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# Fantasy Proneness and Coping

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## Abstract

This study probed a possible relationship between fantasy proneness and several ways of coping; task oriented, emotion oriented and avoidance oriented, and their connection with mental and physical health. The participants consisted mainly of university students ($N = 51$) and were given three scales; the Creative Experiences Questionnaire (CEQ; Merckelbach, Horselenberg, & Muris, 2001), the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1999) and a short version of the Brief Symptom Inventory (BSI; Ruipérez, Ibáñez, Lorente, Moro, & Ortet, 2001). Fantasy proneness did not show any correlation with coping, but it did correlate positively with somatization and hostility/aggressivity on the BSI. Emotion oriented coping correlated positively with maladaptive factors on the BSI, and negatively with age.

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# Introduction

The purpose of our study was to examine the correlation between fantasy proneness and task oriented, emotion oriented and avoidance oriented coping, and how these are associated with measures of mental and physical health. Although it has been more than twenty years since the concept of fantasy proneness was conceived, research on the topic has been relatively scarce. A major function ascribed to fantasy proneness is that of coping. Most research on fantasy proneness has been centered on its maladaptive dimensions, therefore we thought it would be interesting to compare measures of fantasy proneness with measures of adaptive and maladaptive coping as well as measures of mental and physical health.

## Fantasy proneness

*Definition of fantasy proneness*

The term 'fantasy prone' was first defined in the work of Wilson and Barber (1983) on hypnosis, and was used to describe a certain group of participants who reported frequent daydreaming and vivid imagination. Other terms used to label the group include "fantasizers" and "fantasy addicts". These people claimed to be able to experience fantasies with a hallucinatory quality that seemed as real as everyday reality and to spend a large part of their time fantasizing. Many of them also claimed to have paranormal abilities such as healing and to have experienced various anomalous psychic experiences such as telepathy. Wilson and Barber estimated that around 4% of the population could be classified as having a fantasy prone personality and speculated that high fantasy proneness might be a causal link that gives rise to the various unusual talents and experiences that were reported by participants in their study. Fantasy proneness is a personality characteristic that is measured on a continuous scale.

Unfortunately, the study by Wilson and Barber suffered from a host of confounding factors, such as unrepresentative sampling, a lack of unitary empirical measures and not using testers blind to the hypothesis (Lynn & Rhue, 1988). In spite of this, general support for many of the different aspects of Wilson and Barber's concept of the fantasy prone individual has been found, such as a greater predisposition for imagination and heightened creative and hallucinatory abilities (Lynn & Rhue, 1986) compared to controls; however, a lot of the claims made by the participants in Wilson and Barber's study are yet to be validated. For example, studies investigating whether or not fantasy prone individuals are able to perceive

imagined objects as clearly as actual objects have had ambiguous results. Rhue and Lynn (1987) found that fantasy prone individuals were significantly more likely than controls to report that they were able to visualize an imagined object, but the estimated quality of the imagined object was typically described in terms such as fuzzy or vague rather than lifelike. Aleman and de Haan (2004) performed a study with different measures of imagery and found that fantasy prone individuals had a significantly higher rating than controls on a self-rated measure of imagery vividness. However, the fantasy prone individuals did not differ from controls when tested on imagery performance tasks were they were required to utilize imagery memory skills.

*Developmental antecedents and function of fantasy proneness*

Most of the studies conducted on fantasy proneness have been correlational studies, which cannot directly evaluate causal relationships. Nevertheless, interview research has suggested that fantasy proneness is developed in childhood. Two main pathways have been suggested: in response to encouragement to fantasize from a significant other, and as a means of coping with loneliness, isolation and an aversive environment. A third, less investigated pathway, is partaking in activities such as drama, piano or ballet in young age (Barber, 1999; Lynn & Rhue 1988; Wilson & Barber 1983). The most highlighted function of fantasy proneness, based on interviews with fantasy prone individuals, is that of its use in coping with difficult situations and circumstances (Lynn & Rhue, 1988), in the same way that fantasies and daydreams can have a coping function (Greenwald & Harder, 1997).

*Fantasy proneness, maladaption and psychopathology*

Fantasies and imagination in general are seen as adaptive and valuable tools (e.g. Lynn, Neufeld, Green, Sandberg, & Rhue, 1996; Person, 2003), and the early research by Wilson and Barber (1983) on fantasy proneness was likewise directed at its positive and adaptive functions. The focus on the positive aspects of fantasy proneness in the early research not withstanding, a lot of the subsequent research have been focused on possible connections between fantasy proneness and different measures of maladaption and psychopathology. One of the most investigated phenomena is that of dissociation. Dissociation, in its broadest psychological sense, refers to a lack of integration of thoughts, emotions and sensations into consciousness and memory (Cardeña, 1994). More specific uses of the term have different meanings. Cardeña reviews three applications of dissociation: First, dissociation as nonconscious or nonintegrated stimuli, behavior or systems "that should *ordinarily* be

accessible to the individual". Second, as an alteration in consciousness where the individual experiences disconnection from self or the environment (as in out-of-body experience). Finally, as a defense mechanism to distance oneself from experiences of anxiety or pain (such as "repressed" memories).

