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# CONSCIENTIOUSNESS AS A PROTECTIVE FACTOR AGAINST INTERNET GAMING DISORDER IN ADOLESCENTS INVOLVED IN CYBERBULLYING

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## ABSTRACT

*Internet Gaming Disorder (IGD) is a growing phenomenon these days and one of the consistent and well-known factors that raises awareness of this disorder in adolescents is cyberbullying. However, problematic gaming patterns are not found in all adolescents who experience cyberbullying, suggesting that there may be individual differences to buffer this risk. In the current study, the one personality trait examined was conscientiousness as a protective factor for the association between cyberbullying (perpetration and victimization) and IGD among Pakistani adolescents. This study used a cross-sectional correlational design, and the sample comprised 400 adolescents (200 males and 200 females) from Rawalpindi and Chakwal, using purposive sampling. The Revised Cyberbullying Inventory-II measured cyberbullying, the Internet Gaming Disorder Scale-Short Form measured IGD, and the conscientiousness scale of the NovoPsych Five Factor Personality Scale-30 measured conscientiousness. Results revealed that cyberbullying perpetration and victimization both significantly predicted IGD. Moderation analysis using the Hayes PROCESS macro indicated that conscientiousness significantly moderated both relationships, weakening the association between cyberbullying perpetration and IGD as well as between cyberbullying victimization and IGD. Higher scores on conscientiousness were associated with a weaker link between cyberbullying experiences and symptoms related to games among adolescents. These results offer support for the potential role of conscientiousness as protective factor and point to the potential of intervention by promoting self-discipline, organization, and goal-directed behaviour in reducing the risk of cyberbullying experiences turning into problematic gaming among adolescents.*

***Keywords:***

*Cyberbullying, internet gaming disorder, conscientiousness, big five personality, protective factor, adolescents*

## INTRODUCTION

Adolescent online gaming has become widespread, providing children with fun and a connection to other players worldwide. Meanwhile, with the rise of online environments, there have been darker trends in interaction online, and some issues have emerged or gained more focus from researchers and clinicians such as cyberbullying and Internet Gaming Disorder (IGD). Cyberbullying is defined as repeated and deliberate use of digital technology to harm, harass, or demean another person, and is not limited by time or distance, it is perpetrated anonymously. The World Health Organization (WHO) officially added IGD to the ICD-11, a condition included in the DSM-5 that requires further study, and defined compulsive gaming as excessive and compulsive behavior that affects academic, social, and personal functioning (World Health

Organization, 2022). Cyberbullying victims and cyberbullying perpetrators often experience psychological problems, and these problems may lead to heavy gaming among some of these adolescents as a means of coping with negative emotions.

The link between cyberbullying and IGD has been documented in different cultural contexts. The results of Zhang et al. (2024) revealed that college students' victimization of cyberbullying was associated with their Internet gaming addiction, and this relationship was partially mediated by basic psychological needs (BPSN) frustration (Zhang et al., 2024). Likewise, peer victimization has been positively correlated with IGD in studies with adolescents, and this correlation is higher in adolescents whose parents have low parental knowledge (Liang et al., 2021). Furthermore, the study conducted by Gan et al. (2023) revealed a link between parental neglect and cyberbullying perpetration, via cyberbullying victimization and IGD among middle school students in China. This is in line with the notion that cyberbullying places emotional pressure on some adolescents which they have tried to alleviate through immersive gaming.

However, not all youth exposed to cyberbullying will succumb to it and develop IGD—this suggests that individual differences may help to moderate or exacerbate this risk. One source of such individual variation that has been studied consistently is personality traits. Openness, conscientiousness, extraversion, agreeableness, and neuroticism are aspects of stable dispositional tendencies that have been explored with the Big Five framework ( McCrae & Costa, 1997). Of all these traits, conscientiousness, characterized by self-discipline, organization and goal directed behavior, has been consistently found to be protective against maladaptive coping. In a meta-analysis of the five factor model and clinical symptoms, Malouff et al. reported that low conscientiousness was associated with poorly regulated, impulsive behaviour, and that conscientiousness overall was consistently related to lower levels of psychopathology (Malouff et al., 2005). Interestingly, conscientiousness was among the strongest individual-level protective factors identified by a systematic review and meta-analysis of longitudinal studies of IGD which found greater conscientiousness was consistently linked with reduced risk of developing IGD longitudinally (Zhuang et al., 2023).

