



# Compulsive fantasy: Proposed evidence of an under-reported syndrome through a systematic study of 90 self-identified non-normative fantasizers

Jayne Bigelsen <sup>a,\*</sup>, Cynthia Schupak <sup>b</sup>

<sup>a</sup> Applied Developmental Psychology, Fordham University, 441 E Fordham Road, Bronx, NY 10458, USA

<sup>b</sup> New York, NY, USA

## ARTICLE INFO

### Article history:

Received 22 November 2010

Available online 29 September 2011

### Keywords:

Fantasy

Fantasizing

Maladaptive daydreaming

Kinesthetic activity

## ABSTRACT

The experiences of 90 individuals who self-identify as “excessive” or “maladaptive” fantasizers are summarized in this report. Our sample consisted of 75 female and 15 male participants, ranging in age from 18 to 63 who responded to online announcements. Participants completed a 14-question emailed survey requesting descriptions of their fantasy habits and causes of potential distress regarding fantasy. Results demonstrated that participants shared a number of remarkably specific behaviors and concerns regarding their engagement in extensive periods of highly-structured, immersive imaginative experiences, including the use of kinesthetic activity which accompanies the fantasies of 79% of participants. Participants reported distress stemming from three factors: difficulty in controlling the need or desire to engage in fantasizing; concern that the quantity of fantasizing interfered with actual relationships and endeavors; and intense shame and exhaustive efforts to keep this behavior hidden from others. It is hoped that this report will encourage interest in this elusive syndrome.

© 2011 Elsevier Inc. All rights reserved.

## 1. Introduction

In 2009 one of us co-authored a case history and discussion of what we termed “excessive daydreaming” in a patient treated for 10 years for a long history of excessive and highly structured fantasizing which caused her significant distress but was not incident to any other psychopathology (Schupak & Rosenthal, 2009). This individual had spent years fruitlessly attempting to find information on her very private condition. In 2006 she stumbled upon an obscure web site called “India Parenting” which, following publication of a short article on daydreaming in children, received 45 posted replies from individuals identifying themselves as “addictive” daydreamers who described symptoms remarkably consistent with her own. These posters were seeking help in controlling their fantasizing behavior, which they stated was causing functional impairment and attendant distress in their everyday lives. Finally, our patient had evidence that she was not the only person with this perplexing condition.

When Schupak and Rosenthal (2009) became accessible online, along with a previous study by Eli Somer (“Maladaptive Daydreaming: A qualitative inquiry”, 2002), a host of online forums and web pages began to proliferate on which thousands of anonymous posters from around the world professed to have secretly suffered with these symptoms for years.

As corresponding author of the (2009) paper, one of our email addresses became accessible online and individuals began sending personal messages requesting help or guidance on controlling their fantasizing behavior. In response to these requests, the present follow-up study, conducted via email, was initiated in the spring of 2009; and participants continued to be enrolled through August of 2010. Since the announcement of the current study two years ago, as many as a dozen fantasizers continue to email us personally every week, asking if our research is ongoing, requesting “expert” guidance,

\* Corresponding author.

E-mail address: [jaynebigelsen@gmail.com](mailto:jaynebigelsen@gmail.com) (J. Bigelsen).

volunteering to help with future investigations, or simply thanking us for finally bringing attention to this very private condition.

Of the countless number of internet forums to which individuals anonymously post questions and information regarding excessive fantasizing behavior, one dedicated site ([maladaptivedaydreamers@yahoo.com](mailto:maladaptivedaydreamers@yahoo.com)) has over 830 fantasizing members and another ([wildminds.ning.com](http://wildminds.ning.com)) has over 400. The majority of these posters note that they were extremely surprised and gratified at the discovery of online communities of individuals who shared their very private and presumably unique fantasizing habits. Others complained that they had made repeated attempts at seeking psychological or psychiatric assistance, but found that their mental health care providers did not know what to make of their fantasizing experiences, and either dismissed their symptoms, or relegated them to other—often inaccurate—categories such as mood or anxiety disorders.

Consistent with some of the literature (Gold, Gold, Milner, & Robertson, 1986), many of the internet posters were told that daydreaming is creative and beneficial and is not something that should be worried about, leaving patients feeling that their mental health providers did not understand the depth of their distress resulting from this very specific behavior. Their confusion was further increased by their inability to persuade members of the clinical community that there was indeed a type of “daydreaming” that was composed of chronic and often life-long immersion in compelling, enduring, and compulsive imaginative episodes which, though providing a source of comfort and fulfillment, concurrently imposed a bewildering and intensely private psychological burden which sufferers experienced as comparable to an addiction. Exhaustive searches of the psychological and cognitive literature undertaken for both the 2009 and current investigation of excessive fantasizing have yielded little or no relevant information regarding ways in which spending large amounts of time in primarily pleasant fantasy worlds can result in distress. With the exception of Somer's (2002) study, which involved a very small and traumatized sample, the literature also fails to address whether immersive fantasizing can reach points where it is maladaptive or becomes difficult to control and limit. Further, again with the exception of Somer, no investigations have requested direct, qualitative elaborations of the experiences of those who are troubled by the role that excessive fantasy plays in their lives, leaving many unanswered questions as to why some individuals who engage in extensive fantasy activity find the experience distressing. The current systematic study was designed to fill this gap in the literature, and will offer a description of the manner in which excessive fantasizing affects the lives of the present study sample. We are hopeful that once the experiences of this population are adequately described, future studies will be able to quantify how often this phenomenon occurs in the general population.

Our purpose in studying the experiences of individuals who self-identify as “maladaptive daydreamers” is to attempt a preliminary definition of this syndrome through systematic delineation of reported symptoms across participants. It is proposed that members of our study sample are representative of a self-concealed population that has only recently revealed itself via the anonymity of the Internet; and thus has not been previously recognized by the research and mental health communities.

The present examination was not a controlled experiment. Its purpose was intentionally a descriptive and qualitative exploration of a sample of individuals, self-described and self-selected, based on the shared activity of what appeared to be a unique and specific type of non-normative fantasizing. Thus, the theoretical basis for the present study is the expressed proposal that a distinct population exists, composed of individuals who engage in a shared non-normative type of fantasizing behavior; and that this population represents a unitary syndrome with basic core symptoms but varying degrees of severity. The detailed responses provided by our 90 fantasizing participants revealed an extensive range of reported experiences, histories, emotional and physical symptoms, and numerous other measures which provided substantive information for describing our sample population; and enabled several notable within-group comparisons to be made.

Somer's (2002) study of “Maladaptive Daydreaming” presented six patients being treated at a trauma clinic as exhibiting “maladaptive daydreaming” or “MD”, which he defined as, “extensive fantasy activity that replaces human interaction and/or interferes with academic, interpersonal or vocational functioning” (p. 199). Subsequently, on the burgeoning number of forums dedicated to excessive fantasizing, posters have assumed the designation of “maladaptive daydreamers” (or “having MD”). All have expressed relief at finally finding a name for their private affliction as well as a community of others who share their experiences and concerns. The popularly-accepted appellation of “maladaptive daydreaming” is probably here to stay; although, as we discuss later, the term “daydreaming” is a less accurate description of the mental activity shared by our sample and proposed populations than is “fantasizing”.

Somer's (2002) qualitative study described six severely traumatized patients, all of whom demonstrated marked impairment in life functioning, with almost no real life relationships or friendships. Additionally, four of his six patients were diagnosed with dissociative disorders (which our sample excluded); and one patient engaged in strictly sexual/masturbatory fantasies—a well-researched and common fantasy practice that is also excluded from our sample. As all of Somer's patients experienced abusive or traumatic childhoods, the author theorized that these individuals employed “maladaptive daydreaming” as a coping strategy in direct response to aversive early life experiences. Somer's perspective was addressed in our study questionnaire. As will be discussed later, our results demonstrated that prior trauma is neither necessary nor sufficient to explain the occurrence of excessive fantasizing. Thus, while Somer's sample may represent a particular sub-group of our proposed population, his stated conclusions likely do not apply to the entirety of our sample.

Consistent with much of the literature, the original case study (Schupak & Rosenthal, 2009) unfortunately interchanged the terms “mind wandering “daydreaming”, and “fantasizing” when referencing this phenomenon; contributing to what we now recognize as considerable confusion. After reviewing the literature and systematically collecting a large body of subjec-

tive descriptions from persons who identify as “maladaptive daydreamers”, we have concluded that the behavior of interest to our work is exclusive to definitions of fantasizing, and more specifically, of fantasizing of a compulsive nature. However, in order to clarify the type of mental activity that characterizes the members of our study sample as well as the proposed population we believe it represents, we will attempt to document what constitutes a “normative” mental process before attempting to present a potential “non-normative” one, and we will therefore include a review of the research that exists on more general types of off-task thought or introspection.