Dissociative experiences are common in everyday life, whilst pathological degrees of dissociation are more rare (Kihlstrom, Glisky, & Angiulo, 1994). Dissociation has been found to be a close correlate of fantasy proneness in several studies (Merckelbach, Muris, & Rassin, 1999; Merckelbach, Horselenberg, & Stougie, 2000; Merckelbach, á Campo, Hardy, & Giesbrecht, 2005; Pekala, Angelini, & Kumar, 2001; Rauschenberger & Lynn, 1995; Waldo & Merritt, 2000). However, the validity of the principal instrument used in these studies, the Dissociative Experiences Questionnaire (DES; Bernstein & Putnam, 1986), has been questioned. The DES has been used to measure pathological dissociation, yet has been found to correlate significantly with everyday cognitive lapses as measured by the Cognitive Failures Questionnaire (CFQ), which in itself has not been found to correlate with fantasy proneness (Merckelbach et al., 1999), and might not be reliable for nonclinical populations (Sandberg & Lynn, 1992). Waldo and Merritt (2000) reported that although individuals scoring high on fantasy proneness had significantly higher scores on the DES than individuals scoring low on fantasy proneness, the average DES score of the high-scoring fantasizers was lower than that for the whole screening sample. In addition, the DES has been found to correlate with a positive response bias (Merckelbach et al., 2000).
Other measures of pathological dissociation have yielded mixed results: Rauschenberger and Lynn (1995) obtained a significant correlation between fantasy proneness and dissociation as measured by the DES, but none of the participants were classified with a dissociative disorder diagnosis as measured by the Dissociative Disorders Interview Schedule (DDIS), although they reported more symptoms. On the other hand, the DES-T, which is an 8 item scale from the DES may be a better measure of pathological dissociation, and has yielded significantly higher scores for individuals high on fantasy proneness than for individuals low on fantasy proneness (Waldo & Merritt, 2000), and between individuals scoring in the high and medium range of fantasy proneness (Merckelbach et al., 2005).

Results obtained for other categories of maladaption and/or pathology are ambiguous as well. Whilst some studies found no link between fantasy proneness on the one hand and depression, or anxiety on the other hand (Lynn & Rhue, 1988), other studies have indeed found a link

between fantasy proneness and clinical depression and fantasy proneness and personality disorders (Rauschenberger & Lynn, 1995; Waldo & Merritt, 2000).

Lynn and Rhue (1988) found that fantasizers scored higher than controls on a measure of projected hostility; for some of their subjects, fantasizing served as an outlet for anger. In a related area, Greenwald and Harder (1997) found a connection between fantasy content and coping behavior, including a connection between hostile daydreams and coping by getting angry.

Fantasy proneness and measures of health have mainly revolved around depression, anxiety and distress. Rauschenberger and Lynn (1995) found no link between fantasy proneness and mental health as measured by the Mental Health Inventory (MHI). Waldo and Merritt (2000) found significant differences between high and low-scoring fantasizers in clinical interviews tapping personality disorders. Fantasizers had significantly higher scores on 'Cluster A' personality disorder diagnoses, which include paranoid personality disorder. They also received significantly higher scores on 'Cluster B' diagnoses, including antisocial and borderline personality disorders. In line with Rauschenberger and Lynn's findings, fantasizers did not differ from non-fantasizers in 'Cluster C' diagnoses. These diagnoses include avoidance and obsessive-compulsive disorders. Other examples include studies that found that many fantasy prone individuals score high on measures of schizophrenic tendencies on the Minnesota Multiphasic Personality Inventory (MMPI) scale (Lynn & Rhue, 1988; Merritt & Waldo, 2000), and on various other pathological measures tapped by structured clinical interviews (Rauschenberger & Lynn, 1995; Waldo & Merritt, 2000).

A common theme in the studies linking fantasy proneness to pathology is that only a subset (estimated at between 25-50%) of the fantasy prone individuals can be categorized as exhibiting some sort of pathology (Lynn & Rhue, 1988; Rauschenberger & Lynn, 1995; Waldo & Merritt, 2000). Lynn and Rhue (1988) found, for example, that a majority of their participants had the same number of close friends, the same grade averages in school, and did not differ in the amount of counseling or therapy they had received prior to the studies.

A possible link can be proposed between the findings that only a subset of fantasy prone individuals exhibit pathological behaviors or tendencies (Lynn & Rhue, 1988; Rauschenberger & Lynn, 1995; Waldo & Merritt, 2000) and that a subset of fantasy prone individuals report childhood abuse (Lynn & Rhue, 1988). There is need for caution here, however as, once again, ambiguous results have been obtained. Pekala et al. (2001) found a

general correlation between fantasy proneness and childhood sexual and physical abuse, but Rauschenberger & Lynn (1995) found no such correlation. The two studies might not be comparable, however, as the first measured a clinical population at a substance abuse unit, whilst the latter measured a sample of college students. Both studies also had a relatively small number of participants and used different scales. Although Rhue and Lynn (1987b) found that a significantly higher number of fantasy prone individuals than controls reported childhood physical abuse, these individuals rated their early home environment just as positively as the comparison group.