The conscientiousness factor also seems to influence adolescents' participation in cyberbullying. A recent three-level analysis was conducted that included studies from 2002 to 2024, revealing that there is a negative correlation between conscientiousness and both bullying and victimization, and a positive correlation between neuroticism and both bullying and victimization, though this relationship was slightly weaker for cyberbullying than for traditional bullying (Sun et al., 2025). Vikhman (2023) observed that in a Russian sample of adolescents and young adults, a lack of conscientiousness was the sole personality trait to predict both cyber-victimization and cyberbullying perpetration. Collectively, these findings indicate that there are two aspects of conscientiousness: first, that those who engage in cyberbullying are less likely to do so, and second, that the cyberbullying experience may not manifest as problematic gaming.

The reverse seems to be true for neuroticism. In a meta-analysis of the relationship between broad personality traits and psychological disorders, Kotov et al. (2010) reported that neuroticism was a consistent and strong predictor of vulnerability to anxiety, depression and substance-related disorders, which are disorders with some similarities to behavioural addictions like IGD. This imbalance in conscientiousness and neuroticism is congruent with the General Aggression Model, which states that repeated exposure to aggressive online content elicits negative affect, which is then attempted to be managed, either in a healthy way or in an unhealthy one, such as overuse of games (Anderson & Bushman, 2002). Adolescents with high conscientiousness might have better resources to manage them through planned and disciplined behaviours, while adolescents with high neuroticism might be more likely to be emotionally dysregulated and more susceptible to the rewards of escapist games.

This is complicated further by the fact that there are gender differences. In their cross-cultural study of 55 countries, Schmitt et al. (2008) found that women tend to score higher than men on conscientiousness and agreeableness and this has been suggested as an explanation for

women's lower rates of externalizing and impulse-control problems. This may raise a hypothesis for gender differences in cyberbullying and IGD to be partly explained by conscientiousness.

This study assumes special significance in the Pakistani context. Over the last decade, Internet use and gaming has grown significantly among young people in Pakistan and a significant proportion of the population is under 25 years of age, which means a considerable portion of the population is exposed to high Internet use and developmental vulnerability. Nevertheless, few studies have investigated personality-based protective factors against IGD in Pakistani samples and the majority of research has been on prevalence rates and risk factors instead of protective factors. The present study aimed to fill this gap by exploring conscientiousness as a moderator between cyberbullying (perpetration and victimization) and IGD among Pakistani adolescents.

On the basis of this literature the following two hypotheses were tested in the present study:

Cyberbullying (either as a perpetrator or victim) will be a significant and positive predictor of Internet Gaming Disorder in adolescents.

Conscientiousness will significantly moderate the relationship between cyberbullying and internet gaming disorder, such that higher levels of conscientiousness will weaken the strength of this relationship.

## Method

### Research Design

The study adopted quantitative, cross-sectional correlational design to investigate how cyberbullying is related to Internet Gaming Disorder and to test whether conscientiousness moderated this relationship.

### Participants

The sample consisted of 400 adolescents (200 males and 200 females) representing gender and regional balance in a selected area of Rawalpindi and Chakwal. The participants ranged from middle adolescence (19.5%) to late adolescence (80.5%) and were all active internet gamers. There were two-step purposive sampling procedures. All participants first completed a screening survey to ensure they met the following criteria: age 16 years or older, some level of gaming (at least one hour a day for at least 3 days during the previous week), and frequency of play. The eligible participants then confirmed that they are enrolled in a secondary school, college or university. Other criteria for eligibility were having a personal device with social media access and early gaming experience before the age of 15. The gaming behaviour checklist comprised nine items, with participants having to score "often" or "very often" on six or more, adapted from the DSM-5 criteria for IGD, to ensure that the sample contained adolescents at a meaningful risk of IGD.

