

## Investigating the Overlap of Padua Inventory and Worry among Patients with Obsessive-Compulsive Disorder, Generalized Anxiety Disorder and Normal People

Samad Shirinzadeh Dastgiri, MA<sup>1</sup>  
Samaneh Nateghian, MA<sup>†</sup>

<sup>1</sup> Counseling Center of Municipality of Tehran, Iran

**Corresponding author:**

Samaneh Nateghian, MA  
Clinical Psychologist, Counseling Center of University of Tehran, Tehran, Iran  
Tel: +98-21-77378077  
Email: sama.ntgh@gmail.com

**Objective:** The present study aimed to explore the relationship between worry and obsessive compulsive symptoms. We examined the correlations between the Padua Inventory (PI) and the Penn State Worry Questionnaire (PSWQ) to further explore the distinctiveness of the PI.

**Method:** Seventy-five subjects (n=40 male, n= 35 female) were selected from Hafez Hospital (Iran) for this study: the subjects included twenty-five patients with obsessive-compulsive disorder (OCD), 25 with generalized anxiety disorder (GAD) and 25 normal participants. The PI and PSWQ were used in order to measure the obsessive beliefs and worry.

**Results:** Results indicated a significant correlation between the PI scores and worry. The Results of the Kruskal-Wallis test showed that the PI scores were able to differentiate OCD and GAD patients from normal people, however, it failed to differentiate between OCD and GAD patients. In addition, when the worry scores were controlled, the PI scores were able to differentiate between OCD and GAD patients .

**Conclusion:** The PI appears to be a useful measure for differentiating OCD patients and nonclinical OCD cases from normal people. However, its usefulness in differentiating between OCD patients and patients with anxiety disorder (GAD) has not been supported by our findings.

**Key Words:**

*Anxiety disorders, Obsessive-Compulsive disorder, Questionnaires*

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Obsessions are a central feature of Obsessive-Compulsive Disorder (OCD) and worry is the central characteristic of Generalized Anxiety Disorder (GAD)(1). Because these common disorders are characterized by excessive and uncontrollable cognitive processes associated with negative affect, may have a considerable overlap with one another (2). Worry and obsessions have some similar characteristics; for example: (a) both occur in patients and normal populations; (b) the form and content of worry and obsessions appear to be similar in normal and clinical groups; (c) both occur with greater frequency and are associated with greater perceptions of uncontrollability in clinical populations than in normal groups; (d) both are associated with adverse mood; and finally the same type of vulnerability factor determines why some people develop pathological worries or obsessions and others do not (3).

However, apart from these similarities, worry and obsessions appear to differ to a great extent on several dimensions. Worry usually is concerned with normal life circumstances whereas the content of obsessions tends to be more bizarre (4). Moreover, even though both are characterized by perceived uncontrollability, at least in clinical cases, worry is more likely to be

perceived as self-initiated. Recently, an attempt has been made to distinguish between worry and obsessive-compulsive symptoms in terms of process characteristics and meta-cognitive beliefs(5). Several self-report instruments have been developed to assess worry. These include the Penn State Worry Questionnaire ( PSWQ), Anxious Thoughts Inventory (AnTI) and the Worry Domains Questionnaire (WDQ). The Penn State Worry Questionnaire (PSWQ) is the measure most frequently used to assess pathological worry in both clinical and non-clinical populations. Several researches support the use of the PSWQ in screening individuals who are likely to meet the criteria for GAD (6). The Padua Inventory, is an instrument, gaining popularity in the measurement of obsessive-compulsive (O-C) symptoms. Although in his original study Sanavio reported that the PI can differentiate between OCD patients and neurotic patients, to date, there is not enough evidence to arrive at a conclusion about the validity of the PI in samples of participants with clinically diagnosed OCD (7). Burns and et al. reported that individuals who scored high on the PI also reported more depression and Generalized Anxiety Disorder (8). In addition, many reports indicate that the PI measures worry in addition to obsession (9-11). This is especially true for two impaired control and

checking subscales (11). These results indicate that some items of the PI measure non-specific elements of OCD, and the PI measures worry and obsessions. However, it has been noted that measures of worry and obsession present a number of limitations to researchers who wish to distinguish between the two and to explore the differences between these types of ideational events (9). According to these results, to facilitate research, self-report instruments that reliably distinguish between worry and obsessions are required. The present study aimed to further explore the relationship between worry and O-C symptoms. We examined correlations between the PI and the PSWQ to further explore the distinctiveness of the PI.