Several possible confounds of the correlational studies on fantasy proneness have been investigated. One of the areas of interest to research on fantasy proneness is reality monitoring. Reality monitoring refers to the process of mentally differentiating between internal and external sources of memory, in this case, differentiating between actual events and imagined events. From a cognitive perspective, one of the factors that humans take into account when they make this kind of decision is the speed and the vividness with which a particular thought asserts itself. Thoughts about an event that are both vivid and recurring or easy to generate are thus more likely to be interpreted as a real memory for that event (Johnson & Raye, 1981). Reality monitoring problems can be part of our everyday cognitive life, for example, we might become uncertain if we really locked the door to our apartment or if we just imagined doing so (Schacter, 2001). However, because fantasy prone individuals are defined as having vivid and frequent images, daydreams and fantasies, it has been suggested that these individuals might be more prone to reality monitoring errors than non-fantasy prone individuals (Aleman & de Haan, 2004; Merckelbach et al., 2005; Rauschenberger & Lynn, 1995; Waldo & Merritt, 2000). Support for reality monitoring difficulties has been found in interviews conducted with fantasy prone individuals (Lynn & Rhue, 1988; Wilson & Barber, 1983). When actually tested on reality monitoring tasks, however, the fantasy prone individuals have not been found to differ from controls (Aleman & de Haan, 2004; Merckelbach et al., 2000).

Another possible confound suggested is that fantasy prone individuals might be more likely than controls to endorse a question because of a liberal report criterion or a positive response bias (Merckelbach et al., 2000; Waldo & Merritt, 2000), especially if the question is perceived as important to their self-image as imaginative individuals (Lynn & Rhue, 1988). Merckelbach et al. (2000) found that fantasy prone individuals reported significantly more experiences with a high degree of certainty than controls on a life events scale that measured

the occurrence of both important and trivial events - with either a positive, a negative, or a neutral quality - in participants' lives, such as; "Found a silver ring" or "Almost choked on a piece of candy". A prior study found no correlation between fantasy proneness and memory abilities (Merckelbach et al., 2000).

It might well be the case that self-report scales linking high scores on fantasy proneness as well as dissociation (as measured by the DES) with childhood abuse are confounded by a positive response bias (Merckelbach et al. 2000). More research is needed to investigate this more extensively.

## Coping

*Definition of coping*

According to Lazarus & Folkman (1991) "coping consists of cognitive and behavioral efforts to manage specific and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 210). It is influenced by motivation, thoughts about oneself and the setting, and also the calculation of one's personal resources such as financial means, capacities and health (Lazarus & Folkman, 1991). In simple terms coping theory deals with the way we handle stressful events in our lives. We use coping whenever confronted with a problem, to reduce negative feelings and be able to lead a normal life. Arousal can indicate that something unusual and possibly harmful is in the immediate future. Coping is about lowering this arousal, a view that from its beginning was strongly influenced by Darwinism where survival depends on how one understands the world and changes it in order to avoid, escape, or master threatening situations (Lazarus & Folkman, 1991). Depending on the situation, the individual's preferences and her understanding of the position she is in, she applies different strategies. Given that daily life brings us a lot to deal with, there are many coping strategies. Emerging from defense mechanisms in psychoanalysis, coping was later mainly studied by behaviorists, with focus on psychotherapy and on teaching coping methods, in other words, stress management (Lazarus & Folkman, 1991).

A lot of research has been carried out since then to bring to light the process of coping; how do humans perceive difficulties, what types of strategies are appropriate, and when are they best used? Endler & Parker (1990) remark that "If there is any consensus in the coping literature, it is the important distinction between emotion-focused and problem-focused coping" (p. 846). Basically, problem focused coping is the more direct way of handling the situation; trying to change whatever it is that bothers you. The other variant focuses on

changing the feelings you have towards the problem; saying things such as "Something good comes out of everything". The first coping style might be useless when you cannot change the outcome; Lazarus & Folkman (1991) mention circumstances such as natural disasters, inevitable losses, aging, and disease. Similarly, the latter coping style can be fruitless and even dangerous if the situation demands that you act. Worth emphasizing is that these coping styles are not traits that stay the same over time and situation, coping is dynamic. However, problem-focused coping is the most effective coping style in most situations (Ben-Zur, 2005). Ben-Zur points out that "educational trends and values in Western society are tuned to an active style of coping rather than disengagement and submission" (p.194).

There have been different proposals to split the two factors of problem focused and emotion focused coping into several smaller elements (Endler & Parker, 1990; Carver, Scheier, & Weintraub, 1989). In the end it all comes down to how narrow and precise you want your formulation to be. Endler & Parker (1990) constructed their Multidimensional Coping Inventory (MCI) which they later revised and renamed Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1999). The scale identifies three types of coping styles: task oriented, emotion oriented, and avoidance oriented coping. Task oriented is a more problem focused way of coping, while the avoidance kind is a mixture of both task and emotion focused coping, since it can express itself as either actually performing a distracting task such as cleaning the desk instead of studying, or altering one's inner state, for instance through daydreaming. Avoidant coping can also help to repair one's ego by doing something one is good at or likes to do, so that afterwards one is more fit to use the task oriented coping.