**Instruments Demographic Sheet** A brief demographic questionnaire was used to gather data regarding age, gender, schooling, family system, and time spent playing games and preferred type of game.

**The Revised Cyberbullying Inventory-II (RCBI-II).** Cyberbullying was assessed using the 10-item RCBI-II by Topcu and Erdur-Baker (2018), in which each of the 10 items is rated twice using two parallel response columns: 'I did it' for cyberbullying perpetration and 'It happened to me' for cyberbullying victimization. Thus, separate perpetration and victimization scores are obtained, each ranging from 10 to 40. On a 4-point Likert scale ranging from 1 (Never) to 4 (More than 3 times). In the original validation study, the reliability of the victimization and perpetration measures were .80 and .79, respectively (Topcu & Erdur-Baker, 2018).

**Internet Gaming Disorder Scale - Short Form (IGDS9-SF).** IGD symptoms in the past year were assessed with the nine-item scale developed by Pontes and Griffiths (2015) rated on a 5-point scale ranging from 1 (Never) to 5 (Very Often). Total scores are higher, the more likely that a person has disordered gaming. The scale has exhibited a high internal consistency ($\alpha$ = .90) in the past (Pontes & Griffiths, 2015).

**The NovoPsych Five Factor Personality Scale-30 (NFFPS-30).** Conscientiousness was measured using the subscale of the 30 item personality measure developed by Buchanan and Hegarty (2023) relevant to conscientiousness.

The present study was conducted with only the conscientiousness subscale (Items 8, 15, 18, 21, 24, and 27) administered and analysed. Each item is rated on a 5 point scale from 1 (Very Inaccurate) to 5 (Very Accurate). Items 8, 15, 18, 21, and 27 were reverse keyed and these items were scored using the scoring key printed on the original form. Subscale scores range from 6 to 30 with higher scores representing more responsibility, more discipline, and more organization. The internal consistency of the conscientiousness subscale was good in the developmental study (Alpha coefficient = .82, Buchanan & Hegarty, 2023). For the present sample, the alpha for the subscale was .94.

**Procedure**

Ethical approval for the study was obtained from the Institutional Review Board of Riphah International University Purposive sampling method was used to recruit participants from secondary schools, colleges and universities. A screening questionnaire based on DSM-5 criteria was first administered to identify adolescents who were active online gamers and who met the study's inclusion criteria. Eligible participants were then administered the main survey battery in a paper-based, face-to-face administration. Consent was obtained from all participants who were told the purpose of the investigation and that they had the right to discontinue the investigation at any time without penalty. The confidentiality of responses was respected during the data collection, data storage, and data analysis process.

**Data Analysis**

IBM SPSS (version 27) was used for data analysis. The sample characteristics were summarized by descriptive statistics and the reliability was confirmed by internal consistency analysis, both of which showed values above 0.70, the threshold generally accepted (Ursachi et al., 2015). Bivariate correlation was conducted to explore the relationship between cyberbullying, conscientiousness, and IGD; and linear regression was used to explore whether the perpetration of cyberbullying and victimization predicted IGD. The moderating effect of conscientiousness was assessed using the Hayes PROCESS macro that can estimate the direct effect of cyberbullying on IGD and the conditional effect of this association at different levels of conscientiousness.

**Results**

In total, 400 adolescents (200 males and 200 females) aged between 16 and 21 (middle and late adolescence) were selected. Table 1 shows the demographic characteristics of the sample, such as education, city of residence and gaming habits. Similarly, Table 2 shows that all variables demonstrated acceptable reliability and approximately normal distributions. All the study variables were found to satisfy the assumptions for the correlation, regression and moderation analysis, after the preliminary analyses.

