

Relationships among Thought Intrusion, Thought Suppression, and Defense Styles in Clinical
and Non-Clinical Populations

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Abstract

Intrusive thoughts are a symptom of many psychological disorders that often result in high levels of distress or thought suppression. In response to distressing events, defense mechanisms are used by individuals in order to cope. Which defense mechanisms are utilized determines an individual's defense style, which can be mature, neurotic, or immature and can affect the extent to which one is able to cope with the stressor. Those who are unable to cope with their stressors are symptoms and are in psychological treatment can be grouped as a clinical population, while those who are not in treatment would be considered a non-clinical population. This study investigated differences between the clinical and non-clinical groups in relation to levels of thought intrusion, thought suppression, and defense styles. It was hypothesized that those in the clinical group would score higher in thought intrusion levels while the non-clinical group would score higher in thought suppression levels. It was also hypothesized that the two groups would significantly differ in defense style scores. Instruments were given to those in a partial care program (the clinical group) and students at a university (the non-clinical group) that would evaluate thought intrusion and thought suppression levels (the White Bear Suppression Inventory) and defense style (the Defense Style Questionnaire 40). These hypotheses were partially supported, as the clinical group scored significantly higher in thought intrusion and thought suppression levels. Additionally, the clinical group had a significantly higher level of immature defense style than the non-clinical group, but there were no other significant differences between the populations.

Keywords: intrusive thoughts, suppression, defense mechanisms, defense style

Relationships among Thought Intrusion, Thought Suppression, and Defense Styles in Clinical and Non-Clinical Populations

Intrusive thoughts can be defined as uncontrollable thoughts and images and may be experienced by anyone, though they are often dismissed by the average person as meaningless fleeting thoughts that happen on occasion (Putnam, 2018). Within a population of individuals who do not suffer from any mental illness, most people report having intrusive thoughts occasionally, with a smaller number reporting experiencing such thoughts with some frequency (Belloch et al., 2004). Although such thoughts are generally regarded as harmless to most people, intrusive thoughts have the potential to be highly distressing and even debilitating to those who suffer from mental disorders which may amplify the frequency or distort the nature of the thoughts, such as obsessive compulsive disorder (OCD), posttraumatic stress disorder, and major depression (Schmidt et al., 2009). For example, some individuals with OCD might experience aggressive intrusive thoughts that revolve around harming another person or contaminating something; a high frequency of such thoughts can lead one to ruminate on the root of the thought or the disturbing nature of the thought (Achachi, Bouvard, & Rey, 2017). Because intrusive thoughts are not controlled by the individual and do not reflect on any inner feelings or intentions, one may engage in defense mechanisms as a means to cope, which may relieve the individual to the point where no further professional intervention is needed (Ruuttu et al., 2006).

Psychological defense mechanisms function largely unconsciously and aid individuals in coping with stressors (Ruuttu et al., 2006). It is thought that in the face of conflict, defense mechanisms surface to help one relieve the anxiety of unpleasant impulsive behavior and natural urges to gain control over a situation (Freud, 1966). By involuntarily affecting one's feelings,

thoughts, or behavior, defense mechanisms act to protect the user from dealing with unwanted conflicts (Andrews, Singh, & Bond, 1993). Naturally, coping skills adapt over time and with age in order for the defense mechanism to operate effectively (Ruuttu et al., 2006). This is to prevent the user from holding onto a defense mechanism that may becoming maladaptive (harmful) by becoming ineffective or intensifying the stressor. The latter would be referred to as an immature defense mechanism, in which the user is likely to have a defense style (the way an individual copes with stressors) that is immature. The mature defense mechanisms are considered to be adaptive rather than maladaptive (like the immature style's defense mechanisms) as they are not harmful to oneself and are age-appropriate for adults (Ruuttu et al., 2006).

Defense mechanisms may play a role in coping with intrusive thoughts, due to their distressing nature. If so, clinical and non-clinical populations might be expected to differ in their use of defense mechanisms to manage intrusive thoughts. This study aimed to investigate any differences in such defense styles between a clinical (therapeutically treated) and non-clinical population of people who experience intrusive thoughts. The procedure involved administering the Defense Style Questionnaire (DSQ-40; Ruuttu et al., 2006), which measures if a defense style is adaptive (mature) or maladaptive (immature) and the White Bear Suppression Inventory (WBSI; Schmidt et al., 2009), which measures levels of thought intrusion and thought suppression (how one consciously combats intrusive thoughts). The measures were administered to consumers in a partial care program (a clinical sample) as well as undergraduate students (a non-clinical sample). By having clinical and non-clinical populations take the DSQ-40 and the WBSI, greater insight on how certain defense styles may be working to decrease intrusive

thoughts, or at least manage them effectively, was investigated and could then potentially be implemented in therapeutic techniques against intrusive thoughts.