## Materials and Method

### Participants

Twenty-five adults with OCD, twenty-five adults with General Anxiety Disorders and twenty-five normal adults participated in the study. The patients were selected from Shiraz hospitals (Hafez Hospital and Motahari Clinic, Shiraz, Iran) by the authors and a psychiatrist using DSM-IV criteria for the diagnosis. Participants were selected using availability sampling. Those patients who took psychoactive drugs during a 4-week period before the examination were excluded from the study. Patients with OCD were matched with GAD patients and normal participants according to the following variables: age, education and gender. The normal group consisted of hospital support staffs and community volunteers who denied any history of psychiatric treatment and did not meet the criteria for any DSM-IV Axis I disorder as determined by the SCID-IV.

### Measures

**Padua Inventory (PI):** The PI (7) is a 60-item questionnaire designed to allow investigation of obsessive and compulsive problems in normal and clinical subjects. Each of the items was scored on a 0-4 point scale according to the intensity of the disorder: 0 indicates the absence of disturbing behavior, while 4 indicates behavior that is highly disturbing for the subject. The Padua Inventory (PI) measures the five categories of O-C symptoms. The subscales include: impaired control over mental activities; checking behaviors; urges and worries of losing control over motor behaviors; and being contaminated. The validity

and reliability of PI for the Iranian population were established by Goodarzi and Firoozabadi(11).

**Penn State Worry Questionnaire (PSWQ)** The PSWQ (12) is a 16-item self-report scale that measures a tendency to worry. Responses are measured on a five-point scale with 1 representing "not at all typical" to 5 "very typical". The PSWQ is a reliable and valid measure for clinical and non-clinical groups. The PSWQ has good internal consistency with Cronbach's alphas ranging from .86 to .93, and good test-retest reliability with reported coefficients ranging from .74 to .93 (12). The validity and reliability of PI for the Iranian population were established by Shirinzadeh Dastgiri (13).

### Procedure

After a diagnostic assessment by a trained clinician and asking the subjects whether they wanted to participate in the study, the researcher explained the aim of the study to the subjects and arranged for the administration of the questionnaires in a private room at the hospital. The questionnaire packet containing the two measures was organized in a counterbalanced format. Multiple orderings were created by placing the Worry and OCD instruments in varying orders across the whole sample (i.e., each group was equally varied in first or second, place for of two orderings). Participants were tested individually by the first author. After filling the questionnaires, participants received motor behaviors; and being two free counseling sessions for their participation in the study.

## Results

Demographic and questionnaire variables are shown in Table 1. The three participant group did not differ in terms of age or education. Table 1 demonstrates that patients with OCD have scored higher than the normal participants (NP) and GAD patients in the total score of the PI Pearson correlations were used to test the hypothesized positive relationships between worry, total score of the PI and their subscales. Results showed a positive correlation between impaired control over mental activities ( $r=0.45$ ,  $p<0.05$ ), checking behaviors subscale ( $r=0.31$ ,  $p<0.05$ ) and the total score of PI and Worry ( $r=0.41$ ,  $p<0.05$ ). However, the correlation between urges and worries of losing control over motor behaviors, being contaminated subscales and worry were not significant.

