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Positive Correlates of Fantasy Engagement Among Self-Described Geeks

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Positive Correlates of Fantasy Engagement Among Self-Described Geeks

An Honors Thesis submitted in partial fulfillment of the requirements for Honors in the
Department of Psychology.

By
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ABSTRACT

Fantasy has been broadly defined as a suspension of reality and the inclusion of imaginary states (Plante,, Reysen, Groves, Roberts, & Gerbasi, 2017). Fantasy engagement, where an individual participates in lifestyles and/or activities that suspend reality, has been extended to the construct of fantasy proneness, in which individuals are described to have excessive daydreaming and fantasizing (Merckelbach, Horselenberg, & Muris, 2001). The purpose of the study was to assess the potential benefits of fantasy proneness, including overall well-being and social support. Potential benefits of fantasy proneness were examined as to whether they predict higher levels of fantasy engagement above and beyond negative mental health variables.

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Positive Correlates of Fantasy Engagement Among Self-Described Geeks

Fantasy is a broad term that can describe anything involving a suspension of reality in favor of an imaginary state. Fantasy has been explored in some studies through levels of engagement in activities to the frequency and vividness of daydreams. While exploring the effects of fantasy on individuals, we must gain a better understanding of fantasy engagement as a generalized concept as well as aspects within the study of fantasy. We must also examine why some individuals are more likely to fantasize than others and if these fantasizing individuals experience any significant benefits. Fantasy Proneness (FP) is a concept developed to describe excessive daydreaming and fantasizing and those in this group were labeled "fantasizers". These fantasizers exhibit deep involvement with fantasy. It has been previously linked to psychopathology, mood disorders like depression, anxiety, and childhood trauma. There are also correlations with absorption, schizotpy, and disassociation. FP and fantasy engagement are both important aspects of the field of fantasy and describe how an individual fits into the area of fantasy based on their likelihood to fantasize and have vivid daydreams and the likelihood that the individual would engage in activities, interests, or lifestyles that suspend reality (fantasy engagement). Fantasy engagement, as well as FP, is seldom mentioned with potential benefits or well-being. This study will aim to examine possible connections between aspects of fantasy and well-being of fantasizing adults with a focus on individuals classified as "geeks".

Negative and Positive Correlates of Fantasy Proneness and Engagement

To explore more on fantasy, it is important to recognize factors that can predict the likelihood of an individual being prone to engaging with fantasy. Pekala, Angelini, and Kumar (2001) discuss the link between dissociation and FP. Throughout the study, both FP and child abuse are found to be important to the etiology of dissociative disorders. The study subjects were 77 males from a VA Medical Center. The subjects were given the DES, ICMI, and CAT to examine dissociative symptoms, FP, and assess the frequency and extent of negative childhood experiences. A regression analysis was used to predict disassociation using the CAT subscales and the ICMI. The results suggested FP was somewhat more important than the CAT subscales of inappropriate punishment and neglect, when predicting dissociative symptoms. FP being involved as a factor of the etiology of disassociation could therefore be a predictor of the diagnosis. This could also mean that the reverse would be assumed that an individual with dissociative symptoms could potentially experience FP. Rauschenberger and Lynn (1995) also discuss that fantasizers have more dissociative experiences and symptoms and are associated with significant psychopathology. Experiences with dissociation could predict the increased involvement in fantasy engagement through FP.

Pekala, Angelini, and Kumar (2001) also discuss another factor of fantasizers relating to the creation and recall of memories. It is found that fantasizers tend to confuse memories of fantasies with memories of actual events. Tan, Fletcher, and Russell (2019) also commented on this relation as they found that fantasy prone individuals are more likely to develop and accept pseudomemories, specifically with generation of false memories and not failure of memory. Pseudomemory is a term used to describe the creation or alteration of real memories with fictional ones of hallucinatory intensity. This

could be a key part in recognizing the difference in the extremes of FP and the more generalized fantasy engagement as FP fantasizers will have difficulties in distinguishing between fantasy and reality. The boundaries between fantasy and reality would be blurred and skewed in an individual experiencing FP and goes beyond engagement to fully accepting fantasy as a real event or experience rather than an activity or interest.

