent digital games influence the degree of self-compassion in individuals compared to their non-playing counterparts?
3. How does mental well-being vary between individuals who play violent digital games and those who abstain?
4. Is there a significant relationship among forgiveness, self-compassion, and mental well-being between the two aforementioned groups?

### ***Materials and Methods***

This research compared individuals who engage in violent digital games with those who do not. Utilizing the relational survey model—a quantitative research method—we aimed to discern and elucidate the relationship between various variables without manipulating any existing conditions (Cresswell, 2016). The study's participants comprised 300 individuals, ranging in age from 18 to 68, both gamers and non-gamers of violent digital games. We employed a simple random sampling method to select our participants, ensuring that each sampling unit had an equal likelihood of selection (Çingı, 1994). Table 1 provides detailed demographic data about the participants.

Table 1 – Descriptive characteristic of participants

		Play		Not play	
		n	%	N	%
Gender	Female	53	44.5	139	80.3
	Male	67	55.8	32	18.6
	Unspecified	1	0.8	2	1.2
Education level	Primary school	1	0.8	3	1.7
	Middle school	0	0	5	2.9
	High school	6	5	17	9.9
	University	104	87.4	137	79.2
	Master's degree	7	5.9	8	4.7
Age	Doctorate	1	0.8	3	1.7
	18-24	102	85.20	114	65.9
	25-39	16	13.4	28	16.3
	40-68	1	0.8	31	18
Total		119	100	173	100

### Measures

**Heartland Forgiveness Scale.** The Heartland Forgiveness Scale, created by Thompson et al. (2005), was designed to measure individuals' inclination to forgive. The scale comprises 18 items and utilizes a 7-point Likert-type scale: 1 (does not reflect me at all), 3 (does not reflect me very much), 5 (reflects me a little), and 7 (reflects me completely). The scale is subdivided into three dimensions: forgiveness of oneself, forgiveness of others, and forgiveness of situations. Validity and reliability tests yielded a test-retest coefficient of .83 for the self-forgiveness dimension, .72 for the forgiveness of others, .73 for forgiving situations, and .77 for the overall scale. The respective Cronbach's  $\alpha$  coefficients were .75, .78, .79, and .86 for the total score. Bugay and Demir (2010) undertook the task of translating and adapting the scale for a Turkish audience. The Turkish version's Cronbach's  $\alpha$  internal consistency coefficients were reported as .64 for self-forgiveness, .79 for forgiveness of others, and .76 for forgiving situations, with an overall value of .81 for the scale. Furthermore, Bugay, Demir, and Delevi (2012) assessed the scale's psychometric characteristics within a broader sample. Their findings affirmed the appropriateness of the scale's original 3-factor structure for Turkish participants, with the Confirmatory Factor Analysis fit values deemed adequate.

**Self-Compassion Scale.** The Self-Compassion Scale was introduced by Neff (2003b). This scale encompasses 26 items and employs a 5-point Likert-type scale, ranging from 1 (never) to 5 (always). The scale is divided into six sub-dimensions:

self-kindness vs. self-judgment, common humanity vs. isolation, and mindfulness vs. over-identification [20]. Akin et al. [20] undertook the task of adapting the scale for a Turkish audience. After ensuring linguistic equivalence, further validity and reliability analyses were conducted. Confirmatory factor analysis indicated that the Turkish version of the scale-maintained consistency with the original scale, as evidenced by fit indices:  $\chi^2 = 779.01$ ,  $df = 264$ ,  $p = 0.00$ ,  $RMSEA = .056$ ,  $NFI = .95$ ,  $CFI = .97$ ,  $IFI = .97$ ,  $RFI = .94$ ,  $GFI = .91$ , and  $SRMR = .059$ . The internal consistency coefficients of the scale ranged between .72 and .80. Additionally, test-retest reliability coefficients varied between .56 and .69. The revised item-total correlations for the scale spanned from .48 to .71, and differences between the mean scores of the upper and lower 27% groups were all found to be significant.