As shown in Table 3, there was a significant positive correlation between Internet Gaming Disorder and cyberbullying perpetration ($r = .40$, $p < .01$) and cyberbullying victimization ($r = .52$, $p < .01$), as well as a significant negative correlation between Internet Gaming Disorder and conscientiousness ($r = -.65$, $p < .01$). Perpetration of cyberbullying was significantly negatively associated with conscientiousness ($r = -.32$, $p < .01$), with adolescents lower in conscientiousness reporting higher levels of involvement as cyberbullies. Similarly, cyberbullying victimization was significantly negatively correlated with conscientiousness ($r = -.68$, $p < .01$), such that higher scores on conscientiousness were related to lower cyberbullying perpetration and victimization scores.

**Cyberbullying as a Predictor of Internet Gaming Disorder**

Table 4 shows that cyberbullying perpetration was a significant predictor of IGD, $\beta = .40$, $p < .001$, accounting for 16% of the variance in IGD scores ($R^2 = .16$), using regression analysis. As can be seen in Table 5, Cyberbullying victimization was a significantly stronger predictor ($\beta = .52$, $p < .001$, $R^2 = .27$, explaining 27% of the variance) than the other variables. IGD scores were found to be significantly higher per each one-unit increase in cyberbullying perpetration scores ($B = .72$, $SE = .08$, $p < .001$), and in cyberbullying victimization scores ($B = .62$, $SE = .05$, $p < .001$). These findings support the first hypothesis, indicating that both cyberbullying perpetration and victimization are

significant positive predictors of Internet Gaming Disorder.

**Moderating Role of Conscientiousness**

The negative interaction effect indicated that increasing levels of conscientiousness weakened the positive association between cyberbullying perpetration and IGD. Interactions accounted for an additional 3% of the variance in IGD ($\Delta R^2$ = .03, $p < .001$). Gender, entered as a covariate, was not a significant predictor of IGD ($p = .29$).

Another buffering effect of conscientiousness was seen for the link between cyberbullying victimization and IGD (Table 7), $B = -.017$, $\beta \approx -.08$, $p = .032$, 95% CI [−.033, −.002]. An extra .7% of the variance ($\Delta R^2$ = .007) was explained by the interaction. Thus, as conscientiousness increased, the positive association between cyberbullying victimization and IGD became weaker. Gender was again nonsignificant ($p = .41$).

Adolescents with high conscientiousness had weaker relationships between cyberbullying involvement and IGD symptoms as compared to those with low conscientiousness. Consequently, conscientiousness buffered against the effects of cyberbullying victimization and cyberbullying perpetration in both moderation models, with the buffering effect being stronger for cyberbullying perpetration than for cyberbullying victimization. These results support the second hypothesis..

**Discussion**

The current study examined whether conscientiousness moderated the relationship between cyberbullying (perpetration and victimization) and Internet Gaming Disorder (IGD) among Pakistani adolescents. Both hypotheses were supported. However, because the design was cross-sectional, these findings should be interpreted as associations rather than causal relationships; the direction of influence among cyberbullying, conscientiousness, and IGD cannot be established from these data.

Consistent with Hypothesis 1, both cyberbullying perpetration and cyberbullying victimization were significant positive predictors of IGD, with victimization emerging as the stronger predictor. This pattern is consistent with prior research linking both forms of cyberbullying involvement to problematic gaming (Vikhman, 2023; Zhang et al., 2024). One possible explanation is that some adolescents who are bullied online turn to gaming as a way of managing distress, while some adolescents who bully others online may already show lower self-regulation and higher impulsivity, both of which have been associated with disordered gaming (Şalvarlı & Griffiths, 2022). However, the present data cannot distinguish between these mechanisms, since neither coping motives nor impulsivity was directly measured.