When examining how FP crosses boundaries between reality and fantasy, there is a connection to the aspect of psychosis known as delusions. Tan, Fletcher, and Rossell (2019) explain that delusions are a significant and distressing aspect of psychosis and have adverse consequences for functioning and well-being. Delusions are also briefly stated to be decidedly implausible beliefs. People experiencing delusions will hold to their implausible beliefs, despite being contradicted. The study examined 95 outpatients with current psychosis on stable doses of antipsychotic medication. 46 healthy control units were recruited from the local community. The participants were assessed on psychotic symptomatology, mania and depression severity, and FP by using the ICMI. After this study, it was found that there was a positive correlation between FP and delusion severity. Tan, Fletcher, and Rossell (2019) also examine how FP demonstrates an association with higher levels of disassociation, depression, and personality disorders. Patients in this study that had psychosis demonstrated significantly greater FP than in healthy controls. This shows a correlation between psychosis and FP. It's also important to note that FP also predicted the presence of delusional beliefs in the healthy control group. The study goes on to suggest the possibility of underlying cognitive deficits underlie both FP and delusions which may serve to show that delusions and FP are not predictors of one another, but branch from the same cognitions and facilitate each other.

As delusions arise, the individual may attempt to rationalize the hallucinations and increased FP could increase propensity towards the imaginative ideas and create an internal bias to fantasize that supports the role of delusions manifesting. However, FP's relation to cognition has not been clarified fully in this study. This study expresses the limitation that the relationship between FP and delusions have yet to be fully examined.

Greenwald and Harder (1995) discuss the possibility that those engaging in fantasy do so because of the presence of psychological stress presenting a greater need to manage distress. In this view, FP becomes a by-product or factor of other psychological issues rather than FP being its own concept. Stressors such as anxiety or trauma-related disorders could predict involvement in fantasy as a coping method and way to avoid psychological stress. This avoidance or escapism could predict the ability for a fantasizer to become lost in fantasy in favor of recognizing the causes of stress. Because FP is being used as a coping method or is present as a factor derived from undergoing stress, psychological stress can predict to engagement in fantasy and proneness to believing in fantasy in order to escape real situations and feelings.

In assessing fantasizers' personalities, Rauschenberger and Lynn (1995) discuss the prevalence of personality disorders within the FP population and found that FP students reported more symptoms of personality disorders such as paranoia, hysteria, borderline. This report was in comparison to those that scored in the medium FP range based on the ICMI. There isn't much other correlation specifically with personality and FP in research, which limits the ability to form a connection. However, McCain, Gentile, and Campbell (2015) also briefly discuss a possible connection with FP and personality disorders and traits. The study discussed the possibility of narcissism playing a role in the

need to engage in fantasy to provide an easy way to achieve goals or become a more

perfect version of the self through creating personas in fantasy or achieving recognition

through fantasy activities. While not specifically addressing narcissism as a personality

disorder in the study, this shows a possible correlation with personality traits and fantasy.

When examining factors that may lead to FP, there has been a correlation with

some aspects of trauma, specifically during childhood. Rauschenberger and Lynn (1995)

discuss how aversive early life experiences, such as abuse, has been suggested to be

present in fantasy-prone individuals in previous studies, however there aren't enough

resources devoted to examining the full effect and differences with abuse in fantasy-

prone individuals including comparisons with non-fantasizers. The study also explains

how there could be two childhood development pathways relating to FP where the

fantasizer is either encouraged to fantasize from a significant adult or they fantasize as a

way to escape from an aversive environment and ease their loneliness or isolation.

Examples being an adult such as a parent or an important figure to the fantasizer

encourages involvement with fantasy activities or, in contrast, the adult negatively

viewing fantasy activities and subsequently creating an aversive environment that pushes

the fantasizer away from reality with the closed off adult figure.

Other than stressful situations, Greenwalk and Harder (1995) suggest that there

could be a general tendency to fantasize or are ready to fantasize in both ordinary and

stressful situations. This also shows a correlation between fantasy sustainability and

daydreaming can parallel each other as ordinary daydreaming can occur just as sustaining

fantasies can. Daydreaming may predict FP or occur alongside it or on its own,

depending on the length and extensiveness of the act of daydreaming. If the daydreaming

becomes more persistent or involves more sensory aspects that suspends reality

excessively is when FP is more likely than only daydreaming.

