Going to Other Worlds: The Relationships between Videogaming, Psychological Absorption, and Daydreaming Styles

Barry Dauphin, Ph.D. and Grant Heller, B.A.

Abstract

The present study investigated the relationship among different kinds of immersive or involving activities: videogaming (VG), psychological absorption, and daydreaming styles. Involvement with VG was ascertained through a new measure, the Videogame Experience Questionnaire (VEQ). Participants (N = 74) also completed the Tellegen Absorption Scale and the Short Imaginal Processes Inventory. Factor analysis of the VEQ yielded four factors. Psychological absorption is not related to level of self-reported engagement in VG, but specific daydreaming styles are related to specific factors of the VEQ. Positive/constructive daydreaming is related to VG Engagement. Guilt/fear/failure daydreaming is related to Social/Emotional Interference from VG. Interference with performance of responsibilities attributed to VG is related to poor attentional control daydreaming. Implications of the findings are discussed.

Introduction

Videogaming (VG) enjoys interest because it takes individuals into fantasy or “other worlds or places” and away from certain real-world obligations, work, and duties inherent to living. Participation in other activities (daydreaming, psychological absorption) also takes people away from the real world. Little research has been undertaken to uncover the possible relationships between VG and these immersive activities. Some studies have investigated the experience of flow in relation to videogame involvement, but few studies focus on the relationship of VG to various experiences of consciousness.

While VG, daydreaming, and psychological absorption share an involvement with fantasy, they differ with respect to other factors, such as stimulus dependency versus independency. Gaming is more stimulus dependent, while daydreaming is relatively stimulus independent and psychological absorption can be a combination of the two. High absorption rate of VG is considered important by VG users. Absorption appears to be a possible predisposing factor for alternate states of consciousness during VG activity. Flow has been linked to cybergame addiction as well as to exploratory behavior, which leads to higher cyber use. Preston hypothesized that virtual reality might offer those who have low-absorption proclivities access to more high-absorption experiences. High-VG individuals experience more flow during VG than do low-VG users. Thus, it is unclear whether characteristics such as flow or absorption predispose individuals to involvement in VG or whether high-VG involvement is a more specific kind of immersive experience.

The present study investigates the relationship among daydreaming, psychological absorption, and VG. VG involvement in the present study is defined by self-report of degree and kind of VG activities and perceived VG influence on other aspects of living. Items for the VG scale were chosen to reflect degree and kind of VG activity (e.g., VG frequency, game realism, game aggression) as well as influence on non-gaming aspects of life (e.g., effect on relationships, work, improving other areas of life). Because this is an exploratory study, it is difficult to formulate theoretically based hypotheses to predict relationships, and this is the first attempt to factor analyze the VG scale created. Previous research indicates that males should report more VG involvement than females. Testing this would provide some initial validation of the instrument. We explore correlations between VG scale factors and psychological absorption and daydreaming styles.

Method

Participants

Seventy four individuals (n = 22 males) from a racially diverse (Black, not of Hispanic origin, 31.1%; White, not of...
Hispanic origin, 58.1%; Asian or Pacific Islander, 4.1%; Hispanic, 1.4%; other, 5.4%) Midwestern university participated in this study. Ages ranged from 17 to 46 ($M = 20.6$, $SD = 5.2$).

**Measures**

The Videogaming Experience Questionnaire (VEQ) contained 14 questions of VG experiences that asked about level of involvement in VG, level of realism in games played, level of aggression in games played, and potential sources of interference in activities of living associated with VG such as work/education, relationships, and self-care. All items were scored on a Likert scale from 1, never/not at all, to 7, very/frequently.

The Tellegen Absorption Scale (TAS) is a 34-item questionnaire derived from the Tellegen Multidimensional Personality Questionnaire (MPQ) that measures psychological absorption or openness to absorbing or self-altering experiences. It is reported to correlate highly with hypnizuability.12 Items are scored on a 5-point Likert scale (0, never, 4, always).

The Short Imaginal Processes Inventory (SIPI) is a 45-item questionnaire with three scales (positive-constructive daydreaming, guilt and fear of failure daydreaming, and poor attentional control). It assesses aspects of daydreaming content, mental style, and inner experience. Cronbach’s alpha for the scales ranges from 0.80 to 0.82.

**Procedure**

The authors solicited participants from undergraduate psychology courses at a Midwestern university. The packet consisted of the informed consent form, demographic form, and the research questionnaires.