Consistent with Hypothesis 2, conscientiousness significantly moderated both relationships: the association between cyberbullying and IGD was weaker among adolescents higher in conscientiousness. The buffering effect was stronger for cyberbullying perpetration than its cyberbullying victimization counterpart, however, as evidenced by the larger increase in explained variance in the cyberbullying perpetration model ($\Delta R^2$ = .03) versus the cyberbullying victimization model ($\Delta R^2$ = .007). This pattern indicates that conscientiousness may have a dampening effect on the relationship between cyberbullying involvement and problematic gaming. However, this is an associative rather than causal interpretation, because of the cross-sectional design of the study. This finding is consistent with longitudinal evidence identifying conscientiousness as one of the more reliable protective factors against IGD. In a synthesis of 39 longitudinal studies, Zhuang et al. (2023) identified conscientiousness, alongside self-control, as among the strongest intrapersonal protective factors against IGD. The present findings extend this work by suggesting that conscientiousness was associated not only with lower IGD overall but also with a weaker link between cyberbullying and IGD specifically, indicating that adolescents higher in conscientiousness may be less likely to use gaming to cope with cyberbullying experiences. Given the cross-sectional design, this interpretation remains associational rather than causal.

One plausible mechanism concerns the discipline and goal orientation central to conscientiousness. In a meta-analysis of the five-factor model and clinical symptoms, Malouff et al. (2005) found that low conscientiousness was

associated with poorly regulated, impulsive behaviour, and that conscientiousness overall was consistently related to lower levels of psychopathology, consistent with the idea that conscientious individuals tend to respond to stress in a planned, rule-following manner rather than an impulsive one. According to the General Aggression Model, cyberbullying experiences generate negative affect that some adolescents attempt to manage through gaming (Anderson & Bushman, 2002). Recent studies further suggest that self-control is negatively correlated with problematic gaming in adolescents and emerging adults, and the overall effect size from a meta-analysis of the studies is r = −.29 (Hu et al., 2025). Adolescents with high conscientiousness are, therefore, more likely to have the ability to control their behaviour and keep to their schedules, which can help them to moderate their gaming behaviours to cope with stressful online experiences. This explanation is tentative, though, because coping strategies and emotion regulation were not directly assessed in the present study.

The results also relate to research examining conscientiousness and involvement in cyberbullying more broadly. Lower conscientiousness has previously been associated with both cyberbullying perpetration and victimization (Vikhman, 2023; Sun et al., 2025), and the present study showed negative correlations between conscientiousness and both cyberbullying perpetration (r = −.32) and cyberbullying victimization (r = −.68). According to it, adolescents who scored higher on conscientiousness indicated less involvement in either form of cyberbullying. Beyond its moderating role, conscientiousness may therefore be relevant at two levels: as a correlate of lower involvement in cyberbullying and as a factor that weakens the link between cyberbullying involvement and IGD.

Gender was included as a covariate in both moderation models. Gender was not a significant predictor in either the cyberbullying perpetration model (p = .29) or the cyberbullying victimization model (p = .41), indicating that the moderating effect of conscientiousness remained significant after controlling for gender. But gender was not included as an interaction moderator in these models. Future studies may investigate whether the buffering effect of conscientiousness is moderated by gender by formally testing a three-way and/or gender-specific conscientiousness moderation model.

**Implications**

The results have practical significance for schools, families, mental health professionals and other professionals who serve adolescents. Cyberbullying experiences are associated problematic gaming patterns, and programs that increase conscientiousness-related skills (e.g., goal setting, self-monitoring, and structured time management) could lower the risk of problematic gaming patterns developing. Self-regulation and organizational skill development may be integrated into the current digital literacy and anti-bullying education, instead of being standalone programs. Finally, mental health practitioners working with adolescents who report involvement in cyberbullying might consider incorporating conscientiousness as a component of a more comprehensive risk formulation for IGD.