Table 1. Comparison of demographic features and scales score among three groups

Variable	OCD <sup>†</sup>	GAD <sup>††</sup>	NP <sup>‡</sup>	F	Sig.
	Mean±SD	Mean±SD	Mean±SD		
Age	23.4±6	26.2±6.9	25±5.5	1.89	0.15
Education	12.7±4.6	13.2±5.1	13.1±3.7	0.27	0.76
PI	93±43.2	78.9±36.9	26.1±17.4		
PSWQ	55.8±11.7	69.4±9.3	43.9±11		

† Obsessive-Compulsive Disorder; †† Generalized Anxiety Disorder; ‡ Normal Participants

## The Overlap of Padua Inventory and Worry

The Kruskal-Wallis Test revealed a significant difference among the groups ( $p < 0.001$ ).

Between group differences were evaluated by the Mann-Whiney U-tests for independent groups (ANOVAs were not used because variances were not homogenous). As shown in Table 2, non-parametric analyses revealed a significant effect on the subscales and total scale of the PI in comparing the OCD patients and normal participants. No difference was observed between the OCD patients and patients with anxiety in the total score of the PI and their subscales (see Table 2). Nevertheless, when worry scores were controlled, non-parametric analyses revealed that the PI scores and their subscales were able to differentiate OCD patients from GAD patients and normal people (Table 3).

### Discussion

This study showed a positive and significant correlation between PI, impaired control over mental activities subscale and worry .Table 2 illustrates that the Pearson coefficient was not significant between most of the subscales of PI and worry except for the between impaired control over mental activities. This finding is comparable with the findings of Wells and Papageorgiou (14).

In addition, the results indicated that patients with OCD have scored higher than the normal participants and GAD patients in the total score of the PI. The comparison revealed a significant difference among the groups. However, no difference was observed between OCD patients and patients with anxiety in the total score of the PI and their subscales (see Table 2). This finding shows that the PI score does not measure purely specific features of the OCD patients. Accordingly, the PI appears to be a useful measure for differentiating OCD patients and nonclinical OCD cases from normal people. However, its usefulness in differentiating between OCD patients and patients with anxiety disorder (GAD) has not been supported by our findings. Further refinement of the Padua Inventory is necessary to enhance the specificity of measurement and discriminant validity of the instrument .

This conclusion is comparable with the findings of other studies which show the PI score can not differentiate between OCD and anxious patients (8, 11, 15). With respect to results presented in Table 3 and considering the high correlation between the impaired control over mental activities subscale and worry, it seems that the overlap between Padua Inventory and worry may be due to the nature of items on the impaired control over mental activities subscale. Some of the items on this subscale refer explicitly to worry and some of the remaining items refer to anticipated catastrophes that could be answered with reference to either worries or obsessions. Hence, that refinement should review the wording of Padua Inventory (especially impaired control over mental activities subscale)

**Table 2. Results of the Mann-Whitney U tests (z-values) for the effect of diagnoses**

Padua Inventory	Obsessive vs. GAD	Obsessive vs. normal
Total score	-1.4	-4.9**
Impaired control	-1.1	-4.7**
Checking	-1.04	-4.9**
Urges and worries	-0.9	-3.4**
Contamination	-1.2	-3.5**

\*\*P < 0.01, two tailed

**Table 3. Results of the Mann-Whitney U tests (z-values) for the effect of diagnoses when worry controlled**

Padua Inventory	Obsessive vs. GAD	Obsessive vs. normal
Total score	-5.3**	-5.7**
Impaired control	-3.1**	-5.5**
Checking	-4.7**	-5.7**
Urges and worries	-5.3**	-5.4**
Contamination	-5.1**	-5.6**

\*\*P < 0.01, two tailed

However, some of the positive correlation between worry and compulsive symptoms may be substantive and thus indicating potentially important concept links between worry and compulsive behaviors .

Wells and Morrison, demonstrated that normal individuals could make a valid distinction between normal worries and obsessions when provided with a simple definition (16). Such an approach could be adopted for future revision of the Padua Inventory. In particular, the ego-dystonic nature of obsessions should be highlighted. Other key differences between worry and obsessions could be emphasized in a revision of instructions for the scale(14). For instance, Wells and Morrison (16) showed that obsessions were more telegraphic than worries and were more involuntary. An emphasis on such features may increase the specificity of the Padua Inventory.

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