**Warwick-Edinburgh Mental Well-Being Scale.** Tennant et al. (2007) introduced the Warwick-Edinburgh Mental Well-Being Scale, primarily designed to gauge the mental well-being of individuals residing in England. Comprising 14 items, the scale utilizes a 5-point Likert-type format, with responses ranging from 1 (strongly disagree) to 5 (completely agree). Based on this scoring, individuals can achieve scores as low as 14 or as high as 70 (Keldal, 2015). Keldal (2015) undertook the task of adapting this scale for a Turkish audience. Using the translation-back-translation method, linguistic consistency between the Turkish adaptation and the original English version was ensured. As for its reliability metrics, the internal consistency of the scale, as gauged by the Cronbach's Alpha coefficient, stood at .89. Additionally, test-retest reliability analysis produced a correlation coefficient of .83.

### **Data Collection**

Before collecting the data, informed consent was secured from all participants. The data collection tools included a personal information form, the Heartland Forgiveness Scale, the Self-Compassion Scale, and the Warwick-Edinburgh Mental Well-Being Scale. Completing these forms took participants approximately 10 minutes. Data were gathered online, which expanded the reach to a broader audience and streamlined the data collection process.

### **Data Analysis**

The study's dependent variables encompass forgiveness, self-compassion, and mental well-being. Conversely, the independent variable focuses on whether participants play violent digital games or not. Upon completing the data collection, scores from all the utilized scales, along with personal details, were inputted into the SPSS 22.0 statistical software for each participant. Scores derived from the sub-dimensions of both the Forgiveness Scale and the Self-Compassion Scale were calculated independently. Subsequently, data was categorized based on participants' engagement with violent games. The initial phase of the data analysis involved an independent sample t-test to discern any significant discrepancies between forgiveness, self-compassion, and mental well-being levels in those who play violent digital games and those who don't. In the succeeding phase of analysis, the Pearson Correlation Coefficient was employed to evaluate the statistical significance of relationships between continuous variables: forgiveness, self-compassion, and mental well-being.

### **Results**

To assess the differences in levels of forgiveness, self-compassion, and mental well-being based on participants' engagement with violent digital games, the data was categorized into two groups: "playing" and "not playing." Initially, the data was tested to ensure it met both univariate and multivariate normality conditions. The Kolmogorov-Smirnov test was employed to evaluate univariate normality.

Furthermore, the Kolmogorov-Smirnov Test scores indicate a significant deviation from a normal distribution in terms of significance levels. As there isn't a direct method for verifying multivariate normality, it is assessed using the Mahalanobis distances (Can, 2018). Consequently, the presence or absence of multivariate normality in this research was determined using the Mahalanobis distance values. There are 12 dependent variables in the study: three from the sub-dimensions of the Forgiveness Scale (FS), six from the Self-Compassion Scale (SCS), and the overall Mental Well-Being Scale (MWBS) variable. The critical value of the



Mahalanobis distance for a study with 12 dependent variables is set at 29.59. Within this research, four data points exceeded the critical value of 29.59, and these were subsequently removed. The revised normality table, post data removal, is presented below.

Table 2 – Results pertaining to univariate normality values of forgiveness, self-compassion, and mental well-being scores after exclusion of outliers

Variables	Digital Gaming Status Based on Violent Content	Kolmogorov-Smirnov		
		N	Statistics	p
Forgiveness	Playing	119	.071	.200*
	Not Playing	173	.051	.200*
Self-Compassion	Playing	119	.053	.200*
	Not Playing	173	.039	.200*
Mental Well-Being	Playing	119	.072	.200*
	Not Playing	173	.087	.003

When examining Table 2, it becomes evident that the significance levels of the Kolmogorov-Smirnov Test scores for all other dependent variables indicate a normal distribution, with the exception of the mental well-being variable. For the data to be considered as having a normal distribution, the Kolmogorov-Smirnov test should not be statistically significant. However, it's worth noting that in studies with a large number of participants, even minor deviations from normality can result in statistical significance (Çetin, İlhan, & Arslan, 2012). To mitigate this effect and to reach a final decision on the data's normality, the skewness and kurtosis coefficients of the data should be examined. If the skewness and kurtosis coefficients fall within the range of  $\pm 1$ , this suggests that the scores don't deviate significantly from normal (Büyüköztürk, 2020). In this study, it was observed that the skewness coefficients of FS, SCS sub-dimensions, and MWBS were similar and within the range of  $\pm 1$ . Therefore, it can be concluded that all requisite conditions for the application of parametric tests have been met.