**Limitations and Future Directions**

The results of this study must be viewed in light of the following limitations. However, causal inferences about the direction of the relationships observed are not possible due to the cross-sectional design employed. Longitudinal designs would help elucidate whether conscientiousness is a predictor of the onset of IGD over time or if there is a decrease in conscientiousness among adolescents with early gaming problems. The data were collected from two cities of Pakistan which might restrict the generalization for the adolescents in other geographical areas and cultural backgrounds. Future research should explore gender as a moderator, to see if the buffering effect of conscientiousness is applicable to both men and women adolescents. The data were also self-reported, which might be susceptible to social desirability and/or recall bias. To conclude, future research could incorporate other protective factors (e.g., self-control, social support) along with conscientiousness, and explore whether these protective factors are present for each cyberbullying subcategory and across various platforms.

## Conclusion

This study revealed that there was a significant relationship between the involvement in cyberbullying with Internet Gaming Disorder among Pakistani adolescents and there was also significant moderation of the relationship between cyberbullying involvement and gaming related symptoms by conscientiousness. The results suggest that conscientiousness is a relevant protective factor and highlight potential intervention strategies aimed at fostering discipline, organization and self-regulation in the lives of adolescents, which may diminish the vulnerability that they may show after a cyberbullying event.

## AI Disclosure Statement

The research ideas, hypotheses, and data reported in this article were not created using artificial intelligence (AI) tools but are based on the author's original thesis research. This manuscript was drafted, structured, and edited for readability and literature search/reference by the author itself. All statistical results, interpretations, and conclusions were reviewed and approved by the author.

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**Table 1 Demographic Characteristics of Participants (N = 400)**

| Categories | f | % |
|---|---|---|
| **Age** | | |
| Middle Adolescence | 78 | 19.5% |
| Late Adolescence | 322 | 80.5% |
| **Gender** | | |
| Male | 200 | 50.0% |
| Female | 200 | 50.0% |
| **Educational Level** | | |
| Secondary | 116 | 29.0% |
| Intermediate | 128 | 32.0% |
| Graduate | 156 | 39.0% |
| **City** | | |
| Chakwal | 200 | 50.0% |
| Rawalpindi/Islamabad | 200 | 50.0% |

| | | |
|---|---|---|
| Other | 0 | 0% |
| **Daily Gaming** | | |
| Less than 30 min | 101 | 25.3% |
| 1-2 hr | 97 | 24.3% |
| 3-4 hr | 103 | 25.8% |
| More than 5 hr | 99 | 24.8% |
| **Weekly Gaming** | | |
| Less than 5 hr | 85 | 21.3% |
| 5-10 hr | 111 | 27.8% |
| 11-20 hr | 111 | 27.8% |
| More than 20 hr | 93 | 23.3% |
| **Gaming Frequency** | | |
| Everyday | 39 | 9.8% |
| Almost everyday | 72 | 18.0% |
| Several times a week | 129 | 32.3% |
| Several times a month | 83 | 20.8% |
| Several times a year | 38 | 9.5% |
| Rarely | 39 | 9.8% |
| **Start Age** | | |
| 5 years old or younger | 37 | 9.3% |
| Between 6 and 11 years old | 133 | 33.3% |
| Between 12 and 13 years old | 104 | 26.0% |
| Between 14 and 15 years old | 126 | 31.5% |

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**Note: f = Frequency, % = Percentage**

**Table 2 Psychometric properties of Cyberbullying, internet gaming disorder and Conscientiousness (N = 400)**

| Variables | K | M | SD | α | Range | | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|---|
| | | | | | Actual Range | Potential Range | | |
| Cyberbullying Perpetration | 10 | 26.39 | 3.25 | .78 | 17-35 | 10-40 | -.06 | .35 |
| Cyberbullying Victimization | 10 | 27.00 | 5.88 | .75 | 13-40 | 10-40 | -.24 | -.17 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Internet Gaming Disorder | 9 | 33.20 | 6.48 | .77 | 9-45 | 9-45 | .03 | -.58 |
| Conscientiousness | 6 | 18.16 | 5.13 | .94 | 6-30 | 6-30 | -.04 | -.34 |

**Note**: K = number of items, M= Mean, SD = Standard deviation, α = Cronbach's alpha, RCBI-II = Cyberbullying perpetration and cyberbulying victimization, Actual range represents observed scores and Potential range indicate theoretical range basedthe scale items. Skewness and Kurtosis are within the acceptable range of ± 1, indicating normal distribution.

