

**Chan, G.C.K. et al.: The Gaming Disorder Identification Test (GADIT) - A screening tool for
Gaming Disorder based on ICD-11**

<https://doi.org/10.1556/2006.2024.00038>

Supplementary Materials

Supplementary Material 1.

List of initial Gaming Disorder items

Now, we have a group of questions which ask about your involvement with video games and about certain experiences you may have had. Please select the answer that best corresponds with your experiences **over the past three months.**

	Every day	Most days	Some days	Rarely	Never
How often have you spent playing video games longer than you intended?	☐	☐	☐	☐	☐
How often have you played video games more frequently than you intended?	☐	☐	☐	☐	☐
How often have you continued to play video games, despite intending to stop?	☐	☐	☐	☐	☐
How often do you find it hard to stop playing video games even when friends or family call you away or you have to go somewhere?	☐	☐	☐	☐	☐
How often when playing video games do you find it difficult to stop?	☐	☐	☐	☐	☐
How often have you been unable to control the amount of time you spend playing video games?	☐	☐	☐	☐	☐
How often have you been unable to reduce time spent playing video games, even when others repeatedly asked you to play less?	☐	☐	☐	☐	☐
How often have you started playing video games even when family or friends asked you to do something else with them?	☐	☐	☐	☐	☐
How often do you find it hard to stop playing video games even when there are other things you could or should be doing?	☐	☐	☐	☐	☐
How often have you not been able to stop playing video games even when you have spent a lot of time doing so already?	☐	☐	☐	☐	☐
How often have you felt you play video games too frequently?	☐	☐	☐	☐	☐
How often has anyone else said you have difficulty controlling your gaming (regardless of whether you agreed with them or not)?	☐	☐	☐	☐	☐
How often have you spent more money than you intended or could afford on video games?	☐	☐	☐	☐	☐
How often have you tried to reduce the time spent playing video games but not succeeded?	☐	☐	☐	☐	☐
How often have you put effort into reducing time playing video games but failed?	☐	☐	☐	☐	☐
How often have you made unsuccessful attempts to control, cut down or cease playing video games?	☐	☐	☐	☐	☐

Now, we have a group of questions which ask about your involvement with video games and about certain experiences you may have had. Please select the answer that best corresponds with your experiences **over the past three months.**

How often have others unsuccessfully reduced your involvement with video games?

How often have you wished to cut down on playing video games?

How often do you have an uncontrollably strong desire to play video games?

How often do you find it really hard not to think about video games when doing other things?

How often do you have strong urges to play video games that you cannot resist?

How often do you have difficulty getting the thought of video gaming out of your mind?

Every day

Most days

Some days

Rarely

Never

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Now we have some questions about the impact of video gaming on other activities. Please select the answer that best corresponds with your experiences over the past 12 months. Please answer the questions as best you can.	Every day	Most days	Some days	Rarely	Never	Not Applicable
How often have you forgotten or neglected important friendships in order to play video games?	☐	☐	☐	☐	☐	☐
How often have you forgotten or neglected school, college, or other educational activities in order to play video games?	☐	☐	☐	☐	☐	☐
How often have you forgotten or neglected other hobbies in order to play video games?	☐	☐	☐	☐	☐	☐
How often have you forgotten or neglected home tasks and responsibilities in order to play video games?	☐	☐	☐	☐	☐	☐
How often have you forgotten or neglected your paid work to play video games?	☐	☐	☐	☐	☐	☐
How often have you forgotten or neglected your family because you were playing video games?	☐	☐	☐	☐	☐	☐
How often have you been late for school, college, or work because you were playing video games?	☐	☐	☐	☐	☐	☐
How often have you forgotten or neglected your friends because you were playing video games?	☐	☐	☐	☐	☐	☐
How often have you lost interest or reduced participation in hobbies or meeting up with friends because you were playing video games?	☐	☐	☐	☐	☐	☐
How often have you been at risk of losing an important relationship because of playing video games?	☐	☐	☐	☐	☐	☐
How often have you spent less time with friends, your partner or family in order to play video games?	☐	☐	☐	☐	☐	☐
How often have you risked losing a job or opportunity because of playing video games?	☐	☐	☐	☐	☐	☐
How often have you experienced that playing video games is the first thing that comes to your mind when you wake up from sleep?	☐	☐	☐	☐	☐	☐
How often are you so immersed in video games that you forget to eat?	☐	☐	☐	☐	☐	☐
How often have you neglected your own health because of playing video games (for example not getting enough sleep, showering less, failing to brush teeth, drinking insufficient fluids)?	☐	☐	☐	☐	☐	☐