*Coping and pathology*

Several studies have evaluated a relation between coping on one hand and pathology and maladaption on the other. Some have found a significant correlation while others have not. Mostly the literature posits a covariance between pathology and/or maladaption and emotion focused coping, while the problem focused factor stays independent. Emotion focused coping has been strongly related to neuroticism for both genders (Endler & Parker, 1990; Greenwald & Harder, 1997). People in these studies who scored high on neuroticism engaged more in emotion focused coping than those scoring low. In the same study Endler and Parker also found that women used avoidance oriented coping more than men, which they explained by positing that women have been reported to be more socially responsive than men and avoidance oriented coping includes social diversion. They also pointed out that although these

contrasts exist, “it is how these differences are interpreted that is the basis for many social, political, and philosophical problems” (p. 852). A positive correlation has been assessed between depression and emotion and avoidance oriented coping (Lazarus & Folkman, 1986). The same study, however, found no relation between depression and problem focused responses, on the other hand, Li, Seltzer, and Greenberg (1999) found a negative correlation between depression and task oriented coping. Carver et al. (1989) found that anxiety correlated positively with denial, behavioral disengagement, focusing on and venting of emotions, all of which are emotion oriented coping responses. In a study by Wolfradt and Engelmann (2003) results indicated that “high levels of depersonalization in both normal and clinical populations are associated with increased use of avoidant coping strategies to deal with stress (p. 1122). Ben-Zur (2005) found a link between emotion focused coping and psychological distress, and hypothesized that the former heightens the latter. Lazarus & Folkman (1984) suggest that persons using denial or avoidance may be at larger risk for damage simply by not doing anything to solve the problem; for example not acting when one discovers a disease, fire or approaching car. The relation between coping on the one hand and maladaption and pathology on the other has been shown in the above-mentioned studies about neuroticism, depression, anxiety, depersonalization and distress.

Our study is correlational and based on three questionnaires, one for each of our three constructs: fantasy proneness, coping style, and mental and physical health. The goal of our investigation was to examine how coping correlates with fantasy proneness, since coping may be a main function. Fantasy proneness and measures of health have mainly revolved around depression, anxiety, and distress. As we reviewed earlier, fantasy proneness has not been related to general distress. Connections between fantasy proneness and anxiety or depression have been found in some studies, but not in others.

## Hypotheses

*Fantasy proneness and coping*

Considering the general emotional quality associated with fantasies and daydreaming, we posited that fantasy prone individuals would obtain higher scores on the emotion oriented coping items than individuals scoring low on fantasy proneness. Significantly lower scores on the task oriented items on the coping scale would also be an indication of a maladaptive coping pattern. We do not think, however, that individuals scoring high on fantasy proneness will prove any less apt to use task oriented coping than low fantasizers.

Fantasizing is also a distracting activity and as such, we proposed that fantasy proneness might correlate positively with high scores on the distraction sub-scale of the avoidance oriented items on the coping scale. Since one of the main stated functions of fantasy proneness as a coping activity is coping with loneliness and isolation, however, we thought that it would be negatively correlated with high scores on the other avoidance oriented sub-scale, social diversion. As we carried out a correlational study, we cannot draw definite conclusions as to the causality of our findings.

*Coping and health*

Emotion and avoidance oriented coping have been linked to various negative phenomena such as depression and distress in many studies. Problem or task oriented coping has usually been linked to more positive outcomes. These are robust findings and we expected them to be replicated in our study.

*Fantasy proneness and health*

If fantasy prone individuals have higher rates of depression, anxiety, and distress as proposed in some studies, they should get higher scores on the BSI and its corresponding subscales than low fantasizers. Considering that we proposed that fantasizers would obtain high scores on the emotion oriented coping, and high scores on the BSI and the depression and phobic anxiety subscales.

## Method

### Participants

A total of 110 Swedish university students signed up for the study. Out of these, 51 completed the tests: 10 men, 41 women. Ages ranged from 18 to 41 with a mean age of 23. The reason why half of those that signed up for the study omitted to fill in the questionnaire might be that originally we did not stress enough that the test was written in English, and they might have decided not to participate when they saw the questionnaire. The length of the test might also have detracted some people from paticipating. Since we wanted to use scales already tested for validity and reliability, we decided to use English language instruments (see Appendix A). Most of the students were recruited from social science classes with a majority of them in undergraduate psychology classes. Participation was voluntary.

**Instruments**

*The Creative Experiences Questionnaire (CEQ)*

The CEQ is a brief 25-item self-report scale that measures fantasy proneness. It was developed by Merckelbach, Horselenberg, and Muris (2001) out of Wilson & Barber's (1983) original scale, the Inventory of Childhood Memories and Imaginings (ICMI), which was developed for use on a female sample. The CEQ has shown adequate test-retest reliability and internal consistency and is not correlated with Marlowe-Crowne's social desirability scale (Merckelbach et al., 2001). The questions are answered with 'Yes' or 'No' and the score is the sum of items. Examples of the questions asked are 'When I recall my childhood, I have very vivid and lively memories' and 'Many of my fantasies have a realistic intensity'.