**Table 3 Correlation Analysis of Cyberbullying, Internet Gaming Disorder, and Conscientiousness (N = 400)**

| Variables | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Internet Gaming Disorder | – | .40** | .52** | -.65** |
| 2. Cyberbullying Perpetration | | – | .53** | -.32** |
| 3. Cyberbullying Victimization | | | – | -.68** |
| 4. Conscientiousness | | | | – |

**p < .01.

**Table 4 Linear Regression Analysis for Prediction of Internet Gaming Disorder from Cyberbullying Perpetration (N = 400)**

| Variables | B | SE | β | F | t | p | $R^2$ |
|---|---|---|---|---|---|---|---|
| Constant | 14.17 | 2.19 | | | 6.45 | < .001 | |
| Cyberbullying Perpetration | .72 | .08 | .40 | 76.30 | 8.76 | < .001 | **.16** |

**Note.** B = Beta, SE= Standard Error, *= Significance level, CI = Confidence Interval

**Table 5 Linear Regression Analysis for Prediction of Internet Gaming Disorder from Cyberbullying Victimization (N = 400)**

| Variables | B | SE | β | F | t | p | $R^2$ |
|---|---|---|---|---|---|---|---|
| Constant | 16.46 | 1.38 | | | 11.86 | < .001 | |
| Cyberbullying Victimization | .62 | .05 | .52 | 152.52 | 12.35 | < .001 | .27 |

**Note.** B = Beta, SE= Standard Error, *= Significance level, CI = Confidence Interval

**Table 6 Moderation Effect of Conscientiousness Between Cyberbullying Perpetration and Internet Gaming Disorder (N = 400)**

| | | | | | CI 95% | |
|---|---|---|---|---|---|---|

| Predictors | B | β | P | LL | UL |
|---|---|---|---|---|---|
| Constant | 32.17 | - | < .001 | 30.67 | 33.57 |
| Cyberbullying Perpetration (CBP) | .42 | .20 | < .001 | .29 | .56 |
| Conscientiousness | -.64 | -.54 | < .001 | -.88 | -.44 |
| CBP X Conscientiousness (Interaction) | -.05 | -.15 | < .001 | -.08 | -.03 |
| Gender (Covariates) | .52 | .04 | .29 | -.39 | 1.42 |
| $R^2$ | .49*** | | | | |
| $\Delta R^2$ | .03*** | | | | |
| F | 94.94*** | | | | |

**Note**: IV = Cyberbullying Perpetration, Moderator = Conscientiousness , DV= Internet Gaming Disorder, B = unstandardized coefficient, β = standardized coefficient, CI = confidence interval, LL = lower limit, UL = upper limit, CBP = cyberbullying perpetration ***p < .001.