## 2. Literature review

### 2.1. *Mind wandering, daydreaming and fantasy*

Results from a host of academic studies have documented that our minds apparently wander an inordinate proportion of the time. Most interestingly, mind wandering can now be identified neurologically, through the discovery of its own dedicated brain network. A seminal paper by Raichle et al. (2001) introduced and delineated regions representing what the authors called “A default mode of brain function.” These authors recognized predictable tonic alterations in focal brain region activity during control periods for patients undergoing PET scans (based on correlated alterations in oxygen delivery and consumption constituting the oxygen extraction fraction or OEF); as well as site-specific BOLD signals during fMRI scans of the brains of 132 individuals. They referred to control-period activation of these regions as representing “a baseline state of the normal adult human brain” (p. 676–677). Uniformly quiet while subjects were attending to specified goal-directed tasks, these specified baseline or default-mode regions demonstrated activation consistencies across patients during intervals of “the awake but resting state (e.g., lying quietly with eyes closed)”. In a follow-up examination, Raichle and Snyder (2007) elaborated their conception of “baseline” activity, and addressed various controversies which appeared in the literature regarding their notion of a default mode of brain function.

Individual differences in the recruitment of default network regions during mind wandering—or generation of “SIT” (situation-independent thought)—was explored using fMRI by Mason et al. (2007). Mason et al. monitored alterations in regional brain activity during subjects’ engagement in challenging novel tasks (resulting in suppression of default network activity, or low SIT production) versus during practiced tasks (which required less concentration, thus permitting more activation of the default network and high SIT generation, or mind wandering). These authors explored neural recruitment differences among individuals’ “proclivity to generate SIT” (Mason et al., 2007, p. 292) by first establishing signaling correlates of mind wandering within the distributed but temporally cohesive focal regions constituting the default network (incorporating parts of the posterior cingulate and precuneus or Broadmann areas 23 and 31; parts of both lateral cortices or Broadmann areas 40 and 39; the insular cortices; the cingulate or Broadmann area 44; and ventral and dorsal aspects of the medial prefrontal cortex or Broadmann areas 6, 8, 9, and 10).

Mason et al. (2007) support Raichle et al. (2001) in stating that “mind-wandering constitutes a psychological baseline from which people depart when attention is required elsewhere and to which they return when tasks no longer require conscious supervision.” (p. 393). A great deal of further work has been done involving the default network (e.g., Christoff, Gordon, Smallwood, Smith, & Schooler, 2009) demonstrating that not only is mind wandering a frequent activity of all people, but perhaps the brain’s basic setting—its idling engine.

Jerome Singer, considered the father of modern daydreaming research, stated in 1975 that 96% of adult Americans engage in daydreaming on a daily basis, and Eric Klinger, a widely-published expert in the field of conscious flow, noted in 2009 that nearly half of all human thought qualifies as daydreaming. Applying these general ideas to more specific topics can be problematic, however, as the terms “mind wandering”, “daydreaming”, and even “fantasizing” are frequently used—and defined—broadly, vaguely, and interchangeably.

In their comprehensive 2006 paper entitled “The Restless Mind”, Jonathan Smallwood and Jonathan W. Schooler applied their knowledge of executive processing models to address fundamental terminological problems they believe have confounded investigations of mind wandering. The authors note that mind-wandering has been variously referred to as: “task unrelated thought. . .task-unrelated images and thoughts. . .stimulus independent thought. . .mind pops. . .and zone outs. . .” (p. 946). The authors also challenge conventional accounts of executive control by proposing that mind wandering is a shift in attention that can occur without explicit or deliberate intention but which nonetheless incorporates “goal relevant” internal information; and further state that the presumably finite or encapsulated resource of short term memory can be monopolized by demanding or interesting tasks, while attention to boring or over-learned tasks permits some amount of sharing or redirection of short term memory stores toward competitive or parallel cognitive engagement (p. 947). Participants in the current study reported being able to execute everyday tasks while concurrently engaged in fantasizing, though they noted that this practice sometimes caused them to feel “not fully present” in the external world.

Methods commonly used in research aimed at quantifying mind wandering frequency include “self-caught” methods wherein subjects self-monitor drifts in concentration, and “probe-caught” methods wherein subjects respond to pager signals with reports of being presently on- or off-task, and sometimes what they are thinking or feeling during mind wandering instances (Antrobus, 1968; Antrobus, Singer, & Greenberg, 1966; Csikszentmihalyi & Larson, 1987; Kane et al., 2007; Smallwood & Schooler, 2006). Killingsworth and Gilbert (2010) recently conducted the largest (5000 subject) probe-sampling study of mind wandering frequency to date, with the notable finding that mind wandering occurred in 46.9% of thought sam-

ples—a proportion consistent with Klinger's earlier (2009) statement that about half of all human thought qualifies as daydreaming.

Singer (1975) referred to daydreaming with the standard labels of “task irrelevant episodes” or, a shifting of attention away from a task in the external world toward private responses to an internal stimulus. He presumed daydreaming to be an integral part of every person. Inclusive in Singer's broad definition of daydreaming is the type of fanciful thought engaged in by the present population. In fact, in Singer's two books on the topic of daydreaming, (*Daydreaming*, 1966; *The Inner World of Daydreaming* 1975) he described some of his own imaginative experiences that seem as fanciful and intricate as some of the present population. However, the definition of daydreaming used by Singer would encompass many things in addition to this fanciful thought, including reminiscing, learning (e.g., mentally reviewing for a test while driving to school), practicing for future events, memory, and fantasy, and is far broader than the mental activity that is the cause of concern for our proposed population. Smallwood, Baracaia, Lowe and Obansawimb (2003) addressed the inaccessibility of the content of task-unrelated thought in noting that: “TUT is not open to observation, and therefore we cannot ensure that all individuals attend to their cognitive experience in a similar fashion. In fact, wide individual differences in one's tendency to daydream are very likely” (p. 478).

In his large body of research on thought flow, Eric Klinger attempted to define and delineate dimensions of the highly variable content of normative human inner experience; narrowing the definition of daydreaming to “nonworking thought that is either spontaneous or fanciful” (2009, p. 226). In other writing, including a large thought-sampling study (Klinger & Cox, 1987–1988), “fanciful thought” was characterized by imagined events that were whimsical or unlikely to occur, and representing a departure from the concrete reality of the thinker. Fanciful elements were estimated to occur in about 25% of thought samples (p. 105).

Ultimately what was most useful for understanding the mental activity of the present study population were Klinger's observations that although most people have an intuitive understanding of the meaning of the terms “daydreaming” and “fantasy”, “from a scientific standpoint, these topics of daydreaming and fantasy are considerably more complex. Daydreaming appears to be an essential component of people's equipment for functioning. Yet, both daydreaming and fantasizing are poorly defined concepts, and they are by no means the same thing” (p. 225). In 1971, Klinger stated that: “Most investigators would agree that a fictional tale created by a subject for his own pleasure and for no other purpose constitutes an instance of fantasy” (p. 6). Butler (2006) offered a strikingly similar and useful definition differentiating between daydreaming and fantasy:

The typical daydream begins spontaneously and is experienced as an ongoing series of brief associated thoughts or images triggered by internal or external stimuli or cues and deals most often with current life concerns. In contrast the development of fantasy may be an elected pastime. It is more elaborate and continuous, composed of more pure imagination and directed at self amusement, pleasure, distraction and escape (p. 48).

In an unpublished 2010 study, Malia Mason of Columbia University conducted a series of fMRI scans on the “excessive daydreamer” described in Schupak and Rosenthal's (2009) case history. This individual was instructed to “daydream” during certain portions of the scan, told not to “daydream” for another segment, and was given a non-difficult verbal task during a final portion of the procedure. Preliminary analyses of these scans revealed partial overlap in activation of the default-mode—“mind-wandering”—network (Mason et al., 2007; Raichle & Snyder, 2007) during rest periods and “daydreaming” portions of the scans. These results suggest that the fantasy engaged in by this patient “is unlikely to be simply an extreme form of mind wandering. There appear to be qualitative differences relating to the effortful construction of rewarding imaginative experiences” (Mason, personal communication, 2010).