In previous research, Schmidt et al. (2009) found that higher levels of suppression of intrusive thoughts did not indicate greater levels of severity of anxiety and depression symptoms like high levels of intrusion did, indicating that suppression serves as an effective means to reduce intrusive thoughts (Schmidt et al., 2009). This suggests that those who have higher levels of suppression may be using better defense mechanisms, as they have lower levels of distressing symptoms. Hypothesis 1 predicted that mature defense mechanisms would significantly predict suppression on the WBSI, whereas immature, neurotic (and image-distorting) defense mechanisms would significantly predict intrusion on the WBSI.

Non-harmful (mature or adaptive) defense styles were expected to be more prevalent in a population that did not need treatment, for they can cope with any distressing thoughts in a healthy way. Likewise, having harmful (immature, neurotic, or maladaptive) defense styles was expected to be seen in a population that needs therapeutic assistance, as they were predicted not to cope effectively with their stressors. Hypothesis 2 predicted that the non-clinical population would have higher scores on mature defense style than the clinical population, whereas the clinical population would have higher scores on maladaptive defense styles.

It is reasonable to believe that maladaptive (immature) and adaptive (mature) defense styles would not have the same outcomes for the user. The scores for thought suppression, thought intrusion, and each of the defense styles should significantly differ across the clinical and non-clinical groups, as different defense styles were predicted to have different outcomes for levels of thought suppression and intrusion.

Methods

Participants

The non-clinical sample was taken from an undergraduate population. Students' responses were obtained through an online system, in which students were given class credit for their participation. For the clinical population, a sample of consumers of a partial care mental health facility were used with the approval from the facility's supervisor. Consumers' responses were collected in person on paper. As for the clinical population, the population was mostly made up of minority males of lower socio-economic status, as many of the consumers at the partial-care facility are homeless and receiving government aid. Many of the consumers have been diagnosed with some type of psychotic disorder (such as schizophrenia or schizoaffective disorder) or a mood disorder (especially bipolar disorder or major depressive disorder). Also, the consumers usually stayed in the treatment program for years, as many consumers were there for at least 5-15 years approximately.

Instruments

The Defense Style Questionnaire identifies which defense mechanisms an individual is utilizing through one of three defense styles; immature (maladaptive), neurotic (maladaptive), and mature (adaptive) (Ruuttu et al., 2006). In the DSQ-40, respondents self-report their answers on 40 items in a 9-point Likert scale format, in which not only their defense style is reported but also the individual defense mechanisms used (Ruuttu et al., 2006). For example, one item on the questionnaire is "After I fight for my rights, I tend to apologize for my assertiveness," in which respondents would rate how much they agree with that statement (Andrews, Singh, & Bond, 1993). For the immature defense style, projection, passive aggression, autistic fantasy,

somatization, displacement, acting out, denial, dissociation, devaluation, isolation or splitting are under this category; for the neurotic defense style, reaction formation, undoing, idealization, or pseudo-altruism are under this category; finally, for the mature defense style, humor, sublimation, suppression, rationalization, and anticipation under this category (Ruuttu et al., 2006). This measure has been supported to be valid, as it has been tested for construct validity, reliability, and discriminant validity (Ruuttu et al., 2006).

The White Bear Suppression Inventory (WBSI) is a two-factor (thought suppression and thought intrusion) 15-item self-report questionnaire in which respondents answer each item on a 5-point Likert scale (Schmidt et al., 2009). This instrument has been supported to be a valid measure (through testing construct validity and reliability) in measuring individual's tendencies to suppress thoughts and levels of thought intrusion (Schmidt et al., 2009). For example, one item on the questionnaire states "I have thoughts that I cannot stop," which respondents then must rate how much they agree or disagree with the statement (Schmidt et al., 2009).

Procedure

Participants were first given a consent form that they had to sign and agree to before continuing the study. The instruments were counterbalanced by having each participant randomly assigned to one order of receiving the instruments (either the WBSI first or the DSQ-40 first). Afterwards, participants were debriefed, with the clinical (in-person) population given the opportunity to ask questions they may have and the non-clinical (online student) population given a contact email if they had any questions.

Results

Data Screening

Before running any analyses, five participants were removed from the dataset, as they had not completed a large portion of the questionnaires. Therefore, descriptive statistics reported are based on those retained in the sample. For participants who only left a small number of questions blank, their missing values (ten total) were replaced by the mean of the probability distribution based on the answers given by other participants in order to prevent missing values from changing the participant's score on the measures.