Now we have some questions about the impact of video gaming on other activities. Please select the answer that best corresponds with your experiences **over the past 12 months**. Please answer the questions as best you can.

How often has your enjoyment of other activities been less than previously because of your playing video games?

Every day

Most days

Some days

Rarely

Never

Not Applicable

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These questions are about the impact of your video gaming on other activities. Please select the answer that best corresponds with your experiences over the past 12 months. Please answer the questions as best you can.	Every day	Most days	Some days	Rarely	Never	Not Applicable
How often have you continued playing video games despite knowing it was causing problems between you and other people?	☐	☐	☐	☐	☐	☐
How often have you continued to play video games despite knowing it was causing problems at school, college, study, or work?	☐	☐	☐	☐	☐	☐
How often have you continued to play video games despite it adversely affecting your health (for example, shoulder pain, poor vision)?	☐	☐	☐	☐	☐	☐
How often have you played video games even though you knew this was causing problems with your family or friends?	☐	☐	☐	☐	☐	☐
How often have you continued to play games even though you were aware of not getting enough sleep?	☐	☐	☐	☐	☐	☐
How often have you continued to play games even though you were aware of being late for school or work?	☐	☐	☐	☐	☐	☐
How often have you continued to play games even though you were aware of spending too much money?	☐	☐	☐	☐	☐	☐
How often have you continued to play games even though you were having arguments with others about your gaming?	☐	☐	☐	☐	☐	☐
How often have you continued to play video games despite issues with your friendships, your family, study (at school or elsewhere), or work because of your gaming?	☐	☐	☐	☐	☐	☐

Now, we have a group of questions which ask about your involvement with video games and about certain experiences you may have had. Please select the answer that best corresponds with your experiences **over the past three months**.

	Yes	No
Has video gaming got you into trouble in school, college, study, or work?	☐	☐
Has video gaming caused serious problems with school, college, study, or work?	☐	☐
Has video gaming negatively affected your work or home duties?	☐	☐
Has video gaming caused significant distress because of financial losses?	☐	☐
Have you argued with parents, relatives or friends because you were spending a lot of time playing video games?	☐	☐
Have you risked or lost an important relationship or friendship because of playing video games?	☐	☐
Has your involvement in video games caused problems in your relationship with your partner, friends, or family?	☐	☐
Has your social life (real life or off-line life) suffered because you were playing video games?	☐	☐
Has playing video games prevented you from eating regular meals?	☐	☐
Has playing video games for most of the night made you feel tired during the day?	☐	☐
Has playing video games caused significant distress (for example guilt, anxiety, annoyance, or depression) for you?	☐	☐
Has playing video games caused significant mental stress for someone close to you?	☐	☐
Has your mental health been negatively affected by playing video games (for example, feeling anxious, sad or irritable)?	☐	☐
Has your sleep been negatively affected by playing video games (for example, having trouble getting to sleep or staying asleep)?	☐	☐
Have you experienced physical problems (for example, headache, neck stiffness, back pain, fatigue) because of playing video games?	☐	☐
Have you experienced changes in your appetite or weight due to playing video games?	☐	☐

Now, we have a group of questions which ask about your involvement with video games and about certain experiences you may have had. Please select the answer that best corresponds with your experiences **over the past three months**.

	Yes	No
Have you experienced any decrease in your self-care, hygiene or appearance?	☐	☐
Nothing else interests me apart from playing video games.	☐	☐
I have nothing else to do besides playing video games.	☐	☐
I have no hobbies other than video gaming.	☐	☐
Video gaming has become the most time-consuming activity in my life.	☐	☐

Supplementary Table 1. Factor loading from the confirmatory factor analyses.