***Is there a significant difference in the level of forgiveness between individuals who play and do not play violent digital games?***

A t-test was conducted to determine if there was a significant difference in the total and subscale scores on the forgiveness between individuals who play violent digital games and those who do not. The results are presented in Table 3.

Table 3 – Results for forgiveness scale total and subscale scores: comparing players and non-players of violent digital games

<i>Forgiveness</i>	<i>Gaming Status</i>	<i>N</i>	<i>Mean</i>	<i>Sd</i>	<i>T</i>	<i>p</i>
Self-forgiveness	Playing	119	64.83	14.46	2.252	.003
	Not Playing	173	76.25	15.58		
Forgiving others	Playing	119	26.64	16.46	2.432	.024
	Not Playing	173	47.37	16.99		
Forgiving situations	Playing	119	67.25	10.36	2.772	.015
	Not Playing	173	68.83	12.91		
Total	Playing	119	53.33	16.85	2.852	.006
	Not Playing	173	64.66	17.85		

Upon examining Table 3, there is a notable distinction in the forgiveness 's total score and its sub-dimensions concerning the act of playing or not playing digital games. Significant differences are observed in the categories of self-forgiveness [t (290) = 2.252, p<.05], forgiving others [t (290)= 2.432, p<.05], forgiving situations [t(290)= 2.772, p<.05], and total forgiveness scores [t (290)= 1.47, p<.05]. Notably, individuals who abstain from playing violent digital games have significantly higher scores in self-forgiveness, forgiving others, forgiving situations, and general forgiveness compared to those who engage in these games.

***Is there a notable difference in self-compassion levels between individuals who play violent digital games and those who don't?***

To ascertain this, a test was conducted to discern if there were significant variances in the total scores and subscales of the Self-compassion dimension among those who play and don't play violent digital games. The outcomes of this analysis are presented in Table 4.

Table 4 – Results for Self-Compassion and Subscale Scores of Individuals Playing and Not Playing Violent Digital Games

Self-Compassion	Gaming Status	N	Mean	Sd	T	p
Self-Kindness	Playing	119	33.25	25.46	2.603	.320
	Not Playing	173	34.12	25.58		
Self-Judgment	Playing	119	42.08	26.99	4.072	.005
	Not Playing	173	66.38	28.70		
Being Aware of Sharings	Playing	119	16.00	14.91	3.782	.006
	Not Playing	173	34.24	18.74		
Alienation	Playing	119	55.14	12.78	2.489	.013
	Not Playing	173	39.24	14.88		
Consciousness	Playing	119	25.14	9.11	2.249	.044
	Not Playing	173	36.16	10.25		
Extreme-Identification	Playing	119	40.02	14.55	2.897	.014
	Not Playing	173	20.48	12.44		
Total Self-Compassion	Playing	119	68.14	8.98	2.428	.021
	Not Playing	173	86.98	10.46		

Analysis of Table 4 indicates that whether or not individuals play digital games affects their scores on several subscales of the self-compassion. While the majority of subscales exhibited significant disparities, notably, the self-kindness subscale did not. Specifically, those who abstained from playing violent digital games recorded higher scores in Self-judgment,  $t(290) = 4.072, p < .05$ ; being aware of sharings,  $t(290) = 3.782, p < .05$ ; consciousness,  $t(290) = 2.249, p < .05$ ; and the overall self-compassion,  $t(290) = 2.603, p < .05$ . conversely, their scores were lower in alienation,  $t(290) = 2.489, p < .05$ , and extreme-identification,  $t(290) = 2.897, p < .05$ . Importantly, both groups presented comparable levels in the Self-Compassion scale, suggesting that the act of playing violent digital games does not influence this specific aspect of self-compassion.