## 2.2. Excessive fantasy and fantasy proneness

Excessive fantasizing may have been described as early as 1893, when Breuer reported the case study of Anna O. which he published jointly with Freud in “Studies in Hysteria”. Breuer termed Anna O. a “systematic daydreamer” as she reported living in her “private theatre” where she would daydream for hours. Breuer reported:

While everyone thought she was attending, she was living through fairy tales in her imagination; but she was always on the spot when she was spoken to so that no one was aware of it. She pursued the activity almost continuously while she was engaged on her household duties, which she discharged unexceptionally. (Breuer & Freud, 1893, p. 22)

In 1981 Wilson and Barber, while researching people's susceptibility to hypnosis, serendipitously stumbled onto a category of persons they defined as “fantasy prone personalities,” “fantasy addicts” or simply “fantasizers.” Wilson and Barber (1981, 1982) found that their population of excellent hypnotic participants demonstrated “a unique constellation of personality traits and experiences that coalesced around a deep, profound and long-standing involvement in fantasy and imagination” (Lynn & Rhue, 1988, p. 35). According to Wilson and Barber, 26 of 27 of the excellent hypnotic participants in their study had highly vivid daydreams and spent as much as 50% of their waking hours in fantasy. In addition to engaging in extensive periods of fantasy, the fantasy prone individuals reported diverse phenomena including “out-of-body” experiences and beliefs in parapsychological phenomena such as UFOs, clairvoyance and telepathy, (which were addressed in our study sample to compare features of the two sample populations). Antecedents to fantasy proneness were proposed as either physically abusive parenting or childhood loneliness; or, conversely, the parental encouragement of creativity and pretend play

(Rhue & Lynn, 1987a; Rhue, Lynn, & Sandberg, 1995). Wilson and Barber (1981) used the data from these interviews to develop the Inventory of Childhood Memories and Imaginings (ICMI) to assess degrees of fantasy proneness and, based on their study samples, estimated that 4% of the population may be high fantasy prone.

Subsequent researchers attempted to investigate whether there is a relationship between fantasy proneness and psychopathology. Rhue and Lynn (1987b) found that although between 10% and 20% of fantasy prone college students exhibited significant signs of maladjustment or psychopathology, “as a rule fantasy proneness does not appear to be an antecedent to severe manifestations of psychopathology” (p. 327). Later studies presented a slightly bleaker picture. Rauschenberger and Lynn (1995) found that 67% (16 out of 24) of high fantasy prone college students met the criteria of a past or present DSM III R Axis I diagnosis compared to 31% of the medium fantasizers. Fantasizers in this study also reported a higher frequency of past diagnosis of major depression (50%) and more dissociative experiences and symptoms. Similar results were found in later studies assessing the relationship between fantasy proneness and psychopathology (Rauschenberger & Lynn, 1995, 2002). However, Klinger, Henning, and Janssen (2009) disputed findings correlating fantasy proneness with psychological disorder and argued that the ICMI scale used to assess fantasy proneness overlaps extensively with scales assessing disassociation which could lead to an inaccurate finding of a correlation between fantasizing and psychopathology.

### 2.3. Addiction and compulsion

What was striking in both the very earliest online postings as well as those appearing later on the dedicated forums for “maladaptive daydreamers” was the consistently expressed feeling that this fantasy activity was “addictive” and that they need to fight the urge to be pulled away from reality. Although Wilson and Barber (1981, 1982) did use the term “fantasy addicts” to describe some members of their fantasy prone population, they did not explore the implications of such a designation in these participants, and failed to address possible attendant distress.

The term “addiction” was once reserved for substance related dependencies. However, a large body of research exists on a variety of behaviors or processes that have become recognized as addictive or compulsive syndromes. Each of these conditions is characterized by symptoms typical of substance abuse disorders, such as impaired control over the behavior, and feelings of withdrawal or craving when individuals are denied the ability to engage in the desired behavior. Rather than referencing general impulse-control pathologies, researchers have viewed these conditions as behavior-specific, and have included: compulsive buying (Kellett & Bolton, 2009); hoarding (Saxena, 2010); compulsive sexual behavior (Groß, Golub, Mustanski, & Parsons, 2007; Schupak & Rosenthal, 2007); exercise addiction (Lejoyeux, Avril, Richoux, Embouazza, & Nivoli, 2008); and gambling (Voon et al., 2010). Additional “potential addictions” were addressed by Sussman, Lisha, and Griffiths (2006, p. 1806) and included eating, work, love, and the Internet.

Albrecht, Kirschner, and Grüsser (2007) state that: “From a neurobiological point of view, behavioral strategies that only indirectly affect neurotransmitter systems of the brain, can serve as reinforcers comparable to pharmacological substances” (p. 2). These authors go on to explain that excessively conducted behaviors can induce specific rewarding effects in the body’s biochemical processes and therefore have addictive potential.

As far as the brain is concerned, “a reward’s a reward, regardless of whether it comes from a chemical or an experience. And where there’s a reward, there’s the risk of the vulnerable brain getting trapped in a compulsion” (Holden, 2001, p. 980). The fact that the internet posters experience their fantasies as rewarding is consistent with definitions of compulsive tendencies; and the original case study subject’s response to fluvoxamine, a medication prescribed for obsessive–compulsive disorders, offers anecdotal support for this designation.

## 3. Method

### 3.1. The use of qualitative methods

A qualitative design, based on self-reported survey data, is especially appropriate when investigating an unknown or new population with variables that have not yet been identified and hypotheses that have not yet been formed (Silverman, 2000). In qualitative research, open-ended questions enable participants to provide information about the areas they find most relevant, in order to guide investigators to the key areas worthy of investigation. Thematic analysis in particular is especially appropriate for identifying patterns and themes within data (Braun & Clarke, 2006). As thematic analysis is not linked to any specific theoretical framework, it offers wide flexibility (Braun & Clarke, 2006) thereby enabling it to be especially useful when providing a broad description of an under-described phenomenon.

We believe that in the first study introducing a new population, qualitative methods offer a more thorough description which will allow us to better delineate within group similarities. Additionally a clearer description of the experience of a phenomenon will enable future control group quantitative studies to be more properly designed. For example, a thorough description of the phenomenon of excessive fantasy will offer future researchers clearer guidelines as to which participants should be included in the excessive fantasy group and help them avoid the frequently made error of comingling daydreaming, fantasy and mind wandering.

### 3.2. Participants and procedure

Volunteers were recruited via a post on the Revolution Health web site, announcing a confidential study of “excessive daydreaming” and including a contact email address. This information rapidly circulated within the online community, and between May 2009 and August 2010 well over a hundred individuals had inquired about participation. The final sample included 90 adult participants, 15 males 75 females, aged 18–63 years, with 90% in the 18–39 age group. The criteria for participation included being over age 18 and expressing solely and specifically a concern over excessive fantasy. Our sample excluded participants whose responses displayed any evidence of dissociation or lack of insight into the ability to distinguish fantasy from reality. Potential participants received informed consent materials and “The Questionnaire on Excessive Daydreaming” via electronic mail. The participants completed the forms and returned them to the researchers via email. As part of the informed consent process, individuals were assured of anonymity and are thus identified only by enrollment numbers.

Contact with participants was limited to email correspondence (except in two cases wherein we consulted with participants’ doctors/therapists). This design allowed acquisition of information from a very private and widely distributed population which could not otherwise have been accessed; including participants in many parts of the US and the UK, Canada, Australia, Finland, Iceland, India, Jordan, and South Africa.

### 3.3. Measures

*The Questionnaire on Excessive Daydreaming:* Currently no formal survey exists to assess the experiences of excessive fantasizers, with the exception of Wilson and Barber’s (1981) ICMI and the Creative Experience Questionnaire (Merckelbach, Horselenberg, & Muris, 2000) neither of which were sufficiently precise in obtaining what we considered to be salient information from our proposed population. Therefore, a 14-question survey—the “Questionnaire on Excessive Daydreaming” was developed for the present study.

The open-ended survey questions were composed carefully and specifically to elicit the most essential material for describing commonalities and differences among individuals self-identifying with the condition of excessive fantasizing. Thus, they addressed participants’ descriptions of daydream content. Remaining questions dealt with participants’ accounts of their positive and negative feelings about daydreaming, assessments of approximate age at which they recalled first engaging in fantasizing behavior, approximations of daily time spent in fantasy and attempts at limitation, the nature and extent of distress and/or functional impairment, kinesthetic elements present during fantasizing episodes, attendant secrecy or shame, evaluation of social functioning, reality testing, creativity, and history of trauma or abuse. Additionally, two follow-up questions were emailed to all enrolled participants, regarding expressed belief in parapsychological phenomena and hypnotic susceptibility (to address these two characteristics as used in Wilson & Barber’s ICMI). Sixty participants responded to these additional questions. The questions regarding histories of trauma and/or abuse, as well as those regarding paranormal beliefs/ hypnotizability were included specifically to compare our sample population with others noted in the literature (Rhue & Lynn, 1987a; Rhue et al., 1995; Somer, 2002; Wilson & Barber, 1981, 1982).