*Coping Inventory for Stressful Situations (CISS)*

The CISS is another self-report scale, consisting of 48 items. The scale was created by Endler & Parker (1990) and was called Multidimensional Coping Inventory (MCI), but was later revised and shortened. It consists of 3 scales and 2 subscales: task oriented coping, which corresponds to problem focused coping, emotion oriented coping, and avoidance oriented coping. The last scale has two subscales: distraction and social diversion. The items consist of reactions that people engage in when encountering stressful situations. Answering the items is done by marking on a five-point scale ranging from zero to four, with 'Not at all' in the one end and 'Very much' in the other. The MCI was tested for validity against the Ways of Coping Questionnaire (WCQ; Folkman & Lazarus, 1988), and there was high to moderate correlation between the scales, high between the problem focused and task oriented factors and moderate between the rest, probably due to different ways of factorizing. Examples of the questions are 'Schedule my time better', 'Feel anxious about not being able to cope' and 'Think about the good times I've had'.

*Brief Symptom Inventory (BSI)*

The BSI is a health scale, measuring various dimensions of physical and mental health. It was developed by Derogatis (1975). Derogatis and Melisaratos (1983) found adequate reliability and validity for the BSI. Using a 49-item version they found a nine-factor solution. The BSI has been used extensively in various forms with differing numbers of items and factor solutions (Hayes, 1997; Ruipérez, Ibáñez, Lorente, Moro, & Ortet, 2001). The version used in this study consists of 46 items with a six-factor solution and was developed out of the BSI-49 for a Spanish sample (Ruipérez et al. 2001). The factors used for this study are depression,

phobic anxiety, paranoid ideation, obsession-compulsion, somatization, and hostility/aggressivity. Items consist of various physical and psychological problems that might be experienced. The participants rate each one according to how much discomfort that particular problem has caused them during the last week. The ratings are made on a five-graded scale from 'Not at all' (0) to 'Extremely' (4). Some examples of the items are, 'Feeling lonely', 'Trouble getting your breath', and 'Having to check and double-check what you do'.

**Procedure**

Students in social science classes were visited with their professors' permission and were given some brief verbal background information about the study, such as it being an undergraduate paper in psychological research methods, and due this term. The students were informed that the testing would take about fifteen to twenty minutes and that all information submitted would be confidential. They were also informed that the study is available for the public in the Xerxes[1] database. Subsequently, the students were asked to submit their names and emails on a list if they were interested in participating in the study. The list also included written information on the study similar to that given in the verbal presentation. The terms used to describe the area of interest for the study translates to "A measure of personality dimensions and coping". The scales described in the instrument section above were used in an internet form (Appendix A) with the CISS followed by the CEQ and the BSI. Students who volunteered for the study were emailed the hyperlink to the internet form and asked to complete the test within a given time-period of approximately one week. As an added motivation to participate in the study, two cinema tickets were awarded to two participants each, by a random draw. Submitted test results on the internet form were automatically forwarded by email to one of the researchers.

Our method for obtaining measures in this study was through self-report questionnaires. This was preferred due to the short timeframe of our project. Being an internet questionnaire, we gained a lot in regard to convenience; testing could be done anywhere, it took about 15 minutes, and data was digitized from the beginning, which meant that no mistakes could be made by us when entering the numbers into our program. The loss, on the other hand, was mainly control; participants might for example do the test several times from different computers in order to get a greater chance of winning the tickets. As a deterrent to this, only

[1] http://theses.lub.lu.se/undergrad/

participants who submitted their full name and email addresses were eligible to win in the random draw; other controls were checking for duplicate IP-addresses and only mailing the test to people who had already volunteered to help us with the tests.

**Analysis**

Results were analyzed with the help of SPSS. First, we calculated the individual means for each of the scales and subscales. Second, we correlated these means using Spearman's nonparametric correlations. Gender and group differences were compared using a two-tailed t-test. Significance was set at $p < .05$.

## Results

*Demographics*

There were no gender differences on fantasy proneness or the BSI. Females had a significantly higher correlation on the CISS though, as shown in Table 1. The same was true for the avoidance and distraction subscales of the CISS. There was no normal distribution for gender, $p < .05$ (Kolmogorov-Smirnov).

Table 1. *T-test for gender differences*

| Scale | Female (41) | Male (10) | p |
|---|---|---|---|
| CEQ | 6.68 (3.71) | 8.20 (4.57) | ns |
| CISS | 2.18 (.34) | 1.94 (.22) | <.05 |
| Avoidance | 2.05 (.61) | 1.56 (.43) | <.05 |
| Distraction | 1.87 (.76) | 1.21 (.60) | <.05 |
| BSI | .82 (.46) | .68 (.36) | ns |

No correlation between fantasy proneness and age was obtained, as shown in Table 2. However, age correlated positively with task oriented coping and negatively with emotion oriented coping. There was a significant negative correlation between age and the BSI. Four of the subscales followed this pattern; depression, phobic anxiety, paranoid ideation, and obsession-compulsion. The remaining two subscales were also negatively correlated with age, but not to a significant extent. Males had a significantly higher age than females.