	Validation set			University sample								
	In original measure scale		R ²	All binary		In original measurement scale		All binary		Estimate	SE	
	Estimate	SE		Estimate	SE	Estimate	SE	Estimate	SE			
How often have you been unable to reduce time spent playing video games, even when others repeatedly asked you to play less?	-	-	0.865	-	-	0.838	-	-	0.579	-	-	0.618
How often has anyone else said you have difficulty controlling your gaming (regardless of whether you agreed with them or not)?	1.029	0.015	0.917	1.02	0.041	0.871	1.077	0.047	0.672	1.115	0.094	0.768
How often have you been at risk of losing an important relationship because of playing video games?	0.93	0.026	0.749	0.914	0.066	0.700	1.088	0.054	0.685	1.162	0.095	0.834
How often are you so immersed in video games that you forget to eat?	0.916	0.025	0.727	0.92	0.061	0.709	0.724	0.054	0.303	0.933	0.09	0.538
How often have you continued to play video games despite it adversely affecting your health (for example, shoulder pain, poor vision)?	0.968	0.02	0.810	1.035	0.036	0.898	0.829	0.05	0.398	1.136	0.095	0.797
How often have you played video games even though you knew this was causing problems with your family or friends?	0.974	0.019	0.821	0.992	0.042	0.824	1.156	0.048	0.774	0.942	0.098	0.548
Nothing else interests me apart from playing video games.	0.835	0.063	0.603	0.821	0.081	0.565	0.83	0.108	0.398	0.823	0.125	0.419
Has playing video games caused significant mental stress for someone close to you?	0.853	0.063	0.629	0.79	0.08	0.522	0.95	0.073	0.522	0.839	0.1	0.434

Supplementary Table 2. List of existing scales considered in this paper.

English scale	
Addiction-Engagement Questionnaire (A-EQ)	(Charlton & Danforth, 2007)
Assessment of Internet and Computer Game Addiction Scale (AICA-S)	(Wölfling et al., 2012)
Behavioral Addiction Measure for Video Gaming (BAM-VG)	(Sanders & Williams, 2016)
Clinical Video game Addiction Test 2.0 (C-VAT 2.0)	(van Rooij et al., 2017)
Video Game Dependency Scale (CSAS)	(Rehbein et al., 2015)
Diagnostic Interview for Internet Addiction (DIA)	(Oh et al., 2017)
Game Addiction Identification Test (GAIT)	(Vadlin et al., 2015)
Game Addiction Inventory for Adults (GAIA)	(Wong & Hodgins, 2014)
Game Addiction Scale (GAS-7)	(Lemmens et al., 2009)
Game Addiction Scale-21 (GAS-21)	(Lemmens et al., 2009)
Internet Gaming Disorder-20 (IGD-20)	(Pontes et al., 2014)
Internet Gaming Disorder Scale - Short Form (IGDS9-SF)	(Pontes & Griffiths, 2015)
Internet Gaming Disorder Test-10 (IGDT-10)	(Király et al., 2017)
Internet Game Use-Elicited Symptom Screen (IGUESS)	(Jo et al., 2016)
Internet Gaming Disorder Scale (IGD-9 Scale; Lemmens)	(Lemmens et al., 2015)
Internet Gaming Disorder Scale (IGD-27 Scale; Lemmens)	(Lemmens et al., 2015)
Petry IGD	(Petry et al., 2014)
Personal Internet Gaming Disorder Evaluation-9 (PIE-9)	(Pearcy et al., 2016)
Problematic Online Game Use (POGU)	(Kim & Kim, 2010)
Problematic Online Gaming Questionnaire (POGQ)	(Demetrovics et al., 2012)
Problematic Online Gaming Questionnaire - Short Form (POGQ-SF)	(Pápay et al., 2013)
Problematic Video game Playing scale (PVP)	(Tejeiro Salguero & Morán, 2002)
Structured Clinical Interview - Internet Gaming Disorder (SCI-IGD)	(Koo et al., 2017)
Short Internet Addiction Test-Gaming (s-IATgaming)	(Pawlikowski et al., 2013)
Videogame Addiction Scale for Children (VASC)	(Yilmaz et al., 2017)
Videogame Addiction Test (VAT)	(van Rooij et al., 2012)
Compulsive Internet Use Scale (CIUS-14)	(Meerkerk et al., 2009)
Young Internet Addiction Test - 20 (YIAT20)	(Young, 2016)
Young Internet Addiction Diagnostic Questionnaire (YIADQ8)	(Young, 2016)
Non-English scale	
Fragebogen zum Computerspielverhalten bei Kindern (CSVK)	(Thalemann et al., 2004)
Symptomkomplex psychopathologischen Computerspielverhaltens (CSVK-R)	(Wolfling & Muller, 2009)
Skala zum Computerspielverhalten bei Kindern und Jugendlichen (CSVK-S)	(Wolfling & Muller, 2009)
Test of Dependence of Videogames (TDV)	
Questionnaire of Experiences Associated with Video games (CERV)/	(Chamarro et al., 2014)
Questionnaire of Experiences Related to Video games (CERV)/	(Chamarro et al., 2014)
Video Game-Related Experiences Questionnaire (CERV)	(Chamarro et al., 2014)