Perceived Benefits of FP

After examining possible predictors of FP, we can see what factors interact with the

presence of FP and the perceived benefits of engagement in fantasy. Plante, Reysen,

Groves, Roberts, and Gerbasi (2017) noted some benefits of FP as healthy childhood

development, goal pursuit, and physical/psychological well-being. FP can assist a

developing child and is considered normal. Children that have imaginary friends or play

pretend and dress-up is seen as a normal occurrence and healthy to engage in for proper

development. Using imagination, children can set goals for the future. These benefits are

specifically in regard to FP during childhood, rather than adulthood. The distinction is

important to discuss as little to no research has been conducted for adults that engage in

fantasy to examine the benefits, if any exist. Without the research, it's hard to determine

if adults that engage in fantasy can experience similar benefits to that of children.

Arguing for the importance of fantasy and daydreams, Rauschenberger and Lynn

(1995) discuss that fantasy plays a vital role in daily life as fantasies and daydreams can

reflect current concerns, regulate mood, organize experience, provide self-relevant

information, facilitate learning, and stimulate decision making. The literature discusses

the negative aspects as well, usually referring to when fantasy becomes "too much" and

overtakes the boundary between fantasy and reality, thus creating negative connotations.

Even when discussing the ability of FP to facilitate coping and be involved with escaping

anxiety, there can be gross distortions that create liabilities rather than assets according to

Rauschenberger and Lynn (1995). This study also found that fantasy-prone individuals

were able to be high-functioning and well-adjusted to daily life. These individuals

showed how FP could be adaptive, however it was important to note that the sample was

of undergraduates who may have been atypical compared to the rest of the FP population.

More studies would be needed to verify if the results of this study are atypical.

Moving specifically to FP from fantasy engagement, we can examine how FP

could have functional applications for coping methods with traumatic situations.

Engaging in fantasy during stressful situations can produce both beneficial and negative

effects. There are also other factors that correlate with FP in stressful situations.

According to Bacon, Walsh, and Martin (2013) Fantasy and Counterfactual Thinking

(CFT) may interact in stressful situations and can have both negative and positive effects

on the individual. CFT can help improve mood, however it can be negative if outside of

the individual's control. Bacon et al (2013) explains that CFT is central to

learning/motivation and associates with imagining events that could have occurred

differently.

Improving Measurement of FP

In order to study FP, based on the predictors we examined as well as the perceived

benefits, we must have measures that can accurately and succinctly reflect the complexity

of FP. Some measures that are used in studies of fantasy engagement and FP include the

Fantasy Engagement Scale (Plantem, Reysen, Groves, Roberts, & Gerbasi. 2017), the

Creative Experiences Questionnaire (Merckelbach, Horselenberg, & Muris. 2001), and

the Sustaining Fantasy Questionnaire (Zelin, Bernstein, Heijin, Jampel, Myerson, Adler,

et. al., 1983). Other measures that have been used but don't focus on fantasy exclusively

include the Inventory of Childhood Memories and Imaging.

There are measures that exist, scattered across the study of fantasy, that have been utilized for fantasy engagement, even if it's not the measure's focus, including the Inventory of Childhood Memories and Imaging (ICMI). Klinger, Henning, and Janssen (2009) explain how the ICMI measures FP as well as the complications involving using that measure. Klinger et. al (2009) explain that FP is a misleading label for factorially complex ICMI full-scale scores and argue that the ICMI is not able to give a proper measure for FP as a whole. In the study, high scores on Component 1 are categorized by vivid imagery and alterations of consciousness and weakened boundaries between mental imagery and reality, while high scorers on Component 2 are imaginative and enjoy fantasy fiction. Both of these components relate to FP because of the components being linked to imagination, fantasy, and daydreaming, however they're separated by the possible link to psychopathology. Daydreaming in a positive way, meaning with positive effects to well-being, is unlikely to be linked with psychopathology. This is likely because of the positive affect positive daydreaming could have for the fantasizer. However negative daydreaming with negative effects to well-being are somewhat more likely to exhibit psychopathological tendencies. Component 1 appears to be more negative with highlighting factors being consciousness alterations and a weak boundary between reality and imagery, while Component 2 is related with imagination and enjoyment of fantasy.