***Is there a significant difference in mental well-being levels between individuals who play and those who do not play violent digital games?***

A t-test was conducted to ascertain if mental well-being scores varied between individuals who play and those who do not play violent digital games. The results are presented in Table 5.

Table 5 – Results for mental well-being scores of individuals based on violent digital game play

	Gaming Status	N	Mean	Sd	T	p
Mental Well-Being	Playing	119	59.48	13.22	2.852	.066
	Not Playing	173	52.22	12.65		

Upon reviewing Table 5, it is evident that the Mental Well-Being Scale scores do not significantly differ based on the engagement with violent digital games,  $t(290) = 2.852, p < .05$ . However, a closer inspection of the average scores indicates that individuals who play violent digital games tend to score higher than those who do not.

***Do significant relationships exist between the forgiveness, self-compassion, and mental well-being levels of individuals based on their interaction with violent digital games?***

To address this, a correlation analysis was executed. This analysis aimed to ascertain any significant relationships between the scores on Forgiveness, Self-Compassion, and Mental Well-being among individuals who either engage or abstain from playing violent digital games. The findings from this analysis are presented in Table 6.

Table 6 – Correlation between mean scores of forgiveness, self-compassion, and mental well-being in individuals who played and did not play violent digital games

<i>Playing</i>	Forgiveness	Self-compassion	Mental well-being
Forgiveness	1		
Self-compassion	.605**	1	
Mental well-being	.581**	.708**	1

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<i>Not Playing</i>	Forgiveness	Self-compassion	Mental well-being
Forgiveness	1		
Forgiveness	.626**	1	
Self-compassion	.717**	.798**	1

\*\*p<.001

When examining Table 6, it becomes evident that there exists a substantial correlation ( $p < .01$ ) among forgiveness, self-compassion, and mental well-being scores among individuals who engage in playing violent digital games. We found a moderately significant and positive correlation between forgiveness and self-compassion scores ( $r = .605$ ,  $p < .01$ ), as well as between forgiveness and mental well-being scores ( $r = .581$ ,  $p < .01$ ). Moreover, a highly significant and positive correlation was observed between self-compassion and mental well-being scores ( $r = .708$ ,  $p < .01$ ). These findings reveal that as one of the key variables for individuals who play violent digital games—namely, forgiveness, self-compassion, or mental well-being—increases, the others also tend to increase.

Similarly, we identified a significant correlation ( $p < .01$ ) between forgiveness, self-compassion and mental well-being scores among individuals who do not engage in playing violent digital games. We found a highly significant and positive correlation between forgiveness and self-compassion scores ( $r = .626$ ,  $p < .01$ ), as well as between forgiveness and mental well-being scores ( $r = .717$ ,  $p < .01$ ). Additionally, there was a highly significant and positive correlation between Self-compassion and mental well-being scores ( $r = .798$ ,  $p < .01$ ). Consequently, as one of the dependent variables for individuals who do not play violent digital games—namely, forgiveness, self-compassion, or mental well-being—increases, the others also tend to increase. It is noteworthy that while the correlation between these variables was significant in both groups, the strength of the correlation was higher among individuals who did not play violent digital games compared to the other group.

Furthermore, we conducted a correlation analysis to determine the existence of a significant relationship between the Forgiveness subscales, self-compassion subscales, and mental well-being scores for both individuals who play and do not play violent digital games. The results are presented in Table 7.

Table 7 – Correlation analysis for the relationship between forgiveness subscales, self-compassion subscales, and mental well-being levels of individuals playing violent digital games