Descriptive Statistics

There were a total of 104 participants with 71 participants in the non-clinical group and 33 participants in the clinical group. The mean age of the respondents was 28.81 years old ($SD = 14.34$) with a range of 18 to 70 years old. Participants from the clinical group were significantly older than participants in the non-clinical group ($t(106) = 15.52, p < .001$). Seventy-five respondents were female (68.3%) and 33 were male (31.7%). There was a higher frequency of males in the clinical group compared to the non-clinical group ($\chi^2(1, N = 109) = 25.29, p < .001$). Additionally, 68 participants (65.4%) were Caucasian, 13 participants (12.5%) were African American, 6 participants (5.8%) were Asian, 13 participants (12.5%) were Hispanic, and 3 participants (2.9%) identified as mixed race or other. The clinical and non-clinical groups did not differ significantly by race ($\chi^2(5, N = 109) = 10.62, p > .05$). A summary of demographic characteristics for the clinical and non-clinical groups is shown in Table 1. A summary of descriptive statistics for the quantitative measures is shown in Table 2.

Hypothesis 1

For Hypothesis 1, two multiple regressions were conducted. For the first multiple regression, in which the defense style scores were used to predict suppression scores, the immature defense style scores were the only defense style scores that significantly predicted suppression scores in participants, $R^2 = .197$, $R^2_{\text{adj}} = .172$, $F(3, 100) = 6.845$, $p < .05$ (see Table 3.).

For the second multiple regression, in which the defense style scores were used to predict the intrusion scores, again the immature defense style scores were the only defense style scores that significantly predicted intrusion scores in participants, $R^2 = .170$, $R^2_{\text{adj}} = .145$, $F(3, 100) = 8.154$, $p < .05$ (see Table 4.).

Hypothesis 2

For Hypothesis 2, a MANOVA was used to investigate differences in defense styles between the two groups of respondents. Using the Wilk's Lambda test statistic to assess any main effects of one belonging to a clinical or non-clinical population, it was found that there was a significant difference between the groups, Wilk's Lambda = 0.87, $F(5, 98) = 2.93$, $p < 0.05$, partial $\eta^2 = .130$ (see Table 4.). Follow up univariate tests indicated that the immature defense style was the only defense style that was significantly different between the two groups, $F(1, 102) = 13.32$, $p < 0.01$, partial $\eta^2 = .105$ (see Table 5.).

Discussion

Unlike was originally hypothesized, mature defense style did not significantly predict suppression score. Rather, immature defense style positively correlated with suppression score, which is the opposite of what was expected. Additionally, immature defense style score was found to significantly predict intrusion score, as anticipated by the original hypothesis. In this

case, immature defense style score were positively correlated with the intrusion scores. Because those with higher thought intrusion and suppression score were found to have a higher immature defense style score, one possibility is that suppression is actually an immature, versus mature, response to intrusive thoughts. It was hypothesized that because higher levels of suppression did not indicate greater levels of anxiety and depression, unlike thought intrusion, that thought suppression might be a healthy way to cope with intrusive thoughts. However, the results of the present study suggest more frequent suppression may result from higher levels of intrusive thoughts in people who have an immature defense style. Subsequently, even though thought suppression would provide temporary relief, the intrusive thoughts may come back again since this response (or the defense mechanisms one used to combat the thoughts) was not effective. For example, if someone tries to use rationalization or denial to combat the intrusive thoughts, which are classified as immature defense mechanisms, this could be the individual's way of "suppressing" the thoughts. Suppressing thoughts in this manner may prove to be ineffective and ultimately maladaptive, as the thoughts will continue to return intrusively, leading to more suppression. Perhaps some people are naturally predisposed to more intrusive thoughts due to a psychological disorder and therefore will end up inevitably experiencing more suppression. Though, there are ways to cope with such thoughts that do not require suppressing the thought. For example, those who suffer from obsessive-compulsive disorder often experience more intrusive thoughts than others. In some treatments, the sufferer could be instructed not to acknowledge the thought, accept it, and simply let it pass on its own as well as expect it to come back (anticipation, a mature defense mechanism). In this case, the individual may have a higher intrusion score but it does not guarantee a higher suppression score, as they used mature defense

mechanisms, rather than immature. Therefore, in the clinical population observed, the immature defense style may be part of the reason why the clinical participants experienced higher levels of both intrusion and suppression.

Hypothesis 2, which predicted that the non-clinical population would have higher scores on the mature defense style than the clinical population and clinical population would have higher scores on maladaptive defense styles, was partially supported. Although there was a significant difference in the defense styles between the groups, the immature defense style was the only significant difference. The clinical group contained a significantly higher level of immature defense style than the non-clinical group. This was expected, as part of the reason some people are in treatment is to learn skills and better methods of coping with distressing daily events and thoughts, which includes intrusive thoughts. Albeit those with mental illness cannot simply eradicate their symptoms by using mature defense mechanisms, adapting one's defense style may help the individual adjust how severely those symptoms affect them. A change in the severity of symptoms could be the difference between someone with high levels of intrusive thoughts being in an inpatient treatment (intensive care) to an outpatient treatment (less intensive care). As mentioned, the clinical group was taken from consumers of a partial care program and had significantly higher amounts of people with an immature defense style. Following the previous line of thinking, it is possible to hypothesize that if the consumers received treatment that adjusted their coping skills they could potentially be able to go from a partial care program to an outpatient service. This depends on the type of mental illness being treated but could potentially work with those who suffer from psychological disorders that include symptoms of intrusive thinking.