**Figure 1**

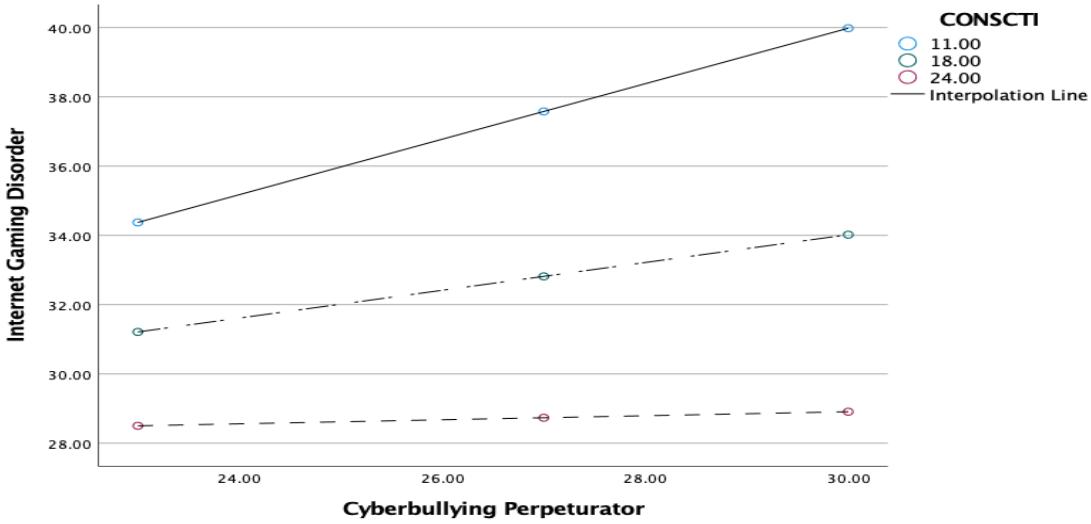



**Figure 1 shows the Interaction Effect of Cyberbullying Perpetration and Conscientiousness on Internet Gaming Disorder.**

**Table 7 Moderation Effect of Conscientiousness Between Cyberbullying Victimization and Internet Gaming Disorder (N = 400)**

| Predictors | B | β | P | CI 95% LL | CI 95% UL |
|---|---|---|---|---|---|
| Constant | 28.69 | - | < .001 | 18.38 | 39.01 |
| Cyberbullying Victimization (CBV) | .51 | .44 | < .001 | .19 | .84 |
| Conscientiousness | -.11 | -.09 | .62 | -.59 | .35 |
| CBV X Conscientiousness (Interaction) | -.017 | -.08 | .03 | -.03 | -.002 |
| Gender (Covariate) | .39 | .03 | .41 | -.56 | 1.35 |
| $R^2$ | .44 | | | | |
| $\Delta R^2$ | .007 | | | | |
| F | 77.71*** | | | | |

**Note**: IV = Cyberbullying Victimization, Moderator = Conscientiousness, DV= Internet Gaming Disorder, B = unstandardized coefficient, β = standardized coefficient, CI = confidence interval, LL = lower limit, UL = upper limit, CBV = cyberbullying victimization. ***p < .001 (overall model F only). The interaction term was significant at p = .03.

**Figure 2**

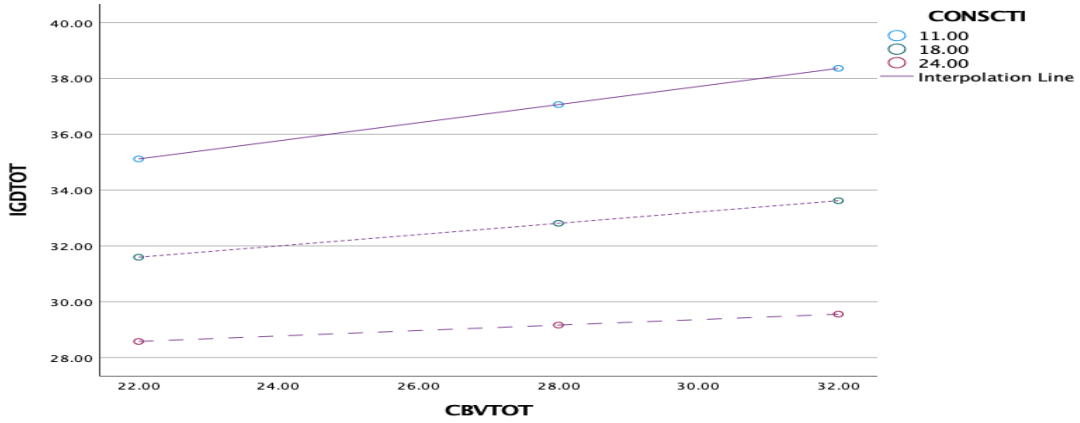



**Figure 2 shows the Interaction Effect of Cyberbullying Victimization and Conscientiousness on Internet Gaming Disorder**