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Self-Forgiving	1	.165**	.557**	.687**	.481**	.258**	.389**	.368**	.429**	.436**	.524**	.392**
2. Forgiveness to Others		1	.320**	.715**	.249**	.076	.225**	.217**	.190**	.206**	.262**	.283**
3. Forgiveness of the Situation			1	.838**	.526**	.395**	.458**	.593**	.518**	.610**	.688**	.551**
4. General Forgiveness				1	.540**	.318**	.467**	.523**	.492**	.548**	.605**	.717**
5. Self-Kindness					1	-.368**	.689**	.507**	.719**	.522**	.848**	.585**
6. Self-Judgment						1	.152**	.592**	.213**	.527**	.598**	.245**
7. Awareness of Sharing							1	-.312**	.623**	.356**	.691**	.512**
8. Isolation								1	.411**	.737**	.791**	.491**
9. Consciousness									1	-.537**	.774**	.517**
10. Extreme-Identification										1	.206**	.417**
11. Self-compassion											1	.708**
12. Mental Well-Being												1

\*\* $p < .001$ , \* $p < .05$

Upon examining Table 7, it becomes evident that a significant correlation ( $p < .01$ ) exists between the Forgiveness subscales, Self-compassion sub-scales, and the Mental Well-Being scores of individuals who engage in playing violent digital games. We observed a moderately significant positive correlation between self-forgiveness scores, self-compassion sub-scales, and mental well-being scores ( $r = .481, .258, .389, .368, .429, .436, .524, .392, p < .01$ ). These sub-scales belong to the forgiveness. Additionally, a similar level of significance was noted between the forgiveness, the total self-compassion score, and other scales, except for the Self-judgment sub-scale within the self-compassion sub-scales, and the mental well-being ( $r = .249, .225, .217, .190, .206, .262, .283, p < .01$ ). We also observed a moderately significant and positive correlation between the forgiveness of the situation sub-scale and the

mental well-being, which is one of the self-compassion sub-scales ( $r = .526, .395, .458, .593, .518, .610, .688, .551, p < .01$ ). Furthermore, a moderately significant and positive correlation was identified among Self-compassion sub-scales: Self-Kindness, self-judgment, being aware of sharing, isolation, consciousness, extreme identification, and the mental well-being ( $r = .585, .245, .512, .491, .517, .417, p < .01$ ).

These findings suggest that as the scores of the forgiveness and self-compassion sub-scales, which are dependent variables for individuals playing violent digital games, increase, the scores on the mental well-being scale also tend to increase. There is a positive association where an increase in one variable corresponds to an increase in the others, and conversely, a decrease in one variable corresponds to a decrease in the others.

Table 8 – Correlation for the relationships between forgiveness subscales, self-compassion subscales, and mental well-being levels of individuals who do not play violent digital games

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Self-Forgiving	1	.189**	.667**	.782**	.773**	.258**	.389**	.368**	.429**	.463**	.453**	.468**
2. Forgiveness to Others		1	.524**	.854**	.113**	.091**	.255**	.325**	.598**	.457**	.498**	.578**
3. Forgiveness of the Situation			1	.898**	.588**	.495**	.468**	.697**	.617**	.125**	.741**	.586**
4. General Forgiveness				1	.310**	.602**	.508**	.588**	.722**	.448**	.626**	.581**
5. Self-Kindness					1	-.604**	.649**	.502**	.804**	.321**	.848**	.585**
6. Self-Judgment						1	.453**	.592**	.213**	.527*	.598**	.245**
7. Awareness of Sharing							1	-.312**	.623**	.356**	.691**	.512**
8. Isolation								1	.411**	.737**	.791**	.491**
9. Consciousness									1	-.584**	.784**	.881**
10. Extreme-Identification										1	.206**	.417*
11 Self-compassion											1	.798**
12. Mental Well-Being												1

\*\*p < .001, \*p < .05

Upon examining Table 8, it becomes evident that a significant correlation ( $p < .01$ ) exists among the Forgiveness subscales, Self-compassion subscales, and Mental Well-Being scores of individuals who do not engage in playing violent digital games. More specifically, we found a moderately significant positive correlation among self-forgiveness, self-compassion, and mental well-being scores ( $r = .773, .258, .389, .368, .429, .463, .453, .468, p < .01$ ) stemming from the Forgiveness subscales. Additionally, a similar level of significance was identified between the Forgiveness to others subscale scores, self-compassion, and mental well-being



scores ( $r = .113, .091, .255, .325, .598, .457, .498, .578, p < .01$ ), except for the self-judgment Scale. Furthermore, a moderately significant and positive correlation was established between the forgiveness of the situation subscale, self-compassion subscale, and mental well-being scale scores derived from the forgiveness subscale ( $r = .588, .495, .468, .697, .617, .125, .741, .586, p < .01$ ).