From examining the ICMI and its limitations on studying fantasy and specifically FP, there is a need for other measures to focus on fantasy from more perspectives with less emphasis on negative traits and balance out with some positive aspects. Plante, Reysen, Groves, Roberts, and Gerbasi (2017) attempt to provide a more holistic view on

studying fantasy, being more extensive on the meaning of fantasy and examining more

perspective on the positive and negative aspects of fantasy. Fantasy has been

conceptualized in contradictory ways (maladaptive yet beneficial; trivial yet essential)

and has been determined as a difficult concept to conceptualize. This can lead to

complications and issues when trying to study fantasy. Plante et al (2017) begin to break

down fantasy engagement into two factors, positive fantasy engagement and negative

fantasy engagement. In this study, FP is seen as negative and has relations to personality

disorders, hallucinations and delusions. The measure does not include FP as the main

factor studied, instead FP is a factor of negative fantasy engagement.

To study fantasy more specifically, Zelin, Bernstein, Heijin, Jampel, Myerson,

Adler, et. al (1983) developed the Sustaining Fantasy Questionnaire. This questionnaire

contained 134 statements of fantasies, 20 items requesting info on various affective

states, 10 evocative memory items on ability/lack of ability to produce positive/negative

images under stress. This measure utilized a 5-point Likert scale (1=Hardly at all;

5=Extremely) that participants used to rate their abilities in producing positive/negative

images under stress. This measure involved 10 Subscales (Aesthetics, God,

Power/Revenge, Admiration of Self, Dying/Illness, Withdrawal/Protection,

Love/Closeness, Suffering, Competition) by which participants were able to rate

themselves. The subscales specifically related to Imaginal Processes Inventory scales that

parallel with their content as well as the relations the scales share to psychopathology.

These scales correspond to aspects of fantasy in which participants use fantasy for

different aspects of life such as in imagining forms of love and closeness, images of

death/illness, etc. This measure explored more facets of fantasy and the different

perspectives it can be involved in with daily life.

Another factor to consider when measuring fantasy is the community in which

fantasy engagement is likely to be observed. McCain, Gentile, and Campbell (2015)

conducted a study in which they explored "Geek Culture" and developed the Geek

Culture Engagement Scale (GCES). The Geek population is likely to have engagement

with fantasy as the term seems to be the defining feature of many of the activities and

interests of the population. This measure examined 37 Geek Activities (cosplay, gaming),

interests (fantasy, science fiction), and lifestyles (Lolita, furry). Many of these items

relate to fantasy and the ability to suspend reality in order to engage in fiction. This

measured the extent of participation on a scale from 1 (Not at all) to 5 (A lot) for each

factor of geek activities. The measure showed reliability and construct validity,

adequately distinguishing the self-identified populations relating to geek culture through

DragonCon attendees. Most of the subscales showed appropriate reliability as well. There

are limitations to this measure, including the possibility of overlooking marginalized geek

activities that may not be as widely noticed in the majority of DragonCon attendees that

were utilized in the study.

Another measure utilized by McCain, Gentile, and Campbell (2015) was the Geek

Identity Scale which measured the extent in which a person identified themselves as a

"Geek". This measure focused on how the individuals involved in geek culture associated

themselves as "geeks". This measure utilized a Likert Scale (1= Strongly Disagree; 5=

Strongly Agree) as well and asked for responses based on how much the participant

agreed with statements of geek activities and engagement defining the participant's

identity. The GIS is important as it not only establishes members of the Geek community, but also gives an understanding of how prominent geek culture is in the participant's life and sense of self. When establishing the boundary of fantasy engagement and FP, it can be hypothesized that sense of self and identity could contribute to the likelihood of FP. The GIS has internal consistency and reliability across samples from McCain, Gentile, and Campbell (2015). This measure does not, however, fully measure geek obsessiveness or extremes that affect the social aspects of geek identities.

The measures, GCES, Geek Identity Scale, and Fantasy Engagement Scale, all explain the engagement and involvement with fantasy or focus on the communities that are involved with "fantasies", but not FP itself. The Fantasy Engagement scale briefly discusses factors of FP, but only in it being maladaptive and related to psychopathology with no relation to positive factors. This one aspect of fantasy is important to be explored, however the focus on negative aspects leads to any positives being overlooked in the measures. As for the measures focused on geek culture and communities, FP is not explicitly mentioned or focused on, yet engagement in fantasy is one of the primary indicators of the community's population and influences the scale relating to how strong a participant of geek culture may identify as a geek, according to the Geek Identity Scale.