### 3.4. Data analyses

#### 3.4.1. Qualitative analysis

In accordance with Braun and Clarke’s (2006) process of thematic analysis, in the first phase of the qualitative data analysis the responses of all 90 participants were read repeatedly until a level of strong familiarity with the material was reached. In the second phase of analysis, interesting features of the data set were organized into potential themes, and data relevant to each particular theme was compiled. Themes were repeatedly reviewed and sub-themes were identified. In the final phase of analysis, compelling quotes that provided clear examples of selected themes were chosen for inclusion in the written results. For themes that appeared consistently, percentages of participants reporting such themes were calculated.

#### 3.4.2. Quantitative analysis

Participants’ over-all self-assessment of distress and/or functional impairment due to fantasizing was estimated by requesting that they assign themselves a rating on a 7-point scale (wherein “1” indicated “none”; “4” indicated “moderate”; and “7” indicated “very severe”). Other symptom variables were essentially binary. The percentage of participants who engage in kinesthetic activity during fantasizing was obtained by defining kinesthetic activity as any physical movement such as pacing, spinning, rocking, twirling, running or swinging. Any participant who answered yes to the question of whether they experienced early trauma, abuse, or other significant injury was included in the trauma/abuse category, without any evaluative judgment made regarding the degree of trauma.

In order to explore possible relationships among the quantifiable within-group differences, we categorized the relative severity spectrum of distress and/or functional impairment for our sample, by dividing participants into three categories wherein: “1–2.5” = Little-to-No Distress/Impairment; “3–5.5” = Moderate Distress/Impairment; and “6–7” = Severe Distress/Impairment. For participants who did not give one numeric answer, we averaged the given ratings and incorporated social functioning and other descriptive material offered by these participants to arrive at a relative “Severity Rating” for each.

Statistical comparisons were carried out by using separate tests for Differences in Proportion of Independent Samples to obtain z-ratios in order to assess comparative Severity Ratings due to fantasy activity for the proportion of participants reporting histories of trauma and/or abuse and for those denying histories of trauma and/or abuse; and the proportion of the sample who reported having sought consultation or therapy versus those who did not report seeking professional help for their fantasy behavior.

#### 4. Results

The tabled information (Table 1) presents a summary of what we found to be defining or common “symptoms” and other informative measures associated with this syndrome as reported by our participant sample.

##### 4.1. Common characteristics of fantasies

###### 4.1.1. Level of detail

The content of the fantasy scenarios varied dramatically by and within individual participants. Yet the structure of the fantasies shared common characteristics across participants. One overriding feature across all participants was the level of intricate and elaborate detail embedded in the fantasies, sometimes involving plot, character and background. For example:

I have spun tons of plot lines in this world spanning multiple generations of characters. The parts of my daydreams I obsess over (repeat in my head), are the most intense emotional scenes, either positive or negative. On the negative side, a character's parents or best friend dies, a character is injured, abused, tortured or raped, or even just has a terrible argument with a loved one. On the positive side, a character reunites with a loved one he/she thought was dead, or realizes the person he/she has been in love with for a long time feels the same way, or finds out that she is going to have a baby. Characters fall in love, get married have and raise children, develop, deep and strong friendships (#19).

A majority of the time, I daydream about which career I should pursue for the rest of my life. One day I might be an air-plane pilot, the next I'm a trauma surgeon working 84 h/week making, \$320,000 after taxes, giving 20,000 to charity every year, 50,000 to my brother because he has a low paying job, 50,000 to my parents because they helped raise me, as well as keeping 200,000 for myself and combining that with my wife's salary (who's a psychiatrist by the way) to make 300,000 a year (#57).

Eight percent of participants reported researching aspects of their fantasy. For example, Participant #26 reported, “my daydreams are normally extremely detailed and often have particular themes. I regularly find myself searching for knowledge on specific topics. Example: If it is geographically relative, I will research the names of places, images, history—anything I can use.”

###### 4.1.2. Kinesthetic activity

Another similar feature across participants was the accompaniment of kinesthetic activity. Seventy-nine percent of the participants reported that some type of ritualized kinesthetic activity accompanied their fantasy at some point during their lives, with pacing while listening to music by far the most frequently reported. Other movements included rocking, running, swinging and spinning:

Definitely pacing. I can't stop myself from doing that. I have to pace when I'm dreaming even if my feet ached or if it is two in the morning and I'm already in bed. I toss something in my hand and flap my hands (#36).

**Table 1**

Tabled summary of major commonalities and other correlates of compulsive fantasizing as reported by enrolled study participants.

Age of onset of fantasizing	Age-of-onset of fantasizing; modal ranges reported: age 2–3; age 6–7; and age 11–12
Proportion of daily time spent fantasizing	12.5–99% ( $m = 56\%$ ) – representing averages reported due to high day-to-day variability; These proportions do not include time spent in other types of off-task thought
Distress and/or Impairment due to fantasy	88% of participants report distress and/or impairment due to fantasizing
Trauma and/or abuse present in history	27% of participants report early trauma and/or abuse: sexual, physical, verbal, or emotional
Sought consultation/therapy	23% of participants report seeking consultation or therapy for fantasizing
Kinesthetic elements	79% of participants report some kinesthetic elements to be present during fantasizing
Social behavior and interactions	24% of participants report problems in social functioning: avoidance or social phobia
Secrecy	82% keep fantasy hidden from most everyone
Reality testing	98% of participants state that they do not confuse fantasy and reality
Creativity	71% of participants perceive themselves as creative/artistic

The main thing I do is pace back and forth always needing to touch the walls as if to bounce off of them. I rub my hands a lot as if I can feel the urge under my skin and at times I rock back and forth while doing so. I thrash around when laying down (#55).

Nine percent of participants mentioned that their fantasizing was accompanied with pacing and movement as children, but that as they got older they learned to fantasize without the movement, especially if someone had previously noticed or commented on the pacing.

Fifty-nine percent of participants reported fantasies that are accompanied with speech or facial movements ranging from muttering under their breath, mouthing words, making facial expressions and even talking for long periods of time, but only when they are alone. All participants seemed cognizant of not wanting others to see either the physical movement or accompanied speech, and only engaged in those activities when others were not present. According to Participant #17:

Yes, the daydreaming is sometimes accompanied by talking to myself! I am not actually talking out loud. I am ‘mouthing’ silently or in a whisper, though not in public. But of course I don’t feel as if I’m talking to myself but rather to the cast of characters my cinematic imagination is projecting around me, complete with scenery and costumes. (I know that all sounds a bit mad.) I should point out here that these are not hallucinations. They are just daydreams.

#### 4.2. *Fantasy content*

Participant #43 clearly articulated the broad range of content that the fantasy can involve when she reported, “Topics differ as heavily as in a DVD rental store.” Participants reported fantasizing in a variety of genres including science fiction, Japanese character animation, historical fiction, and current popular culture.

Despite the vast variance in content, two broad categories of fantasies were evident across the participants: (1) character driven daydreams and (2) aspirational self-oriented daydreams. Thirty-one percent of participants reported fantasies of both types with some participants specifically categorizing their own fantasies by labeling one type of fantasy as their “characters” or “my stories” and the others as their “perfect self daydream” or “aspirational daydreams.” The character oriented fantasies usually involve fictional characters borrowed from television shows, movies, books or just individuals noticed by participants while walking down the street. Twenty-four percent of participants noted that the fictional characters interact with individuals from the participant’s real life. Participants reported that in some fantasies they include themselves in interaction with the fictional characters, while in others they expressly exclude themselves and observe the scenario unfold from the perspective of a main character or narrator. They also noted that some fantasy characters are maintained for years, while others are left behind or replaced by new ones as time progresses. Some fantasizers repeat specific fantasies over and over, while others will never repeat the same fantasy twice. Thirty-nine percent of participants noted that they used the faces of television characters, actors or other public figures to create their fantasies. For example, Participant #63 reported:

One is a creative type of daydream such as the ones frequently described in the forums, a drawn-out story with complex characters and intricate plotlines. In these daydreams, I am completely removed from the dream. I am only the narrator, and I don’t recall ever placing myself into the daydream. Most often, I will start off with a television show or book that I found interesting, and from there I would make up new characters, kill off old ones, change the plot the way I saw fit, etc.

Participant #65 reported that she originally believed that her fantasizing was a result of a celebrity obsession, especially during a time period when most of her fantasies involved the activities of a deceased famous country singer. However, after looking at fan based websites, she realized that her fantasies were different from most of the other fans. She reported that “I don’t really want to know much about the REAL him, I just need to know enough to create fantasies based on him, and his life (and while some are sexual in nature, most are not.)”