**Results**

The VEQ was analyzed with a principle factor axis method of extraction and a varimax rotation. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.779. Bartlett’s test of sphericity = 444.918 ($df = 91$), $p < 0.001$. This yielded a 4-factor solution that accounted for 56.156% of the variance. The four factors were labeled as follows: Factor 1, Engagement in Gaming Activities (34.11% of variance); Factor 2, Social/Emotional Interference (attributed to gaming) (12.8% of variance); Factor 3, Responsibility Interference (attributed to gaming) (4.97% of variance); and Factor 4, Recent Enthusiasm (about gaming) (4.26% of variance). Factor loadings of VEQ items are listed in Table 1.

Gender is significantly related to Engagement in gaming activities, $t(df = 68) = -3.626$ ($p < 0.001$), indicating that males appear more involved in gaming than females. Gender is marginally related to Responsibility Interference, $t(df$ assuming unequal variances = 22.803) = -1.918 ($p < 0.068$), indicating that males report somewhat more interference with responsibilities. This is very consistent with previous VG findings. None of the factors were significantly related to the Tellegen Absorption Scale, and various aspects of gaming involvement might not be related to a general proclivity to psychological absorption.

Engagement in Gaming Activities is positively correlated with positive-constructive daydreaming as measured by the SIPI ($r = 0.242$, $p < 0.044$). Social/Emotional Interference (attributed to gaming) is positively correlated with guilt/fear/failure daydreaming styles as measured by the SIPI ($r = 0.261$, $p < 0.029$). Responsibility Interference (attributed to gaming) is positively correlated with Poor attentional control daydreaming style as measured by the SIPI ($r = 0.278$, $p < 0.02$) and with the minutes to complete the questionnaire ($r = 0.499$, $p < 0.001$). Recent Enthusiasm (about gaming) is negatively correlated with poor attentional control ($r = -0.274$, $p < 0.022$). Psychological absorption is significantly related to both positive-constructive daydreaming ($r = 0.35$, $p < 0.002$) and guilt/fear/failure daydreaming ($r = 0.396$, $p < 0.001$). These correlations are not specifically related to VG but are interesting nonetheless.

**Table 1. Summary of Items and Factor Loadings for Varimax Orthogonal Four-Factor Solution for the VEQ (N = 74)**

<table>
<thead>
<tr>
<th><strong>VEQ Items</strong></th>
<th><strong>Factors</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1. How often do you play video games?</td>
<td>0.763</td>
</tr>
<tr>
<td>2. How realistic is the video game that you most enjoy?</td>
<td>0.612</td>
</tr>
<tr>
<td>3. How aggressive or violent are the games that you prefer to play?</td>
<td>0.647</td>
</tr>
<tr>
<td>4. Do you usually play games by yourself or with other people?</td>
<td>-0.03</td>
</tr>
<tr>
<td>5. Do you prefer first-person games (view as character) or third-person games (view character, or view over character’s shoulder)?</td>
<td>0.151</td>
</tr>
<tr>
<td>6. Do you play games more now than you have ever before?</td>
<td>0.234</td>
</tr>
<tr>
<td>7. Do you feel that gaming helps you in other areas of your life?</td>
<td>0.543</td>
</tr>
<tr>
<td>8. How would you rate your ability at gaming?</td>
<td><strong>0.882</strong></td>
</tr>
<tr>
<td>9. Has anyone close to you ever complained about your playing video games?</td>
<td>0.272</td>
</tr>
<tr>
<td>10. Have video games ever interfered with your performance in work or school?</td>
<td>0.284</td>
</tr>
<tr>
<td>11. Have video games ever interfered with any of your personal relationships?</td>
<td>0.093</td>
</tr>
<tr>
<td>12. Have video games interfered with your keeping a regular schedule?</td>
<td>0.392</td>
</tr>
<tr>
<td>13. Have video games interfered with your emotional wellbeing?</td>
<td>-0.01</td>
</tr>
<tr>
<td>14. Have video games interfered with your ability to take care of yourself?</td>
<td>0.11</td>
</tr>
</tbody>
</table>

Note: Boldface indicates highest factor loadings.
Discussion

The current findings indicate more support for selective processes with respect to a person’s involvement with VG than for broad or general absorbing personality characteristics as predicting aspects of VG involvement. High VG engagement per se does not appear to be related to overall psychological absorption. Proclivity to psychological absorption neither disposes individuals to gaming nor steers individuals away from VG engagement. Tellegen and Atkinson considered absorption to be a personality characteristic rather than simply a transitory phenomenon. This characteristic does not appear to predispose an individual to the behavioral activity of high VG involvement, as the TAS is not correlated with the VG engagement factor from the VEQ.