Among the self-compassion subscales, a moderately significant and positive correlation was identified, encompassing self-compassion, self-judgment, awareness of sharing, isolation, consciousness, extreme identification, and the mental well-being scale ( $r = .585, .245, .512, .491, .881, .417, p < .01$ ). In light of these findings, it is evident that as the scores of the Forgiveness and self-compassion subscales, which constitute dependent variables for individuals who do not play violent digital games, increase, the scores on the Mental Well-Being Scale also tend to increase. This implies that an increase in one of these variables corresponds to increases in the others, while a decrease in one is mirrored by decreases in the others.

## Discussion

In this study, we aimed to investigate the relationship between forgiveness, self-compassion, and levels of mental well-being among individuals who engage in, as well as those who abstain from, playing violent digital games. This topic has garnered considerable attention from individuals across all age groups, particularly during the 2020s, primarily due to the impact of the COVID-19 pandemic. Below, we discuss the results obtained for the sub-objectives of the research.

### ***Forgiveness Levels in Individuals Playing and Not Playing Violent Digital Games***

Individuals who do not play violent digital games demonstrated significantly higher levels of self-forgiveness, forgiveness towards others, forgiveness related to situational factors, and overall forgiveness compared to those who do play. The forgiveness levels of individuals who do not engage in violent digital games are significantly higher across various dimensions, including self-forgiveness,

forgiveness towards others, forgiveness of situational circumstances, and general forgiveness, compared to those who do play. It's noteworthy that gaming has become a widespread leisure activity among adults, with approximately 81% of adults in Turkey engaging in digital gaming in 2022 (Gaming in Turkey, 2023). Gaming offers individuals an escape from daily stress and enhances their cooperative and attention skills, making it valuable in various learning environments (Green & Bavelier, 2003; Prot et al., 2014; De Lisi & Wolford, 2002; Griffiths, 2005; Sağlam & Topsümer, 2019). However, no direct research in the literature supports the notion that digital gaming influences forgiveness. Yet, it's plausible that violent digital games, with their potential to promote aggression, hostility, and desensitization to violence, could affect forgiveness. Forgiveness involves transforming negative emotions, such as anger and resentment, into positive ones following transgressions against oneself, others, or situations.

Moreover, attributes associated with digital gaming, such as active participation within established rules, support for in-game collaboration and interaction, and strategic thinking tailored to the game's content, may be related to mental well-being (Sağlam & Topsümer, 2019). Additionally, research indicates a significant relationship between digital game addiction and mental well-being (Derin, 2013). Therefore, this study aimed to predict the mental well-being levels of individuals who engage in or abstain from playing violent digital games. However, the research results did not reveal any significant differences in the mental well-being levels of individuals in these two groups. It's important to note that the literature review on self-compassion lacks clarity regarding the significance of self-compassion levels concerning factors such as gender, age, and cultural differences. Additionally, studies suggest that negative self-evaluation is associated with increased depression and suicidal tendencies in adolescents (Laufer, 1995 as cited in Öveç, 2007). Therefore, the level of self-compassion might also influence psychosocial and behavioral problems linked to violent digital games, although no research directly addresses this. One study by Starcevic et al. (2011) found a significant difference in interpersonal sensitivity between problematic digital game players and normal players. However, the results may be influenced by participants'

playing time and whether they are considered normal or addicted players. The majority of digital game players are adolescents, and studies often focus on this age group (Greenberg et al., 2010; Griffiths, Davies, & Chappell, 2004; Griffiths & Meredith, 2009; Rideout, Foehr & Roberts, 2010). In this study, the participants were over the age of 18, and demographic characteristics were unevenly distributed, possibly contributing to unexpected results.