The aspirational daydreams involve an idealized self accomplishing noble tasks and basking in the adoration of others. Participants explained that the idealized self is usually more attractive and talented, with others often noticing how wonderful they are. For example, Participant #73 reported:

I might daydream about being a flashy basketball player, a speaker with a great voice, a musician playing a new kind of instrument, or a hero who risks his life to save someone else’s, . . . Often I play out the storylines of my daydreams all the way into the future into my imagined accomplishments as an older man, who has cared for his family and his community.

Participant #54 created a friendship with three fictional women to interact with her idealized self:

I’ve created all of the details about them, looks, abilities, husbands, families, likes, dislikes, personalities. . . .I tend to base my scenarios around an unusually large group of people who I really do know in real life—their function is to see how great my life is because these fantasy people love me so much and are so amazing.

#### 4.3. *Potential function of fantasies*

Participants expressed an awareness that perhaps the fantasies allow them access to emotions and experiences they lack in their real life. Participant #1 reported that the fantasizing:

...allowed me to take a break from the harsh reality, and it lets me experience a life that I couldn't before. So it has really helped me calm down at times, and it has just made me happy and relaxed during some periods of my life where I couldn't get a break.

Participant #1 further reported frequent fantasizes about being diagnosed with terminal cancer:

Whoever is with me I invariably imagine is filled with touching concern and worry for my well being. . .my friends and my ex get very emotional and worried, while I try my best to stay calm. . .It gives me a really satisfied feeling when I do this usually, I think probably because it allows me to feel loved and cared for.

After her older brother died when she was age 13, Participant #2 created a fantasy world based on the male young adult character of a popular television show. However she created a younger sister for this character and emphasized a strong sibling relationship between the two characters. Although Participant #2 reported extensive fantasizing long before her brother's death, the content of her fantasies shifted to incorporate a strong sibling relationship after suffering the loss of her brother.

The real world needs being met through most of the fantasies are not nearly as obvious as the above examples. However participants used words such as calm, relaxed, excited, in-control, confident, euphoric, and happy to describe their feelings while fantasizing. Participant #65 reported that "I feel an actual 'rush.' It's like a wave of pleasure that comes over me when my daydreams start."

#### 4.4. Triggers

The results demonstrated that almost anything in the external world can act as a trigger for a participant's fantasy. Seventy-three percent of participants reported that music, television, books and other media were common triggers, with music being the most frequently noted trigger. Participants noted that certain moods, such as boredom, anger, stress, frustration, and excitement can trigger fantasies. Twenty-one percent of participants mentioned that learning anything new in the real world can be a fantasy trigger.

Twelve participants noted that by asking about the triggers for fantasizing, we phrased the question inappropriately. These participants explained that although things in the real world can exacerbate or provide ideas for a fantasy, that because the fantasies are so extensive and encompass a constant state of being, they are not necessarily "triggered." For example in response to the question about fantasy triggers Participant #24 answered:

When I am doing nothing that needs full concentration then I daydream automatically. A better question is: When does it stop? It stops when I am around people who (possibly) want to talk to me, it stops when I'm talking to somebody, it stops when I am doing something really interesting.

#### 4.5. Reasons for fantasy distress

A major theme noted by participants involved mixed feelings of both love and hate for their fantasizing. For example, Participant #78 reported, "Sometimes I wonder if it's destroying my life completely. Sometimes I think it's the best part of my life."

Eighty-eight percent of participants reported moderate to severe distress regarding their fantasy activities. The results demonstrated that the participants' distress regarding their fantasizing stems from three factors, including; a concern that the quantity of time spent balancing fantasy worlds with reality is exhausting and distracts from activities and relationships in the real world, a dislike of the unrelenting and often uncontrollable need to engage in fantasy activities, and finally a sense of overwhelming embarrassment and shame about the fantasizing that leads to extreme measures to keep it hidden from others.

##### 4.5.1. Time diverted from external activities and its relationship to real world functioning

Participants expressed a concern that fantasizing takes time away from pursuits in the external world. Guilt and remorse over neglecting real world responsibilities was reported by 57% of participants as one of the most distressful aspects of fantasizing. Participant #26 wrote "the amount of time you feel you have wasted with an imaginary community whilst neglecting your loved ones in reality brings about an enormous sense of guilt." This guilt appears to stem from the sheer quantity of time spent fantasizing, with participants reporting averages of 1–10 h per day (with a mean of 56% of their time) with daily fluctuations depending on their real world responsibilities.

These reported quantities only included time spent engaged in elaborately crafted fantasy worlds. Although these participants also spend time mind wandering about more typical topics, including reminiscing about past events in their own life or thinking about what they have to do tomorrow, it is the fantasy activities that are the cause of distress. According to Participant #79

I tend to let my mind wander at times, like most people do, I am sure. . .I might drift off and think about what I need to do later in the day or week. . . and I can get back to the here and now with no effort whatsoever. . .when I am caught up in this daydreaming mess, it's quite different. It's a conscious but VERY compelling escape. I really wonder if it's akin to someone

who is high on drugs or something. . . because when I am caught up in it, the longer I am trapped, the more difficult it is to get focused on the here and now.

One real world need that 14% of participants reported difficulties with due to fantasizing was sleep. According to Participant #19:

I hadn't slept the night before, because I couldn't stop daydreaming enough to actually sleep, even though I desperately needed and wanted sleep. So I woke up from maybe the only hour of bad sleep I could manage, and immediately as soon as I was conscious, began daydreaming a plot line exactly where I left off the last time I was awake.

Despite the large amount of time spent in fanciful thought, the participants reported successful real world functioning. Only three participants reported that their fantasy activities made it nearly impossible to work leading to unemployment. All other participants reported that they are successfully employed or are in college or graduate school. Two participants are medical students. Despite the real world success, participants complain that they find it requires a delicate and stressful balancing act to ensure that any real world responsibilities are accomplished.

When real world pressures increase, such as during final exams for students, participants seem to be able to reduce their fantasizing to meet these additional obligations. However these periods of reduced fantasizing can lead to increased stress and anxiety. For example, Participant #26 reported experiencing extreme frustration and anxiety during exam periods, due to the reduction of time she was able to spend with her characters which led to "a daydreaming binge for a good part of the successive summer holidays." These binges often entailed singular fantasies that lasted for 3 or 4 days during which she feigned illness to avoid questions from others.

#### 4.5.2. Time diverted from real world social relationships

There was a wide range of social functioning demonstrated across the participants. Twenty-four percent of participants reported some degree of perceived social impairment, including social awkwardness, social anxiety or perceiving themselves to be "a loner." Nine percent of participants reported having no friends or meaningful relationships, saying that the only meaningful conversations they experience take place in their heads.

In contrast, 76% of participants reported normal social behavior and interactions with friends, family, and coworkers. However, regardless of the level of social functioning, participants reported a preference for fantasizing over spending time with individuals in their real life.

Participants were divided between the 43% who never allow themselves to fantasize in the presence of others and the 57% who permit themselves to fantasize in others' company. Participants who are completely unable to fantasize without kines-  
thetic activity reported frequently turning down social requests due to a preference for staying home alone to fantasize. On the other hand, those who fantasize while interacting with others reported difficulties in dividing their attention between their fantasy and external worlds. For this 57% of participants, any moment in the real world that does not require their immediate and full attention is usually divided between fantasy and reality, often leaving participants both exhausted and unable to feel as though real world tasks have their full attention and presence. For example according to Participant #78:

Then I find myself in the unusual and unworkable situation of being simultaneously *elsewhere* and *in company*, *someone else* and *myself*. Everything feels incongruous. I feel like the real people can see right through me and either see me as who I am in the other place or at least recognize that I believe I'm someone else. Also, because I'm so far away I get scared when they speak to me – shop assistants telling me how much I owe, for example is entirely unexpected, feels like an attack.

#### 4.5.3. The negative impact of fantasizing on real world interactions

Another major concern of many of the participants is that the grandiosity of the fantasy scenarios and characters makes external reality less interesting and satisfying. Relationships with real people are affected because they can never compete with the characters of the fantasies and are never as appreciative of the fantasizer's true life characteristics. For example Participant #29 reported:

There have been times that I have felt sad after daydreaming. Coming back to reality where I do not have those relationships can be very difficult, but for the time being, it's worth it to me. I remember an incident that occurred years ago where I was fooling around my boyfriend at the time, and had the sudden realization that he would never be the love interest in my daydreams. This insight was jarring to say the least, and I became desperately sad. It felt like I had the wind knocked out of me! A few tears slipped out and I tried to hide it, but eventually I asked my boyfriend to leave.