*Fantasy proneness and coping*

Fantasy proneness was somewhat correlated with the emotion and task oriented subscales of the CISS but did not correlate with the avoidance subscale; however, none of the correlations were significant.

*Coping and health*

Coping in general was not correlated with the BSI, but the emotion oriented subscale correlated strongly with the BSI and all of its subscales: depression, phobic anxiety, paranoid ideation, obsession-compulsion, somatization, and hostility/aggressivity. Task oriented coping was not significantly correlated with depression, but there was a tendency to a negative correlation.

*Fantasy proneness and health*

Fantasy proneness did not correlate with the general BSI scale, but there were significant correlations with two of the subscales, somatization and hostility/aggressivity.

Table 2. *Correlations. Age (A), task oriented coping (T), emotion oriented coping (E), avoidance oriented coping (AV), distraction (D), social diversion (SD), CEQ, BSI, depression (DP), phobic anxiety (PA), paranoid ideation (PI), obsession-compulsion (O), somatization (S) and hostility/aggressivity (H)*

| | | A | T | E | AV | D | SD | CEQ | BSI | DP | PA | PI | O | S | H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 | - | .29* | -.32* | -.22 | -.18 | -.14 | .12 | -.29* | -.32* | -.34* | -.31* | -.28* | -.05 | -.20 |
| T | 1 | .29* | - | -.18 | .01 | -.04 | .09 | .23 | -.14 | -.25 | -.16 | -.04 | -.23 | .10 | -.06 |
| E | 1 | -.32* | -.18 | - | .17 | .29* | .06 | .23 | .51** | .44** | .35* | .52** | .49** | .29* | .50** |
| AV | 1 | -.22 | .01 | .17 | - | .86** | .77** | -.02 | -.00 | -.08 | -.09 | .17 | .04 | -.09 | .00 |
| D | 1 | -.18 | -.04 | .29* | .86** | - | .46** | .02 | .21 | .11 | .05 | .34* | .22 | .11 | .15 |
| SD | 1 | -.14 | .09 | .06 | .77** | .46** | - | .02 | -.24 | -.26 | -.21 | -.00 | -.14 | -.30* | -.14 |
| CEQ | 1 | .12 | .23 | .23 | -.02 | .02 | .02 | - | .25 | .07 | .11 | .16 | .13 | .32* | .40** |
| BSI | 1 | -.29* | -.14 | .51** | -.00 | .21 | -.24 | .25 | - | .89** | .80** | .84** | .90** | .75** | .65** |
| DP | 1 | -.32* | -.25 | .44** | -.08 | .11 | -.26 | .07 | .89** | - | .74** | .67** | .92** | .52** | .48** |
| PA | 1 | -.34* | -.16 | .35* | -.09 | .05 | -.21 | .11 | .80** | .74** | - | .58** | .70** | .68** | .45** |
| PI | 1 | -.31* | -.04 | .52** | .17 | .34* | -.00 | .16 | .84** | .67** | .58** | - | .71** | .52** | .57** |
| O | 1 | -.28* | -.23 | .49** | .04 | .22 | -.14 | .13 | .90** | .92** | .70** | .71** | - | .54** | .45** |
| S | 1 | -.05 | .10 | .26* | -.09 | .11 | -.30* | .32* | .75** | .52** | .69** | .52** | .54** | - | .46** |
| H | 1 | -.20 | -.06 | .50** | .00 | .15 | -.14 | .40** | .65** | .48** | .45** | .57** | .45** | .46** | - |

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).

*Group Comparison*

Using the cut-off estimation of previous research (e.g. Lynn & Rhue, 1988; Wilson & Barber, 1983), the standard 4 % cut-off was made in order to identify two subsets on the CEQ scale, consisting of high- and low-fantasizers. N (low fantasizers) = 3, N (high fantasizers) = 5. The high-fantasizer group had significantly higher scores on the hostility/aggressivity subscale than the low-fantasizers. M (high fantasizers) = .67 (.20), M (low fantasizers) = .11 (.10), $p < .05$.

## Discussion

We obtained no significant correlations between fantasy proneness and the other scales, except for the somatization and hostility/aggressivity subscales of the BSI. The group results, showed a significant difference between high and low fantasizers on the hostility/aggressivity scale.

To our knowledge, there has been little research on the connection between fantasy proneness and somatization. Rauschenberger and Lynn (1995) found that none of their fantasy prone individuals had a current or past somatization diagnosis. The contrast between – and general lack of research regarding – these findings suggest that more research needs to be done in this area. The only findings we have reviewed concerning fantasy proneness and hostility is that Lynn and Rhue (1988) found that fantasizers scored high on an index of projected hostility. The correlations we obtained were quite strong and would seem to validate this finding.