With most of these measures, predictors, and possible benefits, there is a direct focus on childhood, whether examining a participant's past experiences during childhood, or focusing on children being the ones most likely to be involved in positive fantasy activities. Plante, Reysen, Groves, Roberts, and Gerbasi (2017) explain that the benefits of fantasy engagement are only explored in childhood as little to no research on fantasy engagement with adults has been conducted, except in negative aspects. When examining

childhood and fantasy, studies tend to find benefits, however when looking at adults

engaging in fantasy, there are more negatives examined, such as the links with

psychopathology, or the idea that society may have that adults should not engage in

fantasy behaviors. Given our perspective on fantasy in adulthood being maladaptive or

negative, there could be reason to conduct studies on fantasy engagement and FP in

adults. These studies can be compared to children as well to observe any benefits or

harms to fantasy engagement past childhood. This could affect how we perceive FP and

how we classify it in further studies, whether FP remains a negative aspect of fantasy

engagement, or if it exists as potentially beneficial as well as maladaptive with the

complexity of being neither fully good or bad.

      In order to gain a better understanding on the field of fantasy, there needs to be

further research that includes adult populations and refrains from an overly negative

perspective on engagement in fantasy. Studies need to be conducted on adult populations

to gauge fantasy engagement in general with some relations to fantasy engagement and

assess the potential benefits to fantasy in adult life. The measures utilized must include a

balance of both positive and negative aspects relating to fantasy engagement that avoids

biases based on possible views of engaging in fantasy after childhood being negatively

viewed. Thus, the purpose of this study will be to examine the possible benefits to higher

fantasy engagement and to assess if the benefits to well-being and/or social support are

significantly correlated. I hypothesize that higher engagement in fantasy may have a

correlation with higher severity of disassociation and depression, anxiety, and stress, as

shown in the previous fantasy studies. However, there may also be a correlation with

higher levels of well-being and higher social support in those involved with higher levels

of fantasy engagement.

Attention must be paid to communities in which fantasy is more acceptable, or even

encouraged, as thought to be with the "Geek" community as well as the subscales such as

cosplayers, gamers, and furries. Comparisons between fantasy engagement in select

communities and in the general population may provide more insight on the effect

fantasy engagement has in everyday life and if there are psychological and/or social

benefits associated with increased fantasy engagement. This study will focus on people

that are identified as part of the Geek community to examine the potential benefits of

their fantasy engagement.

Method

Participants

There were 137 participants who were all over the age of 18 attending

Georgia Southern University. Participants had a mean age of 19.66 (SD=1.982).

There were 39 male-identifying, 98 female-identifying, and 1 male-to-female

identifying participant. Ethnic distribution was as follows: 57.7% identified as

white/caucasian, 30.7% identified as African American/black, 3.6% identified as

Asian/Asian American, 7.3% identified as Mexican American/Latino/a. 2.9%

identified as American Indian/Native American, and 4.4% identified as multiracial.

Sexuality distribution was as follows: 81% identified as heterosexual, 8.8%

identified as mostly heterosexual, 7.3% identified as bisexual, .7% identified as

gay, and 1.5% identified as lesbian and .7% of participants also said a better

description was not specified for their sexuality. Relationship status distribution

was as follows 80.3% of participants stated they were single, 15.3% are

married/partnered/common law, and 4.4% never married. The current relationship

status was as follows: 57.7% of participants are not in a relationship at the time of the

study, 16.1% indicated they are in a relationship for less than a year, and 26.3% indicated

being in a relationship for longer than a year. Current living arrangement distribution was

as follows: 11.7% of participants indicated that they live alone, 50.4% live with friends,

11.7% live with a partner, 17.5% live with family, and 8.8% have other living

arrangements not specified. There was an even split of 49.6% of participants having

either a rural or urban hometown with one missing answer. 65% of participants consider

their current town in which they live to be rural while 35% consider their current town to

be more urban.

Participants included in this study had some association with geek culture, assessed

by engagement in geek activities as described by the Geek Culture Engagement Scale

(GCES). If the participant does not engage in any of the activities listed (i.e., participant

answers "Not at All" to all items listed in the GCES), they were excluded from the study.

Participants were recruited via the SONA System, the online subject pool of the

Department of Psychology at Georgia Southern University, to complete a series of self-

report measures through Qualtrics. 214 people participated in this study, 31 people did

not consent so their data was not included. After reviewing the answers for our 4 check

questions, participants who did not correctly identify the desired item for the check

questions had their data excluded from the study. This resulted in 137 participants for the

study.