Participants reported that while the actual daydream is a positive experience the return to reality is often distressful:

Going into a daydream is very exciting. The more interesting the ideas I come up with the more excited I feel. The feeling is almost like a kind of euphoria, and there is definitely an element of escapism too. As time passes, I quickly begin to feel locked in, like I can't let go. Reality always seems harder to face when I'm in a daydream or trying to come out of one. Often a feeling of dread and shame settles in. (#73)

Participant #26 concurred:

As soon as I make the conscious decision to leave that world behind it feels as though someone has lifted a comforting mist. Suddenly reality seems a little bit harsher, when you no longer have a fountain of happiness and excitement to keep you satiated.

#### 4.5.4. *An uncontrollable need to daydream*

A common theme reported by participants was that while they thoroughly enjoyed their fantasy activities, they were distressed by what they described as an uncontrollable need to engage in fantasy. Participant #33 explained, “It calms me to do this and can even make me happy, but its taking over my life, I just want to function a normal day without being someone else in my mind, without having to play this story.” In a response to open-ended questions asking for reasons why participants find the fantasizing distressful, 25% of participants described their fantasizing behavior as either an addiction, obsession or compulsion. For example, according to Participant #43, “It comes at the wrong moment. I can’t turn it off...I get a bad conscience; maybe like a drinker who promised himself ‘this is the last bottle’ and then finds himself back in the old habit.”

Seven percent of participants reported that suppressing their fantasizing impulses results in irritation, anxiety, and even illness. Making an analogy to an addiction, Participant #74 wrote, “If I go a whole day without daydreaming I can actually become sick, as strange as it sounds almost like I am going through withdrawal. I become very anxious, I have intense migraine, and my stomach will hurt.”

The inability to control the fantasizing does not mean that the fantasies always appear effortlessly or unwillingly. Instead, even though the fantasies are often consciously brought forth, participants reported being unable to control their desire to create the fantasies. Participants expressed an awareness of the fact that most people daydream, but believe that the uncontrollable need to continue a fantasy is what distinguishes them from more typical daydreaming. For example:

I guess what’s different about the way I daydream to how others daydream, is that I will fall right back into a daydream uncontrollably right after someone brakes me out of it, where others can shake their heads and just get on with what they are doing once they realize they are daydreaming (#75).

Yet the inability to control the fantasy is not complete. Participants reported instances and contexts where they do not allow themselves to fantasize. For example, those participants who are students often prohibit or limit fantasizing during final exams, and participant #41 will not allow herself to fantasize while in church. However, as soon as the real world allows an opportunity, fantasy ensues. For example, Participant #51 explains, “If my mind is not engaged in conversation, deep thought or any other activity that requires my full concentration and doesn’t allow me to wander off even if for a minute and there’s music nearby I’m daydreaming.” And according to Participant 41:

I used to daydream everywhere. When I’m doing chores, in class while the teacher is teaching, in the school bus, in the car, while I’m watching TV, before I sleep, when I wake up, while I’m brushing my teeth or taking a bath, as I’m walking. At times I daydream throughout the night that I get no sleep and end up sleeping in class or in church.

The difficulty of controlling the amount of fantasizing is evident in the fact that 79% of participants reported attempts to limit the fantasizing, with almost all reporting unsuccessful results. Participants reported trying to avoid triggers such as music, television, books or being alone or unoccupied. Participant #27 noted trying actively to fight fantasizing’s “natural high” but always losing:

I have tried to limit my daydreaming in the past. I tried hard to just focus on what was around me and keep in mind only real people, things and events that were happening in the here and now. It was a battle. Me against my daydreams. They won. No matter how hard I try, it is a struggle to stay in reality.

Participants report having tried cognitive behavioral therapy, antidepressants (fluvoxamine, fluoxetine, sertraline, Lexapro), attention-deficit disorder medications (Adderal, Ritalin), biofeedback, and dietary changes, with uneven success. Twenty-three percent of participants sought some type of therapy or mental health care, usually with little success. Not surprisingly, the proportion of participants who reported seeking consultation or therapy also reported a significantly higher proportion of “Severe” Distress and/or Impairment ratings than those who did not seek consult/therapy ( $z = -2.653$ ;  $p = 0.004$  (one-tail);  $p = 0.008$  (two-tail)). However, nearly twice the proportion of individuals in the Consult/Therapy group reported Little-or-No Distress/Impairment due to fantasizing than did those in the entire study sample (though of course these proportions overlapped). This finding makes it difficult to speculate on possible reasons for which some fantasizers seek professional help, while most do not.

#### 4.5.5. *Telling no one; a sense of isolation*

An intense desire to keep their fantasy worlds secret from others, including spouses, friends and families, creates additional stress for the participants. Participants reported concerns of embarrassment and fear over others finding out about their fantasy activities. Eighty-two percent of participants go to great lengths to keep their fantasy activities secret from almost everyone, with in some cases the exception of one select person in their life, including a pastor, best friend or therapist. For example:

My daydreaming is a complete secret from everyone I know (except for the people on the Wild Minds website, which I just discovered today). In fact I don’t even write about it in my journal because I’m afraid someone might read it (either

now, or after I die). I would be so embarrassed if my friends or family knew. They wouldn't understand. They might think I'm crazy, like schizophrenic. And they would probably think I can just stop anytime I want, but I can't (#2).

Participant #78 agrees, "Firstly, they would think I was insane. Secondly, they would think I was lonely and sad. They would pity me and they would discuss it among themselves. That would be horrible" Interestingly, Participant #2 is much less embarrassed by the fantasies relating to her idealized self than she is about the character driven fantasies involving a popular television show. This differentiation is based on her belief that most people do some sort of idealized self fantasizing but that elaborate character driven fantasies are less normal.

Participants reported dual opposing fears regarding others finding out about their fantasy worlds; they do not want others to think they are insane or pathetic or send them to a mental hospital, but they also do not want others to minimize their concerns and think they are silly. For example, Participant #75 reported telling her doctor about her experiences, who "looked at me with one eyebrow raised and told me it's nothing to worry about." This simply left her feeling that the doctor did not understand the depth of her fantasizing or the distress that it causes, a frequent complaint of the 23% of participants who had sought psychological therapy.

#### 4.6. Positive features of excessive fantasy

Despite the fact that 88% of participants experience current distress over their excessive fantasizing, positive aspects of fantasy were also reported. As previously mentioned, fantasizing makes participants feel happy and calm and may be used as a coping mechanism to handle the frustrations of daily living. Additional positive attributes reported included enhanced empathy and creativity. For example, Participant #26 reported that she has a high capacity for empathy because she finds it easy to imagine herself in the situation of another. Another advantage mentioned by participants was that the fantasizing ensured that they were never bored as there were always exciting people and interesting worlds to see.

Artistic and creative talents were reported by 71% of the participants. Participant hobbies and professional talents include music, painting, drawing, acting; and 46% of participants write stories, novels, and poetry. Participant #75 reported that drawing and creating graphics are the only activities that both relax her and that she can engage in without fantasizing. However, other participants reserve their creativity for their fantasies and not pursuits in the real world. These participants complained that the fantasizing takes away the time necessary to be creative in the real world. For example according to Participant #26, "One of the main reasons I would like to control my lapses into 'Dream Land' would be to allow myself the time and perseverance to produce something worthwhile in reality, rather than keeping my ideas locked up where only I can view them."

#### 4.7. A lack of dissociation or out of body experiences

Fully 98% of participants responded that they had no difficulty distinguishing their fantasies from the real world and that they were aware that their fantasies were completely imaginary. Only five participants reported ever having any "out-of-body" or other possible dissociative experiences, and three of these were identified as hypnogogic hallucinations. Also, of the 60 participants who answered questions about beliefs in paranormal activities such as UFOs or clairvoyance all but 12 denied maintaining beliefs or interest in such activities.

#### 4.8. Childhood and potential antecedents to excessive fantasy

All participants reported that they remembered fantasizing excessively from very young ages. The modal frequencies of self-reported age of onset of excessive fantasizing were 2–3 years of age, 6–7 years of age and 11–12 years of age.

Twenty-seven percent of participants reported experiencing either some sort of childhood physical, emotional, or sexual abuse or other forms of trauma. But the remainder of participants reported happy childhoods with loving parents and families. Compared with prior studies which implicated early trauma and/or abuse as an antecedent to extensive fantasizing behavior (Rhue & Lynn, 1987a; Rhue et al., 1995; Somer, 2002) the findings in our sample strongly suggested that early trauma and/or abuse is neither necessary nor sufficient to account for fantasizing that causes distress and functional impairment. Interestingly, the reported proportions that occurred in our sample correspond closely to the CDC Adverse Childhood Experiences (ACE) Study Data and Statistics for American Children; thus, were consistent with what would be expected in the general population of the US (available on CDC website: [www.cdc.gov/ace/prevalence.htm](http://www.cdc.gov/ace/prevalence.htm)).

