

Making It Real: Examining the Separateness of Concretization and Defensive Styles

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Abstract

Previous research and theory suggested the existence of concretization, a hypothesized defense-like cognitive-perceptual style that makes vague unpleasant psychological states more tangible. However, its measurement has relied on concretization-relevant “immature” defenses raising the possibility it merely represents immature defenses. The current study examined separateness of concretization from defensive styles. A sample of 147 undergraduate students completed measures of defensive styles concretization, and nightmare proneness, a known correlate. The results indicated that concretization incrementally accounted for unique variance in nightmare proneness above immature, neurotic, and mature defensive styles (ΔR -square = 0.138). This implies that concretization can be measured and conceptualized as somewhat distinct from immature defensive styles. Directions for future research to account for limitations and extend the current results are discussed.

Keywords: Concretization; Defensive styles; Nightmare proneness; Projection; Acting out; Somatization; DSQ-40

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1. Introduction

First articulated by Freud in the late 1800s [1], the concept of defense mechanisms, or defenses, has been extended, developed, and empirically validated over the past 130 years [2]. Defenses are cognitive-perceptual strategies the mind uses to protect the individual from anxiety and threats to self-esteem [3,4]. Defenses are typically used with a lack of intention and awareness relative to coping strategies which are more consciously directed [5]. While over 30 defenses have been identified [6], researchers often categorize them according to a hierarchy of adaptiveness based largely on their theorized developmental appearance and reality-distortion [5]. These categories are known as defensive styles: long-term tendencies to employ the defenses included in each category [7]. Three defensive styles are often discussed: immature, neurotic, and mature [8]. Table 1 presents a description of the defensive styles and their defenses.

Consistent with theory, research indicates that defensive styles are important for regulating emotional life and self-coherence [9] as well as stress-related adjustment [10]. Validity of adaptiveness levels is supported by findings that defensive styles are associated with correspondingly adaptive levels of coping strategies [11]. Overall, more adaptive defensive styles predict better long-term psychological health and late-life physical health [7]. Defensive style has also been related to relationship satisfaction and social functioning [12].

One defense-like process that has been noted previously is concretization. Concretization is a hypothetical psychological process through which vague, perturbing mental processes are experienced in more concrete, tangible forms, i.e., imagery, sensation, and actions [17]. On one hand, concretization appears to be a transient psychological process. On the other hand, individuals who experience concretization may be described as having a concretizing style; that is, a trait-like tendency to experience concretization [16]. Hypothetically, concretization

is more likely to occur among individuals with unprocessed emotions or expressive difficulties as a possible means of clarifying feelings and reducing psychological discomfort [16,18].

Previous work identifying concretization classifies it as a “psychotic-level” defense, conceptualized here as an early developmental appearance of immature defenses [19,20]. In this context, psychotic-level refers to a less integrated personality structure influenced strongly by imaginative and nondeclarative memory processes rather than necessarily schizophrenic processes [21,22]. Indeed, in some findings concretization is not significantly related to psychosis symptoms [23] but is related to having a less integrated psychological structure [16]. Concretization outcomes, or concretizations, can be described as either realistic (physical and behavioral manifestations), symbolic (abstract thoughts or imagery) [24], or a mixture. For instance, among children without diagnosed heart conditions the incidence of psychogenic chest pain may manifest in the context of disappointing family strife, i.e., heartache [25].

Table 1: Description of Defensive Styles		
Style	Defenses	Description
Immature	Projection*, Acting Out*, Somatization*, Passive Aggression, Isolation, Devaluation, Autistic Fantasy, Denial, Displacement, Dissociation, Splitting, Rationalization	This is the least adaptive defensive style. It includes defenses that disavow reality, manifest in action or sensation, and have severe distortion of self and other. This style is associated with inhibition of awareness of undesirable thoughts, feelings, and events.
Neurotic	Undoing, Pseudo-Altruism, Idealization, Reaction Formation	This style is intermediate in adaptiveness. Rather than complete disavowal of reality, neurotic defenses allow awareness of parts of undesired thoughts, feelings, and events, but some parts are forgotten or remain unaware. These defenses can keep emotional conflict out of awareness, preventing overwhelmedness, but resultingly may bring indecision.
Mature	Sublimation, Human, Suppression, Anticipation	This style is the most adaptive. These defenses include more integration of unpleasant thoughts, feelings, and events partly by perceiving them as less threatening, delaying focus on unpleasant mentation, and putting related emotional energy into constructive activities
Note: Descriptions of styles and categorization compiled from [7,13,14,15]. *Suggested as representative of concretization [16].		