Murray et al. reported a similar finding in which presence in immersive virtual reality (IVR) was not related to psychological absorption. Presence in IVR is not the same as the Engagement factor in the present study but is similar in some aspects. Although those who become highly involved in more intense gaming experiences likely become quite absorbed in this activity, this does not mean they have a higher general degree of psychological absorption than do those with low VG engagement. Furthermore, individuals with high psychological absorption are not necessarily drawn to high VG engagement in a disproportionate way. The involvement in gaming is a more complex and nuanced psychological experience than simply an extension of psychological absorption.

However, high VG engagement appears to be associated with a positive-constructive daydreaming style. Singer indicates that positive daydreaming is characterized by enjoyment and anticipation of daydreaming as assisting in problem solving and without any pathological implications. Current findings provide some indirect support for the idea that merely having a high level of VG engagement (e.g., playing games a lot) is not automatically indicative of pathological experience than simply an extension of psychological absorption.

On the other hand, individuals who consider VG to be related to socioemotional interference in living are more likely to have a guilt/fear/failure daydreaming style. Fear-related daydreaming experiences have been associated with depression as well as with general psychopathology. Worriers report more negative daydreaming experiences than do nonworriers. One possibility is that some individuals with more negative daydreaming experiences might be attempting to either cope or escape aversive experiences through VG involvement, but these mechanisms are not successful and could simply exacerbate or fail to improve their experiences. High VG engagement does not automatically lead to aversive experiences such as depression or guilt/fear/failure daydreaming, but those individuals who report VG as interfering with socioemotional functioning are not successfully escaping aversive experiences of self through VG involvement.

Individuals who report more VG interference with tending to responsibilities are also more likely to report a poor attentional control daydreaming style. These individuals also took significantly longer to complete the questionnaires, providing some evidence of inefficiency in performing tasks. Poor attentional control daydreaming is characterized by mind wandering and being more easily bored and distracted. Individuals who experience difficulties maintaining more control of thinking and completion of activities would more likely to use VG as a distraction from other activities and perhaps be less likely for VG to be part of a more productive fantasy life. Recent enthusiasm for VG is inversely related to poor attentional control daydreaming, suggesting the possibility of such individuals having a greater focus in their fantasy life, perhaps prompted by some feelings that VG is helpful to them.

Overall, the results of the relationship among factors from the VEQ and daydreaming styles and psychological absorption suggest that intense VG involvement is not necessarily a good predictor of functional difficulties. It appears, for example, that many individuals who report a more extensive participation in VG and play more realistic and aggressive games might be utilizing such activity in a fairly positive manner, or at least a nonpathological manner. A more crucial question than simply knowing a person’s level of VG involvement is knowing what function his or her involvement might be serving. The current findings suggest various forms of interference in living attribute to VG by individuals. The specific kind of interference is correlated with a specific style of daydreaming but not with other styles of daydreaming. When individuals associated VG as interfering with their socioemotional lives, they tended to experience more unpleasant daydreams and could be ruminating to some degree on more relational concerns. Those who report greater interference with managing responsibilities tend to report their daydreams as steering them off course.

In the present study, psychological absorption was significantly correlated to both positive-constructive daydreaming and guilt/fear/failure daydreaming but not attentional control problems. Positive-constructive daydreaming and guilt/fear/failure daydreaming were unrelated in the present study ($r = 0.086$, ns), consistent with its factor structure. Thus, absorption appears to be a more general characteristic that does not automatically predict problematic involvement with various experiences of living, including VG involvement as indicated in the present study. Crawford also demonstrated a similar relationship between psychological absorption and positive reactions in daydreaming but not frightened reactions or guilt reactions in daydreaming. Her study showed that, for males, however, absorption and frightened reactions in daydreaming were correlated.

Overall, general tendencies toward psychological absorption are consistent with overall involvement in daydreaming but not with predicting a particular style of daydreaming. VG is a specific kind of activity that depends on involvement with particular external stimuli. A personality trait of absorption will not predict high VG involvement. However, future studies might examine whether tendencies toward absorption with an external focus appear related to self-reported tendencies for VG involvement to affect various aspects of living. The current study is a preliminary investigation of the relationship between different kinds of fantasy and psychological absorption with VG. The VEQ appears to hold some promise as an instrument for investigating VG experiences. Future research should consider whether any modifications of the scale are in order and to confirm whether the current factor structure holds for a larger sample.
Acknowledgments

Portions of this research were supported by a grant from the University of Detroit Mercy & University of Detroit Mercy Professors Union (UDMPU) to the first author.

Disclosure Statement

No competing financial interests exist.

References


Address correspondence to:
Dr. Barry Dauphin
Associate Professor of Psychology
University of Detroit Mercy
4001 W. McNichols Rd
Detroit, MI 48221

E-mail: dauphivb@udmercy.edu