Measures

The Geek Culture Engagement Scale (GCES) (McCain, Gentile, & Campbell, 2015) will be used to assess participants' relevance to the study by examining the extent of participation in geek-related items. The GCES includes 37 items on geek activities, interests, and lifestyles that will be assessed by a Likert scale from 1 (*not at all*) to 5 (*very often*). The GCES has reliability and construct validity. The items measuring geek activities were constructed through activities listed on convention websites, specifically from DragonCon, a popular geek convention in Atlanta, GA. There is test-retest reliability as it was utilized in multiple studies within the article by McCain, Gentile, and Campbell (2015).

The Fantasy Engagement Scale (FES) (Plante, Reysen, Grove, Roberts, & Gerbasi, 2017) will be used to assess the level of participation for specific involvement with fantasy activities. This measure has 8 items. Participants will indicate their agreement on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale assesses both positive fantasy engagement (PFE) and negative fantasy engagement (NFE) which provides an unbiased perspective on fantasy that does not focus solely on negative aspects or solely on positive. 4 items reflect pathological/maladaptive aspects that relate to NFE and the other 4 items assess beneficial aspects relating to PFE.

The Creative Experiences Questionnaire (CEQ) (Merckelbach, Horselenberg, & Muris, 2001) will be used to assess fantasy proneness. This is a dichotomous (yes/no) self-report measure with 25 items that relate to fantasy proneness characteristics such as involvement in daydreaming and involvement in fantasy. Higher scores indicate higher levels of fantasy proneness. This measure has test-retest reliability, internal consistency, and concurrent validity with the ICMI. The ICMI is another index of fantasy proneness.

The BBC Well-Being Scale (Kinderman, Schwannauer, Pontin, & Tai, 2011) will be used to assess well-being of participants that were assessed to be geeks. This measure has 24 items. Participants indicate their agreement on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale assesses physical health, psychological well-being, and relationships. This scale has good internal consistency (α = .935) and correlated significantly with key demographic variables and measures of concurrent validity (Kinderman, Schwannaur, Pontin, & Tai, 2011).

The Depression Anxiety Stress Scale (DASS-21) (Lovibond, S. H., & Lovibond, P. F. 1995) is a 21-item self-report scale, based on the original 42-item scale, that measures the negative emotional states of depression, anxiety, and stress. Each subscale has 7 items. The Depression subscale assesses symptoms such as dysphoria, hopelessness, lack of incentive, and low self-esteem. The Anxiety subscale has items that assess acute responses of fear as well as subjective and somatic symptoms of anxiety. The Stress subscale includes items that measure symptoms such as difficulty in relaxing, nervous tension, irritability, overreaction to stressful events, and impatience. Participants will indicate their extent of their experiences of each state over the past week on a 4-point scale ranging from 0 (*Did not apply to me at all / Never*) to 4 (*Applied to me very much, or most of the time / Almost Always*). The measure is highly related to The Beck Depression Inventory and The Beck Anxiety Inventory, demonstrating convergent validity.

The Dissociative Experiences Scale II (DES-II) (Carlson, & Putnam, 1993) is a brief, self-report measure of the frequency of dissociative experiences. It inquires the frequency of dissociative experiences in daily lives of participants. The measure includes

28 items and a percentage scale for frequency each item is experienced from 0% (*never experienced*) to 100% (*always experienced*). The validity of the DES has been established by studies which collected data relevant to the construct validity and the criterion validity of the scale.

The Interpersonal Support Evaluation List (ISEL) (Cohen, Mermelstein, Kamarck, & Hoberman, 1985) was designed to measure perceptions of social support among individuals in the general population. The shorter version, the ISEL-12, will be used. The ISEL-12 has 12 items that will be rated on a 4-point Likert scale from 1 (*Definitely False*) to 4 (*Definitely True*). The ISEL-12 can be scored by summing the items to create an overall social support score; three subscale scores representing appraisal, belonging, and tangible social support. The ISEL correlates with other social support measures such as the Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsey, 1981). There were also adequate internal and test-retest reliabilities (Cohen, et al., 1985).