While the terms “immature” and “psychotic” may imply concretizing defenses are rarely used among relatively psychologically healthy adults, this is not the case. Concretization (and the immature defenses) can be thought of as strategies that appear during younger developmental stages but continue to manifest among adults, particularly when other defenses are overwhelmed [3,5,26]. Manifestations of three immature defense mechanisms are suggested to resemble concretization-like phenomena among higher functioning individuals: somatization (psychological states are experienced as “real” physical sensations), projection (perceiving one’s internal states in other people or objects), and acting out (enacting mental states in physical activity) [16,21,27]. This perspective does not indicate that these defenses always represent concretization. Rather, under some circumstances they may approximate concretization and therefore serve as proxy indicators.

Concretization has recently been made the centerpiece of a model of nightmare proneness, a dispositional tendency to experience nightmares frequently [28,29]. The model argues that vague negative mental states become concretized to create nightmares [16,30]. Similar descriptions of unpleasant dream imagery being concretizations of psychological states are described elsewhere [31]. Further, Yu [32] asserts that some unpleasant dreams are concretizations of regressive, or immature, experiences and modes of psychological functioning, which likely would include immature defenses. In support of this idea, nightmares and dream-related cognitive processes have been positively associated with immature defenses [33]. As differentiation with other defensive styles, the same study also found a positive relationship between dream processes and mature defenses, but not nightmares.

If considering nightmares as concretizations of vague inner states, previous findings [16] of relationships between concretization and nightmare proneness make some sense. However, the question remains whether the relationship between nightmare proneness and concretization simply reflects a relationship between nightmare proneness and immature defenses, in general. Indeed, despite identification of concretization in interviews and

clinical cases [20], little evidence demonstrates that concretization, as conceptualized herein, may be separable from immature defenses. The aim of the current study was to examine this possibility by comparing relationships between a measure of immature defensive style and concretization with nightmare proneness, a variable which may hypothetically relate to both. Additionally, because of previous findings that mature defenses also related to nightmare processes [33], measures of mature and neurotic styles were also included for comparison. It was predicted that concretization would incrementally predict variance in a measure of nightmare proneness beyond immature, neurotic, and mature defensive styles.

2. Method

2.1 Participants

A total of 147 undergraduate students (87 women, 55 men, 5 did not identify) enrolled in a small university in the United States participated in the study. Participants' mean age was 20.16 years ($SD = 1.22$). Most participants identified their race/ethnicity as White/Caucasian (80.9%, $n = 119$), with smaller proportions identifying as Black or African American (10.2%, $n = 15$), Latinx (4.1%, $n = 6$), Asian (0.7%, $n = 1$), Native American (0.7%, $n = 1$), or "Other" (3.4%, $n = 5$). Most participants (34.7%, $n = 51$) identified their academic standing as freshmen, 19.0% ($n = 28$) as sophomores, 29.9% ($n = 44$) as juniors, 14.3% ($n = 21$) as seniors, and 2.1% ($n = 3$) did not respond.

2.2 Measures

2.2.1 Defensive and Concretizing Styles

The 40-item Defensive Style Questionnaire (DSQ-40) [15] measures 20 defenses including two items for each. Following theory and factor analysis, Andrews et al. [15] recommend combining defenses into categories of factorially derived mature, neurotic, and immature defensive styles (see Table 1). Because items from three immature defense mechanisms were used to assess concretization (described below), the immature style in this study included 9 rather than the original 12 immature defenses. Participants responded using a 1 (strongly disagree) to 9 (strongly agree) scale. Validity support and 4-week test-retest reliability coefficients ranging from 0.75–0.85 were reported [15].

Previous work used items from three DSQ-40 defenses (somatization, projection, and acting out) to approximate a concretizing style [16]. These items were combined here as the 6-item Concretization Scale. Previous findings indicated the items had a unidimensional factor structure and coefficient alpha reliability coefficients ranged from 0.78–0.86 [16]. The three defenses included in this measure have an average 4-week retest reliability coefficient of .74 [15] indicating adequate temporal stability.