Despite the fact that these results have supported differences between the populations, one must be cautious in interpreting the results. For one, there were many differences between the clinical and non-clinical populations other than if they were receiving psychological treatment or not. The non-clinical population mostly contained young female college students, while the clinical population mostly contained middle aged men. Additionally, one could infer economic differences between the populations, with most of the non-clinical group having the means to attend university, while the majority of the clinical group is reported to be unemployed and homeless. Such stressors could be arduous to combat, let alone intrusive thoughts or other psychological symptoms they may have. Therefore it may be easier for the non-clinical group to utilize mature defense mechanisms, while it may be more likely that the clinical group utilizes immature defense mechanisms (to simply suppress the thought and move onto other issues at hand). Following Freudian thinking, those who naturally use mature defense mechanisms are not stuck in any psychoanalytic stages of development and therefore do not develop a habit of using maladaptive defenses that are seen in those whose needs have not been met in a certain stage as a result. Other limitations include that the instruments were self-reported, the small clinical sample size, demographic differences confounding between-groups comparisons, and missing data that was replaced by estimations based off the mean.

Future studies should explore the differences between groups in different levels of treatment. For example, one could investigate differences in thought intrusion, thought suppression, and defense styles between those in inpatient treatment, partial care treatment, and outpatient treatment (like one-on-one therapy). Researchers could also investigate those differences between people with psychological disorders who suffer greatly from intrusive

thoughts, such as obsessive-compulsive disorder. By evaluating those with obsessive-compulsive disorder, insight could be gained on what types of coping mechanisms affect thought intrusion levels and frequencies. Additionally, researchers could further investigate if suppression (which is considered to be a mature defense mechanism) is actually maladaptive and should be considered immature defense mechanism instead due to its apparent inability to keep intrusive thoughts from returning.

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Table 1. Comparison of demographic characteristics for clinical and non-clinical participants.

	Clinical (<i>N</i> = 37)	Non-Clinical (<i>N</i> = 71)
Age	<i>M</i> = 46.51 (<i>SD</i> = 12.92)	<i>M</i> = 20.76 (<i>SD</i> = 3.96)
Male	23 (69.7%)	10 (30.3%)
Female	15 (19.7%)	61 (80.3%)
Caucasian	23 (32.4%)	48 (67.6%)
African-American	9 (60.0%)	6 (40.0%)
Asian	1 (16.7%)	5 (83.3%)
Hispanic	2 (15.4%)	11 (84.6%)
Other	2 (66.7%)	1 (33.3%)

Table 2. Descriptive statistics for quantitative measures ($N = 104$).

Scale	Min	Max	<i>M</i>	<i>SD</i>
WBSI				
Intrusion	8	40	28.36	7.72
Suppression	10	35	26.77	5.97
DSQ-40				
Immature	2.63	8.50	5.83	1.29
Neurotic	2.25	8.25	5.34	1.20
Mature	2.17	7.05	4.46	1.11

Table 3. Coefficients for model variables predicting Suppression ($N = 104$).

	<i>B</i>	<i>B</i>	<i>t</i>	<i>p</i>	Bivariate <i>r</i>	Partial <i>r</i>
Mature	.678	.147	1.43	.155	.214	.142
Neurotic	-.175	-.035	-.319	.751	.192	-.032
Immature	2.01	.373	3.70	<0.001	.391	.347

Table 4. Coefficients for model variables predicting Intrusion ($N = 104$).

	<i>B</i>	<i>B</i>	<i>t</i>	<i>p</i>	Bivariate <i>r</i>	Partial <i>r</i>
Mature	-.032	-.005	-.054	.957	.103	-.005
Neurotic	.180	.028	0.257	.797	.211	-.026
Immature	3.01	.432	4.35	<0.001	.433	.399

Table 5. Adjusted and Unadjusted Group Means for Dependent Variables by Group.

	Clinical		Non-Clinical	
	Adjusted <i>M</i>	Unadjusted <i>M</i>	Adjusted <i>M</i>	Unadjusted <i>M</i>
WBSI				
Intrusion	29.87	29.87	27.66	27.66
Suppression	27.31	27.31	26.52	26.52
DSQ-40				
Immature	4.98	4.98	4.21	4.21
Neurotic	5.66	5.66	5.20	5.20
Mature	6.17	6.17	5.67	5.67