The BSI is sometimes used as a one factor general distress measure (Hayes, 1997; Ruipérez et al., 2001). The absence of a correlation between the BSI and the CEQ scales in our study indicates that fantasy prone individuals are not more generally distressed than non-fantasy prone individuals. This is in line with previous research on fantasy proneness and general distress (Lynn & Rhue, 1988; Rauschenberger & Lynn, 1995).

Fantasy proneness was not correlated with age or gender, in line with previous research (for example Lynn & Rhue, 1986; Merckelbach et al., 2005). Females had significantly higher scores on the CISS overall, which conforms to earlier research that females tend to use more coping responses overall than men; Endler and Parker (1990) found that females do not differ from men on task oriented coping, but use more emotion and avoidance oriented coping. Also in line with this, females had significantly higher scores on the avoidance and distraction subscales of the CISS and they did not differ on the task oriented scale. There was no

difference between genders on the emotion oriented scale, however. One needs to be cautious regarding the correlations obtained for gender though, as our distribution was uneven.

Our findings regarding a negative correlation between age and coping behavior is consistent with prior research (e.g., Labbate, Cardeña, Dimitreva, Roy, & Engel, 1998). Age correlated negatively with emotion oriented coping and the BSI and positively with task oriented coping. As expected, the emotion oriented subscale of the CISS correlated strongly with the BSI, the same was not true for the avoidance oriented subscale, however. Although avoidance oriented coping has not been linked to maladaption as extensively as emotion oriented coping, this might simply be due to these measures not being much differentiated in many of the commonly used coping scales (Endler and Parker, 1990). We are uncertain why they are not more closely associated in our study. It might be that the avoidance oriented items of the CISS are viewed as less socially desirable.
Even though some of the items on the avoidance and emotion oriented copings scales, as on the entire BSI, might have a socially unattractive ring to them, we did not use any social desirability scale since it would have lengthened an already long test even more and therefore yield fewer participants. In addition to this, neither Merckelbach et al. (2001) nor Lynn and Rhue (1998) found any correlation between fantasy proneness and social desirability. The task oriented coping subscale was not correlated with the BSI or any of its subscales but showed a tendency to a negative correlation with the depression subscale. This is not surprising given that earlier research has obtained mixed results indicating both no correlation (Ben-Zur, 2005) and a negative correlation (Li et al., 1999) between task oriented coping and depression.

As hypothesized, there were no general differences in regard to emotion and task oriented coping associated with fantasy proneness in general or the high and low fantasizer groups. On the other hand, there were no significant correlations between fantasy proneness and emotion oriented coping or avoidance oriented coping.

Perhaps we would get different results if the scales were presented separately, so that one could not change previous input after reading the following test(s), but we were not able to make this option work practically. Presenting scales separately would also minimize any effect the different scales might have on each other in guiding responses.
The largest flaw in this study might be the size of our sample and the consequent low power. Previous research has suggested that only 4 % of a population are high-fantasizers (Wilson &

Barber, 1983). We simply cannot attain any reliable groupwise comparisons with only 51 participants and such a small cut off, so a larger sample would be an appropriate start for a follow up-study. Five hundred or even a thousand participants would be recommended for initial screening.

Subscales on the BSI showed much overlap with each other, in some instances reaching a significant correlation over $r = .9$. One cannot help suspect that these factors are not as clearly differentiated as they should be. It could also be indicative of strong response patterns in our sample with some participants generally rating themselves high and some generally rating themselves low on the BSI items. But of course our sample is not representative of the general population, being solely recruited from university student classes. Students might have fewer physical and mental problems than the general population as a whole. Future research in this area should make the concept of fantasy proneness clearer. Exactly how widespread in the population is this dimension of personality, and how precise is the 4 % cut-off? Correlational studies might look at possible connections with childhood experiences, creativity, intelligence, and medical history. Fantasy proneness showed a tendency in this study to be associated with positive response on the other two scales ($p = .06$). Although no direct conclusions can be drawn from this, it adds emphasis to the need of examinating the self-report test methods that are employed in most fantasy proneness research. Future research would be well advised, we think, to direct more research at some of the possible confounds of the previous research, such as positive response bias and liberal report criterion. More projects that do not use only self-report scales but approach the phenomenon by using a mix of quantitative and qualitative scales, possibly including longitudinal studies, would be advisable.

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## Appendix A

This is the questionnaire we used. We have omitted the possible answers for each item since they would take up too much space, other than that it looks practically the same.

Tack för att du väljer att medverka i vår studie. Dina uppgifter kommer behandlas konfidentiellt och du förblir anonym.
Tag god tid på dig att besvara alla frågor så väl överensstämmande med vad du känner som möjligt.

Age:
Gender:

The following are ways people react to various difficult, stressful, or upsetting situations. Please choose a number from 0 to 4 for each item. Indicate how much you engage in these types of activities when you encounter a difficult, stressful, or upsetting situation.