2.2.2 Nightmare Proneness

The abbreviated 6-item Nightmare Proneness Scale [34] was used as a measure of nightmare proneness. Items represent cognitive-emotional dysregulation along with threat sensitivity and perceptual distortion. Participants responded to items using a 1 (strongly disagree) to 7 (strongly agree) scale. Responses were totaled with higher scores indicating more nightmare proneness. Validity support and a 1-month test-retest reliability coefficient of 0.90 was reported [35].

2.3 Procedure

As approved by the university, participants were recruited by a general email sent to all undergraduate students for anonymous voluntary participation. Participants followed a link to the study on a secure online survey platform where they provided electronic consent and subsequently completed questionnaires at a time and place of their choosing. There were no time limitations or exclusionary criteria for participation. The study was approved by the Neumann University Institutional Review Board (protocol 20230422).

2.4 Statistical Analyses

Statistical analysis was calculated with SPSS v. 32 for Windows (IBM Corp., Armonk, N.Y., USA). Descriptive statistics for scales were calculated including means, standard deviations, and coefficient alpha coefficients. Pearson correlation coefficients were calculated to examine bivariate relationships between scale scores. Linear multiple regressions were calculated to examine if concretization predicted nightmare proneness incrementally beyond defensive styles. On Step 1, the three defensive styles were entered simultaneously while concretization was added on Step 2. Variable Inflation Factors (VIFs) were used to examine collinearity. Effect sizes were estimated using Cohen's criteria [36]. From this perspective correlation coefficients of at least .10, .30, and .50

indicate small, medium, and large effects, respectively. Effect sizes for regressions were calculated as f^2 where 0.02, 0.15, and 0.35 are considered small, medium, and large effects, respectively. Results were considered significant if $p < .050$ (two-tailed).

3. Results

Descriptive statistics of measures are presented in Table 2. As seen in the table, coefficient alpha coefficients for the DSQ defensive styles were lower than conventional expectations but were nonetheless considered adequate for the purposes of this study [37,38].

Table 2: Descriptive Statistics of Measures		
Variable	M±SD	α
NPS-6	21.67±8.64	.814
DSQ-Mature	44.61±8.99	.603
DSQ-Neurotic	39.26±9.95	.580
DSQ-Immature	73.57±15.10	.658
CS	24.58±8.88	.705
Note: NPS-6 = Nightmare Proneness Scale-6; CS = Concretization Scale; DSQ = Defensive Style Questionnaire.		

Correlation coefficients between study variables are presented in Table 3. As shown in the table, nightmare proneness had a large correlation with concretization, a medium correlation with an immature defensive style, and a small but significant negative relationship with a mature defensive style. The relationship of nightmare proneness and the neurotic defensive style was not significant. Concretization had small and large positive correlations with neurotic and immature defensive styles, respectively. Neurotic style had small positive correlations with both mature and immature styles, consistent with it bridging more and less adaptive styles.

Table 3: Correlation Coefficients Between Scores on Study Measures				
Measures	1	2	3	4
1. NPS-6				
2. CS	.60**			
3. DSQ-Mature	-.27**	-.13		
4. DSQ-Neurotic	.15	.19*	.26**	
5. DSQ-Immature	.35**	.52**	.11	.18*
Note: N = 147. * $p < .05$, ** $p < .01$. NPS-6 = Nightmare Proneness Scale-6; CS = Concretization Scale; DSQ = Defensive Style Questionnaire.				

Table 4: Linear Regression Models Predicting Nightmare Proneness				
	Step 1		Step 2	
	β	p	β	p
DSQ-Mature	-.34	<.001	-.25	<.001
DSQ-Neurotic	.15	.041	.09	.191
DSQ-Immature	.42	<.001	.19	.012
CS			.45	<.001
	$\Delta R^2 = 0.290$, p < 0.001, f ² =0.408		$\Delta R^2 = 0.138$, p < 0.001, f ² =0.160	
Note: CS = Concretization Scale; DSQ = Defensive Style Questionnaire.				