Additionally, there were no statistically significant differences in proportion between the Trauma and/or Abuse Group and the No Trauma/Abuse Group; those with histories of Trauma/Abuse were neither more likely to seek consultation or therapy, nor to report "Severe" ratings of Distress and/or Impairment.

## 5. Discussion

### 5.1. Excessive fantasizing: similarities and differences across the population

This study documents a population that spends a significant period of their daily lives engaged in elaborately crafted fantasy activity. Although the literature has found that it is normative for individuals to spend large parts of their waking hours

in daydreaming activity (Killingsworth & Gilbert, 2010; Klinger, 2009), fanciful thought has been found to be included in only approximately a quarter of thought samples (Klinger & Cox, 1987–1988). Additionally, the present study is the first to detail an association between excessive fantasy and attendant distress due to a difficulty in limiting fantasy in a large non-exclusively traumatized sample.

We set out to study the experiences of excessive fantasizers with the hopes of offering a preliminary definition of this syndrome through systematic delineation of reported commonalities across participants. We are proposing that a distinct population exists, comprised of individuals who engage in a shared non-normative type of fantasizing behavior; and that this population represents a unitary syndrome with basic core symptoms but varying degrees of severity. Several commonalities across the participants support our proposition that excessive fantasizing as experienced by these participants is a psychological phenomenon with specific shared features. These commonalities include the creation of elaborately crafted and finely detailed imaginative worlds complete with fictional characters and plots that participants engage in for a large part of their waking hours. Other commonalities include; beginning the fantasizing at young ages, the use of kinesthetic activity, non-disclosure to friends and family and a shared concern that while they enjoy their fantasy world activities, they dislike the unrelenting need to continuously engage in it and fear that the fantasizing is diverting too much time from real life activities and relationships. The varying degrees of time spent and compulsion and distress experienced provide evidence of a syndrome with differing degrees of severity.

One noticeable difference across participants is in the manner and degree in which the fantasizing affects social functioning, with 24% of participants reporting impairment in social relationships and social skills. As the study did not utilize assessments for other psychological disorders, it is possible that the participants with more impaired social functioning experience several co-morbid disorders including anxiety disorders and depression. There is not yet enough information to know whether this reported social dysfunction is a result of excessive amounts of time in an imaginary world leaving less time to learn social skills and develop relationships, or if individuals with already impaired social functioning choose to spend more time in their imaginations.

Despite successful occupational or academic functioning, 88% of participants report current distress regarding their excessive fantasizing activities. A portion of this distress stems from the combined feeling that it takes considerable effort to keep the fantasizing under control and a concern that they are never fully mentally present or in enjoyment of real world tasks and relationships. Another reason for this distress stems from feelings of shame and embarrassment based on the belief that their fantasizing is abnormal and different from the normative daydreaming more typically engaged in by others. This need for secrecy further disengages many of the participants from real world relationships, thereby leaving them feeling even more alone which increases their desire to turn to their imaginary worlds.

## 5.2. Excessive daydreamers: a new or under-described population

### 5.2.1. Differences from normative daydreamers

The present population does not report being troubled by typical mind wandering experiences such as thinking about what one has to do or reminiscing about past experiences. Instead, the present population only expressed concerns about their fanciful thought content, which shares similarities with descriptions offered by Singer (1975) and Wilson and Barber (1981) as it encompasses fictional characters who do not exist in the fantasizer's real life. Although fantasizing about fictional characters has been described in the literature before, never before has the literature on normative daydreaming described circumstances where individuals feel compelled to immediately return to a daydream in order to continue its creation after being interrupted by the real world. Yet it is this compulsive need to return to fantasy worlds that was reported to be a primary source of the participants' distress. This is supported by participant reports of unsuccessful attempts to limit their fantasizing as well as their assertions that they feel as though they suffer from an addiction.

### 5.2.2. Are maladaptive daydreamers or fantasy prone persons included in the present sample?

In contrast to Somer's (2002) "maladaptive daydreamers", 73% of participants did not report experiences of childhood abuse or trauma. The present population also did not demonstrate the lack of academic/occupational functioning, disconnection from reality or the levels of social impairment that were present in Somer's study sample. Thus it is likely that Somer's sample may represent a sub-group of the population we are studying.

Participants most closely resemble Wilson and Barber's (1981, 1982) "fantasy prone" persons. The intricate detail of the elaborately crafted fantasy worlds combined with the large amount of time engaged in fantasy is indicative of a high fantasy prone personality. As participants were not asked to complete the ICMI or any other instrument to assess fantasy proneness, we cannot be certain whether these populations overlap. The apparent lack of dissociative experiences coupled with a minority of individuals endorsing paranormal beliefs lies in contrast to descriptions of fantasy prone persons. It is possible that Wilson and Barber (1981, 1982), in studying individuals highly susceptible to hypnosis, found a population of individuals who share features related to both excessive fantasy and hypnosis and may represent a subset of a larger population of excessive fantasizers.

Regardless of whether the present sample contains fantasy prone individuals, Wilson and Barber (1981, 1982) and the line of research that followed their initial findings were silent as to whether their participants experienced any distress or an uncontrollable need to engage in fantasy which is a central shared feature of our present participants. The studies on fantasy prone personalities that followed Wilson and Barber provided some associations relating fantasy proneness with

known psychological disorder (Rauschenberger & Lynn, 1995, 2002; Rhue & Lynn, 1987b). Yet these studies did not offer insight into whether the extensive engagement in fantasizing in and of itself could be considered a source of distress, which again is a main shared feature of our present population.

## 6. Conclusion

In order to obtain a reasonably sized sample of this very private population willing to share their personal experiences, participants were recruited from online sites where anonymity is assured. As is true in any self-selected population, there is no way to determine how representative our sample was of the proposed population. It can be presumed that the higher number of respondents under age 40 may well be due to the higher likelihood of this age group to spend time online; or their simply being more forthcoming about sharing personal information. We also have no way of accounting for the much higher proportion of female participants. Additionally, due to the recruitment of participants from websites that discuss fantasy distress, it is not surprising that nearly 88% of participants reported current distress regarding their fantasizing activities. The reliance on these websites as recruitment tools could therefore be an important limitation to the study by precluding the potential identification of individuals who exhibit similar patterns of fantasizing but who are not distressed by them. Future studies should attempt to find more fantasizers who also craft elaborate fantasy worlds filled with repeating characters, but who instead of finding these worlds distressful believe that it enhances their creativity and life enjoyment. An article addressing just this discrepancy appeared in a recent issue of the popular magazine *Scientific American MIND*. The article, written by science writer Josie Glausiusz, was titled “Living in a Dream World”, sub-titled “Daydreaming can help solve problems, trigger creativity, and inspire great works of art and science. When it becomes compulsive, however, the consequences can be dire.” Ms. Glausiusz (2011) mentioned our current work and quoted numerous researchers and experts in the field of conscious flow, including Eli Somer, who commented that a vivid imagination, “...when it is under control, ...should probably be classified as a talent rather than a disorder”; while Jerome Singer, a fantasizer himself, “...does not consider his inner adventures harmful but rather sees them as a boredom-bashing sport...” (p. 31).

We agree with Somer and Singer that it is likely that individuals do exist who have created elaborate fantasy worlds similar to our participants and have used this imaginary world to enhance their lives and eliminate boredom. In fact 12% of our population reported little to no current distress related to their fantasizing activities. However, we suspect that it is the out-of-control compulsive aspect of our sample population’s fantasizing that differentiates our participants from those who use fantasy simply as a “boredom-bashing sport.” The lack of control over the fantasy and difficulty limiting it to appropriate time periods was consistently expressed as a primary cause of concern for our study participants.

The fact that participants experience their fantasies as “compelling”, “exciting”, “relaxing”, and “a rush”, as well as the difficulty they express in resisting or controlling them, are consistent with the compulsive disorders mentioned in our literature review. Further, as all participants noted early ages of onset for their fantasizing episodes, they have had years—often during the most developmentally sensitive periods—for underlying reward circuits to strengthen, increasing their hold on these individuals. It is therefore imperative that future studies assess the nature and degree of this compulsion and compare it to compulsions experienced in currently known psychological disorders.

It is hoped that now that a qualitative description of the experiences of this population has been presented, future studies may be undertaken to attempt to establish the frequency with which this phenomenon may occur in the general population. Further work could be designed to compare excessive fantasizers to a normative population in terms of psychological and life functioning. It might be interesting to compare the daily activities and thought flow experiences among excessive fantasizers and more normative individuals in order to see the extent to which engagement in fantasizing fills time that others would spend in other tasks such as reading, watching television, playing video and computer games, social networking, or Internet surfing. Future studies that employ the use of beepers or other technology to sample participants’ thought experiences could be highly insightful in making comparisons between the quantity and type of fantasy experienced by this population in comparison to the general population. Most importantly, it is essential that future research be undertaken to investigate potential methods of alleviating distress and functional impairment experienced by excessive fantasizers.