Cuestionario de Adicción a Internet y a los Videojuegos para Adolescentes	(Chahin-Pinzon & Brinez, 2018)
[Internet and Videogames Addiction Questionnaire for Adolescents] (which takes questions directly from the MULTICAGE CAD-4)	(Chahin-Pinzon & Brinez, 2018)
Questionnaire de mesure de l'intensité des conduites addictives (QMICA) pour jeux video	(Décamps et al., 2010)
/ Addictive Intensity Evaluation Questionnaire (AIEQ) for video-games (or AIE-Q)	(Décamps et al., 2010)
Massively multiplayer online game addiction	(Lee et al., 2015)
Itemkennwerte der Computerspiel-abhängigkeitsskala KFN-CSAS-II	(Rehbein et al., 2010)
Online Game Addiction Index (OGAI)	(Zhou & Li, 2009)
Online Game Cognitive Addiction Scale (OGCAS)	(Li et al., 2008)
Problematic Game Use Scale	(Lee & Kim, 2015)
Computer Game Addiction Scale for college students (CGAS-C)	(Liu, 2007)
Adolescent Online Game Experience Scale (AOGES) / Youth Online Game Experience Scale	(Zhang & Lei, 2015)
Indonesian Online Game Addiction Questionnaire	(Jap et al., 2013)
Computer Gaming Addiction Scale for Children	(Horzum et al., 2008)
Digital Game Addiction Scale for Children	(Hawi et al., 2019)

- Charlton, J. P., & Danforth, I. D. (2007). Distinguishing addiction and high engagement in the context of online game playing. *Computers in Human Behavior*, 23(3), 1531-1548.
- Chamarro, A., Carbonell, X., Manresa, J. M., Monoz-Miralles, R., & Ortega-Gonzalez, R. (2014). The questionnaire of experiences associated with video games (Cerv): An instrument to detect the problematic use of video games in Spanish adolescents. *Palma de Mallorca*, 26(4).
- Chahin-Pinzon, N., & Brinez, B. L. (2018). Psychometric Properties of the Internet and Videogames Addiction Questionnaire for Adolescents. *Universitas Psychologica*, 17(4), 1-13.
- Décamps, G. Battaglia, N., & Idier, L. (2010). Elaboration of the Addictive Intensive Evaluation Questionnaire (AIEW): Evaluation of addictive behaviours and co-addictions with or without substances. *Psychologie Française*, 55(4), 279-294.
- Demetrovics, Z., Urbán, R., Nagygyörgy, K., Farkas, J., Griffiths, M. D., Pápay, O., Kökönyei, G., Felvinczi, K., & Oláh, A. (2012). The development of the problematic online gaming questionnaire (POGQ). *PLoS One*, 7(5), e36417.
- Hawi, N. S., Samaha, M. & Griffiths, M. D. (2019). The digital addiction scale for children: Development and validation. *Cyberpsychology, Behavior, and Social Networking*, 22(12), 771-778.
- Horzum, M. B., Aras, T., & Balta, O. C. (2008). Computer game addiction scale for children. *Turkish Psychological Counselling and Guidance Journal*, 3(30), 76-88.
- Jap, T., Tiatri, S., Jaya, E. S., & Suteja, M. S. (2013). The development of Indonesian online game addiction questionnaire. *PLOS ONE*, 8(4), e61098.
- Jo, S.-J., Lee, H.-K., Yom, H. W., Jeong, H., Baek, K. Y., & Kim, E. (2016). PO-12: Diagnostic validity of an internet gaming disorder screening tool: Internet game use-elicited symptom screen (IGUESS). *Journal of Behavioural Addictions*, 5(S1).
- Kim, M. G., & Kim, J. (2010). Cross-validation of reliability, convergent and discriminant validity for the problematic online game use scale. *Computers in Human Behavior*, 26(3), 389-398.
- Király, O., Slezcka, P., Pontes, H. M., Urbán, R., Griffiths, M. D., & Demetrovics, Z. (2017). Validation of the ten-item Internet Gaming Disorder Test (IGDT-10) and evaluation of the nine DSM-5 Internet Gaming Disorder criteria. *Addictive Behaviors*, 64, 253-260.