Procedure

Participants were recruited through SONA in exchange for 1 hour of credit to be applied to a course of their choosing. Potential participants who expressed interest on SONA were invited to complete a series of self-report measures on Qualtrics. A consent form was provided before the survey started to inform the participant of their right to withdraw from the study at any time. After the participant electronically signed the consent form by checking the box for "I agree", they were screened using the GCES to determine if they were included further in the study. The participant continued to take the surveys and were asked to focus on a specific fantasy related activity or lifestyle such as

cosplay, video games, etc. and fill out the FES in relation to their engagement to the specific fantasy activity. After answering the FES, the participant then proceeded to take the DASS-21. The DASS-21 and the other following measures did not need the participant to focus on the specific fantasy related activity. The next measure was the DES-II, then the ISEL-12, and finally the BBC Well-Being Scale. The participant was then thanked for their participation, and credit was awarded to the psychology course of their choosing through SONA. During data analysis, if a participant failed to participate in geek activities, their data was removed from the study.

Results

First, preliminary analyses were conducted. Descriptive statistics (e.g., means, standard deviations) were computed for each variable. Pearson correlation coefficients were calculated to assess the interrelationship among variables. Correlations were interpreted as to their statistical significance, direction, and magnitude.

Next, two hierarchical multiple regression analyses were conducted in order to assess whether positive factors uniquely predict fantasy proneness, above and beyond variance accounted for by negative factors. Whether predictors differ depending on how fantasy proneness is measured was also examined. The criterion for both regression analyses were fantasy engagement and fantasy proneness, with the FES as the measure of fantasy engagement in the first regression and the CEQ as the measure of fantasy proneness in the second regression. The order and steps of entry of predictor variables were the same for both regression analyses. First, the DES was entered as the sole variable in the first model. The statistical significance of the model, amount of variance accounted for, and the statistical significance of the predictor will be examined. Next, the

Depression subscale of the DASS-21 was entered in a separate block. The significance of

the model and significance of change in and amount of variance accounted for were

reported, and the statistical significance and relative strength of each predictor were

interpreted for the full model. In the final block, the BBC Well-Being Scale and ISEL-12

will be entered. The significance of the model and significance of change in and amount

of variance accounted for were reported, and the statistical significance and relative

strength of each predictor were interpreted for the full model. Finally, each of these steps

was repeated with the CEQ as the criterion variable. Whether results differ between the

two criterions will be discussed. Dissociation was significant in both Positive Fantasy

Engagement in the first model and was also found to be significant in FP in the third

model. No variables were significant for Negative Fantasy Engagement in the second

model.

A hierarchical regression analysis was conducted to examine the possible

relationship of positive fantasy engagement (PFE) from disassociation, depression, well-

being, and interpersonal support, respectively. Dissociation was analyzed using the

results of the DES and entered in the first block to examine correlation between

dissociation and PFE. The results of the first equation revealed dissociation to be

statistically significant F (1, 118) = 5.033, p = 0.027. The R^2 = 0.041 associated with this

regression model 1 suggests that disassociation could account for 4.1% of the variation in

positive fantasy engagement. Disassociation was also positively related to PFE in that as

PFE increased by 1 standard deviation, disassociation decreased by .20 standard

deviations. All other variables examined for relations with PFE were found to be not

significant. Depression was analyzed using the results of the DASS21 depression

subscale and entered into the second block to examine correlations between depression and PFE. This was determined to be not statistically significant $p = 0.072$.

Well-being was analyzed using the results of the BBC well-being scale from the three subscales; Physical, Psychological, and Relationships and entered into the third block. None of the subscales of the BBC well-being scale were not statistically significant. $p = .102$ $p = .360$ $p = 558$. The ISEL scores were also not significant in relation to PFE. A hierarchical regression analysis was conducted to examine the possible relationship of negative fantasy engagement (NFE) from disassociation, depression, well-being, and interpersonal support, respectively. This model found no variables to have statistical significance with NFE.

A hierarchical regression analysis was conducted to examine the possible relationship of fantasy proneness from disassociation, depression, well-being, and interpersonal support, respectively. Fantasy proneness was determined by the CEQ. Dissociation was found to be statistically significant with fantasy proneness $F (1, 119) = 40.878, p < 0.001$. Disassociation was also found to be positively related to Fantasy proneness.