The regression models examining concretization's incremental prediction of nightmare proneness above mature, neurotic, and immature styles are presented in Table 4. VIFs were ≤ 1.45 indicating that collinearity was not a problem [37]. As shown in the table, the three DSQ-40 defensive styles combined to account for 29.0% of the variance in nightmare proneness. All three styles were independently significantly related to nightmare proneness. The addition of concretization on Step 2 accounted for a significant 13.8% increase in the variance with

concretization being the strongest predictor but mature and immature defenses also independently related to nightmare proneness. All predictors accounted for a total 42.8% of the variance on Step 2, a large effect, $f^2 = .748$.

4. Discussion

The results of this study supported the hypothesis that concretization would predict nightmare proneness incremental of mature, neurotic, and immature defensive styles. This is consistent with previous research indicating that concretization was related to nightmare proneness [16]. These findings suggest that the three defenses hypothesized to represent concretization combine to account for their own variance separate from other defensive styles. Of interest, once concretization was added in the regression, mature and immature styles, but not neurotic style, continued to account for their own unique variance in nightmare proneness. This implies that while concretization may be important to nightmare proneness, a lack of mature defenses to process or release conflict may also be important. Immature defenses also appear important in nightmare proneness. Exploratory analyses (not presented) suggested this was largely due to Autistic Fantasy and Displacement, which also appear to include concretization-like elements [15,24].

While the present findings support viewing concretization as a cognitive-perceptual style separate from general immature defenses, there is continued need to understand how these processes work. Potential explanations can be gleaned from cognitive-behavioral theory. For instance, it has suggested that hallucination-like experiences, some of which may be concretizations, could result partly from failures of metacognition facilitating mistaking emotionally charged memories or inner speech to hyper-primed external objects or situations [39,40]. Also, previously a measure of concretization was found to relate to nightmares indirectly through processes akin to activation of the sensory apparatus [30]. It may be that concretization is stimulated during overwhelmedness when other defenses fail by activation of sensory processes that are attributed to associated external environments or objects. Currently, this is only speculation and needs empirical substantiation.

It might also be pointed out that though described as indicating less adaptation, it is possible that concretization-like processes may be beneficial in some circumstances. For instance, supporting and exploring concretizations in treatment may be used as a technique or to track change. Kushnir and Orkibi [24] assert that using concretization in psychodrama may assist clients to represent confusing internal states which can then be examined. Similarly, Dellaverson [41] observes that across therapy of a case involving an eating disorder, relational conflict eventually moved away from eating symptomatology to experiences of concretization-like processes before eventually focusing on external relationships.

The present study has several limitations which might be considered before generalizing the results. For instance, the sample was relatively small and consisted of a mostly ethnically homogenous group of young female college students. Further, the cross-sectional design limits any ability to imply causation or how the theorized associative processes occur. For example, while concretization is suggested to be a concurrent part of nightmare proneness [28], it could also be that it either precedes or comes after nightmare proneness or subsequent to failure of more mature defensive processes. There were also several measurement limitations. The use of self-report measures to assess hypothetically unconscious defense processes could be problematic. Further, using of a measure of existing defense mechanisms in lieu of a more accurate measure of concretization may also be a limitation. While, the existing evidence of the Concretization Scale is promising, it may be that using measures specifically developed to assess concretization would be more accurate.

Future research is needed to attempt to account for the above noted limitations. Using less direct measures of defenses might be useful to attenuate self-report biases (see Cramer [2] for other measures). Research among larger, more heterogeneous community and clinical samples may shed additional light on concretization among the population as a whole. Longitudinal work would provide a better understanding of causal directions. Further comparison with immature defenses while expanding the nomological network of concretization would be useful. Previous findings suggest that an immature defensive style relates to less ego strength and more symptoms of psychological distress [42]. Comparing relationships of defensive styles and concretization with these variables might be interesting and further validate the separate existence of concretization. Similarly, given longitudinal relationships between defensive style and later personality symptomatology [43], it would be interesting to examine if concretization and defensive styles differentially relate to personality. Finally, given the relatively large proportion of the adult population who report hallucination-like experiences [44,45], additional research might examine the extent to which this phenomenon is partly accounted for by concretization.

In conclusion, the current study found that a purported measure of concretization-like processes consisting of somatization, projection, and acting out defenses accounted for independent variance in a measure of nightmare

prone to these findings suggest that concretization is not simply representative of general immature defenses and may have its own correlates. Additional study is needed to account for limitations of the current study and to extend its findings.

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