- Koo, H. J., Han, D. H., Park, S.-Y., & Kwon, J.-H. (2017). The structured clinical interview for DSM-5 internet gaming disorder: Development and validation for diagnosing IGD in Adolescents. *Psychiatry Investigation*, 14(1), 21-29.
- Lee, Z. W. Y., Cheung, C. M. K., & Chan, T. K. H. (2015). Massively multiplayer online game addiction: Instrument development and validation. *Information & Management*, 52(4), 413-430.
- Lee, C. & Kim, O. (2015). Predictors of online game addiction among Korean adolescents. *Addiction Research & Theory*, 25(1), 58-66.
- Lemmens, J. S., Valkenburg, P. M., & Gentile, D. A. (2015). The internet gaming disorder scale. *Psychological Assessment*, 27(2), 567-582.
- Lemmens, J. S., Valkenburg, P. M., & Peter, J. (2009). Development and validation of a game addiction scale for adolescents. *Media psychology*, 12(1), 77-95.
- Li, H., Wang, J., & Wang, L. (2008). The difference of mental health levels and personality traits between Internet social addition and Internet game addition in college students (in Chinese). *Chinese Journal of Clinical Psychology* 16(4) 413-416.
- Liu, H. (2007). Development of computer game addiction scale for college students. *Chinese Mental Health Journal*, 21(1), 36.
- Meerkerk, G.-J., Ven Den Eijnden, R. J. J. M., Vermulst, A. A., & Garretsen, H. F. L. (2009). The compulsive internet use scale (CIUS): Some psychometric properties. *CyberPsychology and Behavior*, 12(1), 1-6
- Oh, S., Bhang, S.-Y., & Kweon, Y.-S. (2017). SH-15: Development and validation of Semi-structured diagnostic interview for internet addiction (DIA) scale. *Journal of Behavioral Addictions*, 6(S1).
- Pápay, O., Urbán, R., Griffiths, M. D., Nagygyörgy, K., Farkas, J., Kökönyei, G., Felvinczi, K., Oláh, A., Elekes, Z., & Demetrovics, Z. (2013). Psychometric properties of the problematic online gaming questionnaire short-form and prevalence of problematic online gaming in a national sample of adolescents. *Cyberpsychology, Behavior, and Social Networking*, 16(5), 340-348.
- Pawlikowski, M., Altstötter-Gleich, C., & Brand, M. (2013). Validation and psychometric properties of a short version of Young's internet addiction test. *Computers in Human Behavior*, 29(3), 1212-1223.
- Pearcy, B. T. D., Roberts, L. D., & McEvoy, P. M. (2016). Psychometric testing of the personal internet gaming disorder evaluation-9: A new measure designed to assess internet gaming disorder. *Cyberpsychology, Behavior, and Social Networking*, 19(5), 335-341.
- Petry, N. M., Rehbein, F., Gentile, D. A., Lemmens, J. S., Rumpf, H. J., Mößle, T., Bischof, G., Tao, R., Fung, D. S., & Borges, G. (2014). An international consensus for assessing internet gaming disorder using the new DSM-5 approach. *Addiction*, 109(9), 1399-1406.
- Pontes, H. M., Kiraly, O., Demetrovics, Z., & Griffiths, M. D. (2014). The conceptualisation and measurement of DSM-5 Internet Gaming Disorder: The development of the IGD-20 Test. *PLoS One*, 9(10), e110137.
- Pontes, H. M., & Griffiths, M. D. (2015). Measuring DSM-5 internet gaming disorder: Development and validation of a short psychometric scale. *Computers in Human Behavior*, 45, 137-143.
- Rehbein, F., Baier, D., Kleinmann, M., & Mößle, T. (2015). CSAS. Computerspielabhängigkeitsskala: ein verfahren zur erfassung der internet gaming disorder nach DSM-5. Manual [CSAS. Video game dependency scale. A procedure for the assessment of internet gaming disorder according to DSM-5. Manual]. *Hogrefe*.
- Rehbein, F., Kleinmann, M., Mößle, T. (2010). Prevalence and risk factors of video game dependency in adolescence: Results of a German nationwide survey. *Cyberpsychology, Behavior, and Social Networking*, 13(3), 269-277.
- Sanders, J. L., & Williams, R. J. (2016). Reliability and validity of the behavioral addiction measure for video gaming. *Cyberpsychology, Behavior, and Social Networking*, 19(1), 43-48.
- Tejeiro Salguero, R. A., & Morán, R. M. B. (2002). Measuring problem video game playing in adolescents. *Addiction*, 97(12), 1601-1606.

