

The Excessive Online Role-Playing Scale

A diagnostic instrument for the determination of clinically relevant usage of Massively Multiplayer Online Role-Playing Games

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1. Introduction

During the past five years the entertainment industry has seen a massive growth in the sector of massively multiplayer online role-playing games (MMORPGs). Likewise, there is growing evidence that excessive MMORPG-gaming can reach the extent of a behavioural addiction. As these games combine features of classical videogames with aspects of social online activities, they might represent a specific form of computer usage which particularly promotes the emergence of dependent-like symptoms.

Assessment is generally made using adaptations of DSM-IV criteria for substance-related addiction or pathological gambling. This approach has been criticised for overrating peripheral symptoms and therefore overestimating prevalence rates (Wood, 2008).

With respect to specific MMORPG features like *persistence*, *physicality*, and *social interaction*, the aim was to design a survey that can be used to differentiate between dedicated gaming and clinically relevant game usage.

2. Methods

For the test items a subjective forced-response format (5-point Likert-rating: 1 = "strongly agree" to 5 = "strongly disagree") was chosen.

In order to cover the spectrum of currently available criteria used in diagnostic screenings a draft consisting of 72 items was compiled. The item pool was based on diagnostic criteria adapted from substance abuse/addiction and impulse control disorder (cf. DSM-IV, ICD-10, Brown's criteria for addiction) and supplemented by specific items deriving from theoretical considerations regarding the game format (Chan & Vorderer, 2005). Item generation was checked and revised in collaboration with the player community.

For item reduction the first draft was evaluated with a sample of 555 active MMORPG users. Due to aspects of clinical discrimination item selection was carried out considering item distribution (left skewed), item difficulty ($P < 2.5$), item discrimination ($r > 0.45$) and the results of the principal component analysis (loading on the postulated G-factor). Thus, 19 items were selected for the first revision (see 3.1). Both the pre-testing and the revision were conducted as online surveys.

3.1 Survey Items

| | |
|----|---|
| 01 | Wenn ich nicht spielen kann, fühle ich mich schlecht. (<i>Withdrawal</i>) |
| 02 | Ich spiele auch dann weiter, wenn ich merke, dass ich eigentlich eine Pause bräuchte. (<i>Loss of control</i>) |
| 03 | Meine Mitspieler sind mir näher als meine anderen Freunde & Bekannten. (<i>Social impact</i>) |
| 04 | Wenn ich nicht spiele, habe ich das Gefühl, online etwas zu verpassen. (<i>Preoccupation / Persistence</i>) |
| 05 | Misserfolge im Spiel haben mir schon mal den Tag verdorben. (<i>Preoccupation / Immersion</i>) |
| 06 | Mein Freundeskreis setzt sich in zunehmendem Maße aus Mitspielern zusammen. (<i>Social impact</i>) |
| 07 | Termine & Verabredungen im realen Leben gehen für mich grundsätzlich vor. (<i>Preoccupation / Immersion</i>) |
| 08 | Ich habe schon mal unter einem Vorwand Termine oder Verabredungen abgesagt, um länger spielen zu können. (<i>Adverse consequences: Lying</i>) |
| 09 | Ich richte meine Essenszeiten nach dem Spiel. (<i>Preoccupation / Immersion</i>) |
| 10 | Wenn ich spiele, kommt es vor, dass ich auf Störungen überreagiere. (<i>Adverse consequences: Irritability</i>) |
| 11 | Meine Familie/Freunde/Bekanntesten sind über mein Spielverhalten beunruhigt. (<i>Adverse consequences: Concerns</i>) |
| 12 | Manchmal habe ich das Gefühl, mein Spielverhalten nicht kontrollieren zu können. (<i>Loss of control</i>) |
| 13 | Wenn ich nicht online bin, kreisen meine Gedanken ständig um das Spiel. (<i>Preoccupation / Immersion</i>) |
| 14 | Wenn ich nicht spielen kann, werde ich unruhig, nervös oder unkonzentriert, und dieses Gefühl lässt erst nach, wenn ich wieder spielen kann. (<i>Withdrawal / Somatic symptoms</i>) |
| 15 | Ich habe schon Freunde und/oder eine/n Partner/in aufgrund meines Spielverhaltens verloren. (<i>Adverse consequences: Relationship</i>) |
| 16 | Meine Freizeit verbringe ich vorzugsweise mit meinen Online-Freunden. (<i>Social impact</i>) |
| 17 | Manchmal wird der Drang zu spielen so groß, dass ich einfach nachgeben muss. (<i>Loss of control / Craving</i>) |
| 18 | Ich bespreche meine Probleme vor allem online. (<i>Social impact</i>) |
| 19 | Ich habe schon mit Freunden wegen meines Spielverhaltens gestritten. (<i>Adverse consequences: Arguing</i>) |

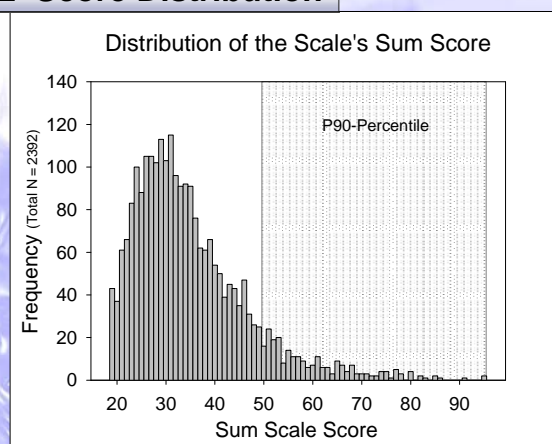
3. Results

The online survey was completed by 2392 participants (86% male), aged between 12 and 62 years ($M = 23.44$; $SD = 7.99$). MMORPG experience averages at 7.4 years ($SD = 2.24$). The average playtime was found to be 21 hours per week ($SD = 16.65$).

The scale's Cronbach's alpha is at .88. Item difficulty varies between 1.28 and 2.35 ($M: 1.83$; $SD: .33$), item discrimination between .42 und .64. The item-to-scale correlation lies between .14 und .57. Principal component analysis reveals a distinct main factor with loadings between .47 and .72 which accounts for 33.5% of the variance.

Based on the P90 percentile for the scale score a preliminary cut-off point was set at 50 (see 3.2). Pearson's correlation between scale score and average playtime per week is significant at $p < .001$ ($r = .47$).

3.2 Score Distribution



4. Discussion

Psychometric analyses confirm the unidimensional structure and indicate a good internal consistency. A strong association between total scores and weekly playtime supports its basic construct validity. The survey items cover a broad range of aspects specific for MMORPG usage and combine this semantic divergency with very acceptable statistical homogeneity.

Due to the strategy of item selection an overrating of peripheral, non-pathological symptoms was systematically avoided. The resulting scale predominantly covers symptoms identified as core criteria for the assessment of a behavioral addiction, like withdrawal, conflict and impulsive behavior (Charlton & Danforth, 2007).

At the current stage of development the constructed scale appears promising, but further evaluation, such as a standardization based on a clinical sample, is needed. Cross-correlations with established tests for internet addiction should be carried out, as well. English, Spanish and Chinese translations of the scale are currently evaluated.