Regarding forgiveness, it's interesting to note that individuals who play violent digital games exhibited lower forgiveness levels toward others, while their self-forgiveness levels were slightly higher, although not statistically significant. In the sub-dimension of forgiving situational circumstances, individuals who played violent digital games scored slightly higher, although again, this difference was not statistically significant. It's important to emphasize that no existing literature directly addresses these specific results. Overall, this research provides valuable insights into the relationship between forgiveness, self-compassion, and mental well-being among individuals who engage in or abstain from playing violent digital games. Further research may help clarify these complex dynamics and their implications for well-being.

### ***Self-Compassion Levels in Individuals Playing and Not Playing Violent Digital Games***

When examining the differences in the self-compassion sub-scales, it was found that there is no statistically significant distinction. However, individuals who do not engage in violent digital gaming exhibit significantly higher scores in self-judgment, awareness of sharing, overall awareness, and total self-compassion. Conversely, their scores in the sub-scales of alienation and over-identification are lower compared to those who play violent digital games. Importantly, there is no discernible difference in the levels of self-compassion itself. These findings suggest that as individuals immerse themselves in playing violent digital games, they tend to be more critical of themselves, experience heightened feelings of alienation, and a decrease in their self-compassion. Consequently, it can be inferred that individuals who engage in violent digital gaming may display less self-compassion.

Furthermore, the constant engagement in aggressive and negative tasks within these games might negatively impact their self-perception and overall outlook. Additionally, the competitive nature of violent digital games, centered around the concepts of winning and losing, may influence self-compassion negatively, making individuals less empathetic and kind towards themselves. Surprisingly, it was observed that differences in the other sub-dimensions, except for the sub-dimensions of self-compassion and awareness of sharing, were not statistically significant. This outcome is unexpected because the sub-dimensions of self-compassion typically exhibit opposing characteristics. Therefore, it is somewhat surprising that these opposing dimensions did not yield significant differences in addition to the significant sub-dimensions. It is important to note that there is no existing research that directly relates to these particular results.

### ***Mental well-being results of individuals who play and do not play violent digital games***

In the realm of mental well-being, it was observed that the average scores of individuals who engage in playing violent digital games surpass those of individuals who do not. This outcome signifies that individuals who partake in violent digital gaming tend to exhibit higher levels of mental well-being compared to their non-gaming counterparts. While there is no direct research in the literature addressing this particular matter, numerous researchers (Cole & Griffiths, 2007; Johnson & Gardner, 2010; Taylor, 2003) have conducted studies associating online digital games with emotional and social support opportunities. For instance, Allahverdipour et al. (2010) categorized digital game players into three groups based on their weekly playing time: low, medium, and extreme. Their research revealed that players in the intermediate group exhibited higher levels of psychological well-being compared to the other groups. This finding aligns with the results of the present study, suggesting that individuals who engage in digital games without reaching addictive levels experience higher levels of mental well-being.

Additionally, it can be surmised that playing games, even those with violent themes, during the pandemic period may positively impact the mental well-being

(happiness) of individuals. Such positive effects could be attributed to the temporary release of negative emotions like anger, stemming from pandemic-induced anxiety and frustration, during gameplay. Considering the literature, it appears that features inherent in the nature of digital games, such as active participation in accordance with established rules, support for in-game collaboration and interaction, and the development of strategies tailored to the game's content, are associated with the concept of mental well-being (Sağlam & Topsümer, 2019). Furthermore, noteworthy differences were identified in studies examining digital game addiction and its effects on mental well-being (Derin, 2013).

## Conclusion

The study's findings illuminate a significant relationship between forgiveness and self-compassion, both of which are dependent variables among individuals engaged in playing violent digital games, and their mental well-being. Specifically, an increase in forgiveness and self-compassion corresponds to an increase in mental well-being. Moreover, the results indicate that individuals who do not engage in playing violent digital games also exhibit a similar pattern: an increase in forgiveness, self-compassion, and mental well-being is interlinked among this group. Importantly, while the relationship between these variables proved significant in both groups, the correlation within the group of individuals who did not play violent digital games was notably stronger compared to the other group.