Discussion

Our study found that disassociation was significantly related to positive fantasy engagement and fantasy proneness. Dissociation has a significantly negative relationship with positive fantasy engagement, in which as PFE increased by one standard deviation, disassociation decreased by .22 standard deviations. The R square value of disassociation in model 1 was found to be significant and accounted for 4.1% of variance in positive fantasy engagement to be predicted by disassociation. It is important to note that only

disassociation was significant in any of the models of hierarchical regression and was significant for models 1 and 3 in which positive fantasy engagement and fantasy proneness were examined. No predictors were significant with negative fantasy engagement, which means none of the possible predictors predicted negative fantasy engagement significantly. Dissociation was found to be statistically significant with Fantasy Proneness as measured by the CEQ. Disassociation was positively related to Fantasy Proneness. All models were significant in the ANOVA. Models 2 and 3 did not account for significantly more variance.

This study has a small sample size consisting only of Georgia Southern University college students, which limited the results found in the study. There were also some minor complications within the study that limited our findings and aspects of fantasy proneness that we had originally wanted to study as well as possible predictors of fantasy engagement and fantasy proneness including anxiety and stress. There were errors in inputting questionnaire items in Qualtrics, including items for both the stress and anxiety subscales of the DASS21, resulting in only the depression subscale being used for the analysis. The BBC Well-Being Scale was also measured with a 7-point Likert scale rather than a 5-point Likert scale.

This study attempted to provide more insight into the topic of fantasy and find any possible benefits to fantasy engagement and fantasy proneness. Prior studies have focused more on negative aspects of fantasy. Despite the limitations of the study, this is a step forward in a direction to examine more areas of fantasy than the negative connotations and possibly find correlations between fantasy and positive mental health benefits.

Given the small sample size, future studies with larger samples should attempt to replicate these findings. It would be helpful for future studies to provide the study in a way that targets the intended "geek" population more extensively. This could be done by providing the study to DragonCon convention attendees or simply providing the study to a larger pool through Amazon MTurk instead of through SONA so that more of the percentage of participants may be more likely to fit the "geek" population and be included in the future study. This would allow a bigger sample size for our intended population and allow more power in the results.

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Table 1

Correlation Matrix

	R^2	$R^2 \Delta$	Sig Δ		ß	b	t	p
PFE multiple regression								
Model 1	.041	.041	.027	DES	-.083	-.202	-2.243	.027
Model 2	.067	.26	.072	DES,	-.057	-.140	-1.459	.147
				DASS21 Depression	-.224	-.174	-1.817	.072
Model 3	.110	.42	.257	DES,	-.054	-.133	-1.385	.169
				DASS21 Depression,	-.180	-.139	-1.062	.291
				BBC Well Being Physical	.206	.253	1.649	.102
				BBC Well Being Psychological	-.082	-.171	-.919	.360
				BBC Well Being Relationships	-.114	-.095	-.587	.558
				ISEL	-.213	-.188	-1.618	.108
NFE multiple regression								
Model 1	.000	.000	.938	DES	-.002	-.007	-.078	.938
Model 2	.001	.001	.756	DES,	.001	.003	.033	.974
				DASS21 Depression	-.032	-.031	-.311	.756
Model 3	.026	.025	.586	DES,	.004	.011	.112	.911
				DASS21 Depression,	.037	.035	.258	.797
				BBC Well Being Physical	.015	.023	.145	.885
				BBC Well Being Psychological	-.018	-.047	-.241	.810
				BBC Well Being Relationships	.090	.093	.554	.581
				ISEL	-.103	-.114	-.931	.354
FP multiple regression								
Model 1	.256	.256	.756	DES	.124	.506	6.394	.000
Model 2	.273	.017	.099	DES,	.112	.457	5.444	.000
				DASS21 Depression	.108	.139	1.661	.000
Model 3	.247	.012	.000	DES,	.113	.461	5.424	.000
				DASS21 Depression,	.136	.175	1.489	.139
				BBC Well Being Physical	-.081	-.166	-1.210	.229
				BBC Well Being Psychological	.050	.172	1.038	.301
				BBC Well Being Relationships	.036	.050	.347	.729
				ISEL	.035	.051	.494	.623

Table 2

Univariate scale summaries

	M	*SD*
FES Positive	14.57	7.54
FES Negative	22.18	6.03
CEQ	10.36	4.53
DES Total	25.67	18.46
DASS21 Depression	12.13	5.85
BBC Well Being Physical	32.63	9.23
BBC Well Being Psychological	60.24	15.61
BBC Well Being Relationships	26.30	6.30
ISEL Total	21.19	6.63