- Thalemann, R., Albrecht, U., Thalemann, C. M., & Grüsser, S. M. (2004). Fragebogen zum Computerspielverhalten bei Kindern (CSVK): Entwicklung und psychometrische Kennwerte. *Psychomed.* 16(4), 226-233.
- Vadlin, S., Åslund, C., & Nilsson, K. W. (2015). Development and content validity of a screening instrument for gaming addiction in adolescents: The gaming addiction identification test (GAIT). *Scandinavian Journal of Psychology*, 56(4), 458-466.
- van Rooij, A. J., Schoenmakers, T. M., van de Mheen, D. (2017). Clinical validation of the C-VAT 2.0 assessment tool for gaming disorder: A sensitivity analysis of the proposed DSM-5 criteria and the clinical characteristics of young patients with 'video game addiction'. *Addictive Behaviors*, 64, 269-274.
- van Rooij, A. J., Schoenmakers, T. M., Van den Eijnden, R. J., Vermulst, A. A., & van de Mheen, D. (2012). Video game addiction test: Validity and psychometric characteristics. *Cyberpsychology, Behavior, and Social Networking*, 15(9), 507-511.
- Wölfling, K., Beutel, M., & Müller, K. (2012). Construction of a standardized clinical interview to assess internet addiction: first findings regarding the usefulness of AICA-C. *J Addict Res Ther*, 6, 003.
- Wong, U., & Hodgins, D. C. (2014). Development of the game addiction inventory for adults (GAIA). *Addiction research & theory*, 22(3), 195-209.
- Yilmaz, E., Griffiths, M. D., & Kan, A. (2017). Development and validation of videogame addiction scale for children (VASC). *International Journal of Mental Health and Addiction*, 15, 869-882.
- Young, K. (2016). *Internet Addiction Test (IAT)*. Stoelting.
- Zhang, G., & Lei, L. (2015). Development and reliability and validity of the adolescents online game experience scale. *Chinese Journal of Behavioral Medicine and Brain Science*, (12), 84-87.
- Zhou, Y., & Li, Z. (2009). Online game addiction among Chinese college students' measurement and attribution. In B. K. Wiederhold & G. Riva (Eds.), *Annual review of cybertherapy and Telemedicine 2009* (pp. 149-154). IOS Press