The study further delved into the relationship between the sub-dimensions of self-forgiveness and various aspects of the self-compassion scale, as well as their connection with the mental well-being dimension. The results revealed a positive and significant relationship between self-forgiveness and all sub-dimensions of the self-compassion scale, along with a positive and significant correlation with the mental well-being dimension. However, it's worth noting that there was no significant relationship found between self-forgiveness and the sub-dimensions of forgiveness of others and self-judgment. Nevertheless, positive and significant

relationships were identified between self-forgiveness and sub-dimensions such as isolation, extreme identification, self-compassion, awareness of sharing, consciousness, and mental well-being.

While the existing literature provides limited direct studies on the relationship between self-compassion, forgiveness, and mental well-being, our findings align with previous research. Lawler-Row and Piferi (2006) established a connection between forgiveness and psychological well-being and mental well-being, a result consistent with Eke's (2018) conclusion that there exists a positive and significant relationship between mental well-being and forgiveness scores among young adults. Moreover, Bono, McCullough, and Root (2007) also found a correlation between increased well-being and forgiveness in their research. Notably, Enright and The Human Development Study Group (1991) who developed a forgiveness-promoting intervention program, observed an enhancement in psychological well-being among individuals coping with significant traumas, such as a lack of parental love or exposure to incest. Similarly, Tse and Yip (2009) concluded that forgiveness relates to psychological well-being and interpersonal harmony, aligning with the findings of our study.

In summary, our research findings suggest that an increase in self-compassion, forgiveness (including self-forgiveness, forgiveness of others, and forgiveness related to situational factors), and mental well-being are intertwined. These results are corroborated by previous studies, such as Asıcı and Karaca's (2014) identification of a significant relationship between teacher candidates' forgiveness levels and their self-compassion. Additionally, Skoda's (2011) findings showing a positive relationship between forgiveness of others, self-compassion, and consciousness resonate with our study's outcomes. Another study by Terzioğlu and Çakır (2020) highlighted self-compassion, self-judgment, isolation as predictors of mental well-being and the predictive role of isolation and over-identification dimensions of self-compassion in stress symptoms. Considering the consistency of our results with the existing literature and their implications, it is evident that these findings are in harmony with established knowledge in the field.

### ***Implications***

Based on the results of this study, which explored the relationships between forgiveness, self-compassion, and mental well-being in individuals who engage in violent digital gaming, several recommendations can be made for future research. Firstly, researchers should consider widening the age range of study participants to include both children and adults, employing qualitative and quantitative approaches to comprehensively investigate forgiveness, self-compassion, and mental well-being variables within the context of non-violent digital gaming. This broader age inclusion can provide insights into the development of these psychological constructs across the lifespan, addressing potential age-related differences. Secondly, future investigations can extend their focus to examine the relationships between violent digital game play and various other variables, including demographic factors, to provide a more comprehensive understanding. It is important to account for participants' demographic characteristics, such as age, gender, education, income, and gaming habits, including frequency and duration. This comprehensive approach can help identify potential moderating factors that influence the observed relationships. Furthermore, researchers should diversify their methodologies, incorporating theoretical, cultural, and experimental studies, to enrich our comprehension of the intricate dynamics among forgiveness, self-compassion, and mental well-being. Employing alternative data collection methods, such as observation and interviews, can offer a more holistic perspective and deepen our understanding of the underlying mechanisms. Lastly, exploring the interplay between forgiveness, self-compassion, and mental well-being with a broader range of independent variables, such as parental attitudes, attachment styles, and personality types, can provide deeper insights into these psychological constructs. Understanding how these constructs interact with a wider array of individual differences can help tailor interventions and support strategies for diverse populations, ultimately promoting mental well-being in various contexts.

### ***Declaration of Conflicting Interests***

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Institutional Review Board Statement:** “The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Ethics Committee of Akdeniz University (protocol code 359 and date of 05.09.2023)” for studies involving humans.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study. This research was presented as an oral presentation at the 9th International Conference on Lifelong Education and Leadership For All (ICLEL 2023) held in Coimbra on July 06-08, 2023.

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