Important links to internet resources dedicated to discussions of and by excessive daydreamers:

- <http://wildminds.ning.com/> (site created and hosted by Cordellia Amethyste Rose)
- <http://www.daydreamingdisorder.webs.com/>
- <http://www.revolutionhealth.com/forums/mental-behavioral-health/111247>
- [http://www.indiaparenting.com/comments/124\\_890/day-dreaming.html](http://www.indiaparenting.com/comments/124_890/day-dreaming.html)

## Acknowledgments

We thank Frederick J. Wertz of Fordham University for his guidance and encouragement of the initial thesis which served as a springboard for this manuscript. We thank Dr. Jesse S. Rosenthal for both connecting us to each other and encouraging this research.

## References

- Albrecht, U., Kirschner, N., & Grüsser, S. (2007). Diagnostic instruments for behavioural addiction: An overview. *GMS Psycho-Social-Medicine*, 41–11.
- Antrobus, J. (1968). Information theory and stimulus-independent thought. *British Journal of Psychology*, 59(4), 423–430.
- Antrobus, J., Singer, J., & Greenberg, S. (1966). Studies in the stream of consciousness: experimental enhancement and suppression of spontaneous cognitive processes. *Perceptual and Motor Skills*, 23(2).
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Breuer, J., & Freud, S. (1893). *Studies on hysteria*. Oxford England: Basic Books.
- Butler, L. (2006). Normative dissociation. *Psychiatric Clinics of North America*, 29(1), 45–62.
- Centers for disease control and prevention web site – Adverse childhood events study (ACE). <<http://www.cdc.gov/ace/prevalence.htm>> April 2011.
- Christoff, K., Gordon, A. M., Smallwood, J., Smith, R., & Schooler, J. W. (2009). Experience sampling during fMRI reveals default network and executive system contributions to mind wandering. *Proceedings of the National Academy of Science*, 106(21), 8719–8724.
- Csikszentmihalyi, M., & Larson, R. (1987). Validity and reliability of the experience-sampling method. *Journal of Nervous and Mental Disease*, 175(9), 526–536.
- Glausiuz, J. (2011). Living in a dream world. *Scientific American Mind*, 22(1), 24–31.
- Gold, S., Gold, R., Milner, J., & Robertson, K. (1986). Daydreaming and mental health. *Imagination, Cognition and Personality*, 6(1), 67–73.
- Grov, C., Golub, S. A., Mustanski, B., & Parsons, J. T. (2007). Sexual compulsivity, state affect, and sexual risk behavior in a daily diary study of gay and bisexual men. *Psychol Addict Behavior*, 24(3), 487–497.
- Holden, C. (2001). Behavioral addictions: do they exist? *Science*, 294(5544), 980–982.
- Kane, M. J., Brown, L. E., Little, J. C., Silvia, P. J., Myin-Germeys, I., & Kwapil, T. R. (2007). For whom the mind wanders, and when: An experience-sampling study of working memory and executive control in daily life. *Psychological Science*, 18, 614–621.
- Kellett, S., & Bolton, J. V. (2009). Compulsive buying: A cognitive-behavioural model. *Clinical Psychology & Psychotherapy*, 16(2), 83–99.
- Killingsworth, M. A., & Gilbert, D. T. (2010). *Science*, 330(6006), 932.
- Klinger, E. (1971). *Structure and functions of fantasy*. Oxford England: Wiley.
- Klinger, E. (2009). *Daydreaming and fantasizing: Thought flow and motivation. Handbook of imagination and mental simulation*. New York, NY, US: Psychology Press, pp. 225–239.
- Klinger, E., & Cox, W. (1987–1988). Dimensions of thought flow in everyday life. *Imagination, Cognition and Personality*, 7(2), 105–128. 1988.
- Klinger, E., Henning, V., & Janssen, J. (2009). Fantasy-proneness dimensionalized: Dissociative component is related to psychopathology, daydreaming as such is not. *Journal of Research in Personality*, 43(3), 506–510.
- Lejoyeux, M., Avril, M., Richoux, C., Embouazza, H., & Nivoli, F. (2008). Prevalence of exercise dependence and other behavioral addictions among clients of a Parisian fitness room. *Comprehensive Psychiatry*, 49(4), 353–358.
- Lynn, S., & Rhue, J. (1988). Fantasy proneness: Hypnosis, developmental antecedents, and psychopathology. *American Psychologist*, 43(1), 35–44.
- Mason, M. F. (2010). *Unpublished preliminary results of fMRI study*, 2010.
- Mason, M. F., Norton, M. I., Van Horn, J. D., Wegner, D. M., Grafton, S. T., & Macrae, C. N. (2007). Wandering minds: The default network and stimulus independent thought. *Science*, 315(5810), 393–395.
- Merckelbach, H., Horselenberg, R., & Muris, P. (2000). The creative experiences questionnaire (CEQ): A brief self-report measure of fantasy proneness. *Personality and Individual Differences*, 31(2001), 987–995.
- Raichle, M. E., MacLeod, A. M., Snyder, A. Z., Powers, W. J., Gusnard, D. A., & Shulman, G. L. (2001). A default mode of brain function. *Proceedings of the National Academy of Science*, 98(2), 676–682.
- Raichle, M. E., & Snyder, A. Z. (2007). A default mode of brain function: A brief history of an evolving idea. *NeuroImage*, 37, 1083–1090.
- Rauschenberger, S., & Lynn, S. (1995). Fantasy proneness, DSM-II-R Axis 1 psychopathology, and dissociation. *Journal of Abnormal Psychology*, 104(2), 373–380.
- Rauschenberger, S., & Lynn, S. (2002). Fantasy-proneness, negative affect, and psychopathology. *Imagination, Cognition and Personality*, 22(3), 239–255.
- Rhue, J., & Lynn, S. (1987a). Fantasy proneness: Developmental antecedents. *Journal of Personality*, 55(1), 121–137.
- Rhue, J., & Lynn, S. (1987b). Fantasy proneness and psychopathology. *Journal of Personality and Social Psychology*, 53(2), 327–336.
- Rhue, J., Lynn, S., & Sandberg, D. (1995). Dissociation, fantasy and imagination in childhood: A comparison of physically abused, sexually abused, and non-abused children. *Contemporary Hypnosis*, 12(2), 131–136.
- Saxena, S. (2010). Sexual compulsivity, state affect, and sexual risk behavior in a daily diary study of gay and bisexual men. *Psychology of Addictive Behavior*, 24(3), 487–497.
- Schupak, C., & Rosenthal, J. (2007). LTE: Case report: Lamotrigine/fluoxetine combination in the treatment of compulsive sexual behavior. *Progress in Neuro-Psychopharmacology & Biological Psychiatry* (31), 1337–1338.
- Schupak, C., & Rosenthal, J. (2009). Excessive daydreaming: A case history and discussion of mind wandering and high fantasy proneness. *Consciousness and Cognition: An International Journal*, 18(1), 290–292.
- Silverman, D. (2000). *Doing qualitative research: A practical handbook*. London: Sage.
- Singer, J. L. (1966). *Daydreaming*. New York: Random House.
- Singer, J. (1975). *The inner world of daydreaming*. New York: Harper & Row [Vol. 22, no. 1, p. 31].
- Smallwood, J. M., Baracaia, S. F., Lowe, M., & Obansawimb, M. (2003). Task unrelated thought whilst encoding information. *Consciousness and Cognition*, 12, 452–484.
- Smallwood, J., & Schooler, J. W. (2006). The restless mind. *Psychological Bulletin*, 123(6), 946–958.
- Somer, E. (2002). Maladaptive daydreaming: A qualitative inquiry. *Journal of Contemporary Psychotherapy*, 32(2), 197–212.
- Sussman, S., Lisha, N., & Griffiths, M. (2006). Prevalence of the addictions: A problem of the majority or the minority? *American Journal of Psychiatry*, 163, 1806–1812.
- Voon, V., Pessiglione, M., Brezing, C., Gallea, C., Fernandez, H. H., Dolan, R. J., et al (2010). Mechanisms underlying dopamine-mediated reward bias in compulsive behaviors. *Neuron*, 65(1), 135–142.
- Wilson, S., & Barber, T. X. (1981). *Inventory of childhood memories and imaginings*. Framingham, MA: Cushing Hospital.
- Wilson, S., & Barber, T. (1982). The fantasy-prone personality: Implications for understanding imagery, hypnosis, and parapsychological phenomena. *PSI Research*, 1(3), 94–116.