1. Schedule my time better
2. Focus on the problem and see how I can solve it
3. Think about the good times I've had
4. Try to be with other people
5. Blame myself for procrastinating (förhalning, dra ut på tiden)
6. Do what I think is best
7. Preoccupied with aches and pains
8. Blame myself for having gotten into this situation
9. Window shop
10. Outline my priorities
11. Try to go to sleep
12. Treat myself to a favorite food or snack
13. Feel anxious about not being able to cope
14. Become very tense
15. Think about how I have solved similar problems
16. Tell myself that it is really not happening to me
17. Blame myself for being too emotional about the situation
18. Go out for a snack or meal
19. Become very upset
20. Buy myself something
21. Determine a course of action and follow it
22. Blame myself for not knowing what to do
23. Go to a party
24. Work to understand the situation
25. "Freeze" and don't know what to do
26. Take corrective action immediately
27. Think about the event and learn from my mistakes
28. Wish that I could change what had happened or how I felt
29. Visit a friend
30. Worry about what I am going to do
31. Spend time with a special person
32. Go for a walk

33. Tell myself that it will never happen again
34. Focus on my general inadequacies
35. Talk to someone whose advice I value
36. Analyze the problem before reacting
37. Phone a friend
38. Get angry
39. Adjust my priorities
40. See a movie
41. Get control of the situation
42. Make an extra effort to get things done
43. Come up with several different solutions to the problem
44. Take time off and get away from the situation
45. Take it out on other people
46. Use the situation to prove that I can do it
47. Try to be organized so I can be on top of the situation
48. Watch TV

Next, we would like you to answer Yes or No to the following questions.

49. As a child, I thought that the dolls, teddy bears, and stuffed animals that I played with were living creatures.
50. As a child, I strongly believed in the existence of dwarfs, elves, and other fairy tale figures.
51. As a child, I had my own make believe friend or animal
52. As a child, I could very easily identify with the main character of a story and/or a movie.
53. As a child, I sometimes had the felling that I was someone else (e.g., a princess, an orphan, etc.)
54. As a child, I was encouraged by adults (parents, grandparents, brothers, sisters) to fully indulge myself in my fantasies and daydreams.
55. As a child, I often felt lonely.
56. As a child, I devoted my time to playing a musical instrument, dancing, acting, and/or drawing.
57. I spend more time than half the day (daytime) fantasizing or daydreaming.
58. Many of my friends and/or relatives do not know that I have such detailed fantasies.
59. Many of my fantasies have a realistic intensity.
60. Many of my fantasies are often just as lively as a good movie.
61. I often confuse fantasies with real memories.
62. I am never bored because I start fantasizing when things get boring.
63. Sometimes I act as if I am somebody else and I completely identify myself with that role.
64. When I recall my childhood, I have very vivid and lively memories.
65. I can recall many occurrences before the age of three.
66. When I perceive violence on television, I get so into it that I get really upset.
67. When I think of something cold, I actually get cold.
68. When I imagine I have eaten rotten food, I get really nauseous.
69. I often have the felling that I can predict things that are bound to happen in the future.
70. I often have the experience of thinking of someone and soon afterwards that particular person calls or show up.
71. I sometimes fell that I have had an out of body experience.
72. When I sing or write something, I sometimes have the felling that someone or something outside myself directs me.

73. During my life, I have had intense religious experiences which influenced me in a very strong manner.

Below is a list of problems that people sometimes have. Please read each one carefully. Using the scale below, please choose the number that best describes how much discomfort that problem has caused you during the past week including today. Please answer every item.

74. Nervousness or shakiness inside
75. Faintness or dizziness
76. The idea that someone else can control your thoughts
77. Feeling others are to blame for most of your troubles
78. Trouble remembering things
79. Feeling easily annoyed or irritated
80. Feeling afraid in open spaces
81. Feeling that most people cannot be trusted
82. Suddenly scared for no reason
83. Temper outburst that you could not control
84. Feeling lonely even when you are with people
85. Feeling blocked in getting things done
86. Feeling lonely
87. Feeling blue
88. Feeling no interest in things
89. Feeling fearful
90. Your feelings being easily hurt
91. Feeling that people are unfriendly or dislike you
92. Feeling inferior to others
93. Nausea or upset stomach
94. Feeling that you are being watched or talked about by others
95. Having to check and double-check what you do
96. Difficulty making decisions
97. Feeling afraid to travel on buses, subways or trains
98. Trouble getting your breath
99. Hot or cold spells (perioder)
100. Having to avoid certain things, places or activities because they frighten you
101. Your mind going blank
102. Numbness or tingling in parts of your body
103. The idea that you should be punished for your sins
104. Feeling hopeless about the future
105. Trouble concentrating
106. Feeling weak in parts of your body
107. Feeling tense or keyed up
108. Having urges to beat, injure or harm someone
109. Having urges to break or smash things
110. Feeling very self-conscious with others
111. Feeling uneasy in crowds, such as shopping or at a movie
112. Never feeling close to another person
113. Spells (Perioder) of terror or panic
114. Getting into frequent arguments
115. Feeling nervous when you are left alone

116. Others not giving you proper credit for your achievements
117. Feeling so restless you couldn't sit still
118. Feelings of worthlessness
119. Feeling that people will take advantage of you if you let them