**Original Article**

# Influential Role of Anxiety and Depression in Dimensions of Self-Regulation and Somatization.

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## *Abstract*

**Introduction:** Anxiety and depression are common and serious disorder that they have main affects in self-regulation and somatization. This study was done to analyze relation and prediction between anxiety/depression with dimensions of self-regulation and somatization. **Methods:** The study was done using four questionnaires such as: Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI), Self-Regulation Questionnaire (SRQ) and Physical Symptoms (PHQ-15). Study was conducted in 500 employees in five biggest offices. Investigation used all data collected analyzed by SPSS-21 software. **Results:** In particular, there is significant differences between evaluating and somatization with anxiety by positive correlation. Meanwhile, anxiety accounted for 4.01% of the variance in implementing ($p<0.05$), 4% of the variance evaluating ($p<0.05$) and 4.04% variance somatization ($p<0.05$). There is significantly differences between evaluating with depression by positive correlation ($p<0.05$). In addition, implementing, assessing, and somatization had a correlation with depression ($p<0.05$). Depression accounted for 4.81% variance of the implementing ($p<0.05$), 4.79% of the variance evaluating ($p<0.05$) and 4.86% of the variance somatization ($p<0.05$). **Conclusion:** Findings are consistent with a relationship between anxiety in self-regulation and somatization involved in both self-regulation and somatization as well as altered in clinically manifest

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**Key words**: anxiety, depression, dimensions of self-regulation, somatization.

## *Introduction*

Anxiety is defined as the psychological and physiological manifestations of excessive worry. Anxiety disorders are highly prevalent psychiatric disorders and there is a high comorbidity with depression. Twin studies have shown that anxiety disorders are moderately heritable (1). Anxiety disorder is a current worldwide public health issue (2). In addition, depression is a mental illness, according to the DSM-5, Individuals with persistent depressive disorder describe their mood as sad or "down in the dumps." During periods of depressed mood, at least two of the six symptoms should be presented. Because these symptoms have become a part of the individual's day-to-day experience (3), self-regulation refers to a set of processes that enable individuals to guide their goal directed activities over time and across changing contexts (4).The pattern of relationships between self-regulation and social anxiety was very similar to the pattern of relationships between self-regulation and depression. Individuals who were high on social anxiety were low on the expectancy to achieve goals, low on self-evaluation, and low on positive self-reinforcement. Individuals who were high on depression were also low on the expectancy to achieve goals, low on self-evaluation, and low on positive self-reinforce (5).

Additionally, based on ICD-10 somatization disorder defined the main features are multiple, recurrent and frequently changing physical symptoms of at least two years duration. Symptoms may be referred to any part or system of the body. The course of the disorder is chronic and fluctuating, and is often associated with disruption of social, interpersonal, and family behavior. Short-lived (less than two years) and less striking symptom patterns should be classified under undifferentiated somatoform disorder, (6) somatization associated with significant disability, which increases with the number of somatic symptoms, duration of illness and is associated depressive and anxiety symptoms (7). As set of Hypotheses conceptualizing depression (in self/brain/behavior system terms) defined as a disorder of self-regulation that is offered implications of the self-regulation model with potential advantages of self-regulation which is perspective on depression (8). Self-regulation-based psychotherapeutic approaches to depression hold significant promise for enhancing treatment efficacy and ultimately may provide an individuated framework for treatment planning (9). Anxious versus depressed affect, influence different aspects of physical symptom reporting. Then implications for self-diagnosis, medical treatment-seeking, care and potential insights which discussed about other complex social and interpersonal behaviors (10). The relationship between anxiety, depressed mood and the presence and intensity of physical symptoms in hospitalized advanced cancer patients is very limited (11). Individuals who somatise have an increased risk of becoming depressed or anxious in subsequent years, over and above baseline levels of depressive or anxiety symptoms. They may represent for prevention of depressive and anxiety disorders (12). Relationship between symptom severity and cortical volume in several brain areas involved in both emotion regulation as well as altered in clinically manifest depressive/anxiety disorders (13). Another research indicated that prolonged effect of war in missing family member presents for those women, they had prolonged suffering manifested through depression, anxiety and symptoms of somatization (14). Physical illness and somatization are not only in common in terms of their physical manifestation but also in their relation to depression and anxiety (15).

An ever-present concern in research on anxiety and depression are how to distinguish self-regulation and somatization from anxiety and depression that are medically unexplained. Based on prior research demonstrating an association between anxiety and depression are how to distinguish self-regulation, we use the terms anxiety and depression to indicate dimensions of self-regulation and somatization without psychiatric explanation.

In contrast to the majority of prior studies that have been restricted to clinical samples or undergraduate populations, the present study focuses on a sample recruited from the employees' community. Clinical samples are likely to have higher levels of medical illness, and a community sample offers the advantages of examining links between anxiety and depression with dimensions of self-regulation and somatization in people drawn from a wider spectrum of age and socioeconomic circumstances.

## *Methods*

This research is descriptive and correlational. In this research, self-regulation and somatization are considered as prerequisite, psychometric and criterion variables. The participants in this study consisted of all employees in Zahedan offices who works in 1395 year. According to the entrance criteria (employed in offices or administrative buildings), 500 individuals

were randomly selected based on Morgan's table. Then, by obtaining permission from the relevant departments, providing the necessary explanations about the questionnaires, the voluntary participation had confidence of their personal information, the questionnaires were distributed among the staffs. Then, due to the removal of incomplete questionnaires (exit criteria), the final sample size was reduced to 381 people.

**Measures**

Demographics: Age, gender and education level were obtained using written questionnaires. Mean age was 33.2 years (*SD* = 8.8) for men and 31.7 years (*SD* = 8.5) for women. Participants varied widely in their educational experience: 46.2% of participants had completed a master's or more advanced degree, 3% had some post-high school education (vocational, some college, or an associate's degree), and 6.8% had a Ph.D. degree.

**Instrument**

**1) Beck Anxiety Inventory (BAI):** Created by Beck and other his colleagues, is a 21-question multiple-choice self-report inventory that is used for measuring the severity of anxiety in children and adults. It is designed for individuals who are of 17 years of age or older and takes 5 to 10 minutes to complete. Several studies have found the Beck Anxiety Inventory to be an accurate measure of anxiety symptoms in children and adults. Internal consistency of the scale was also quite high (α = 0.92), validity by retest was 0/75 and correlation between components 0/30 to 0/76 (16).

**2) Beck Depression Inventory (BDI):** The Beck Depression Inventory (BDI) is a 21-item, self-report rating inventory that measures characteristic attitudes and symptoms of depression. Estimated Alpha Cronbach was within 0/70 and 0/90 (17).

**3) Self-Regulation Questionnaire (SRQ):** Self-regulation is the ability to develop, implement, and flexibly maintain planned behavior in order to achieve one's goals, building on the foundational work of Frederick Kanfer, Miller and Brown formulated a seven-step model of self-regulation. In this model, behavioral self-regulation may falter because of failure or deficits at any of these seven steps: 1. receiving relevant information 2. Evaluating the information and comparing it to norms 3. Triggering change 4. Searching for options 5. Formulating a plan 6. Implementing the plan 7. Assessing the plan's effectiveness. Reliability of the SRQ appears to be excellent (α =0 .91), consistent with the idea that its items contain much redundancy (18).

**4) Physical Symptoms (PHQ-15):** Somatization (PHQ-15) was measured using the somatic symptom module of the PHQ, the PHQ-15. The items include the most prevalent DSM-IV somatization disorder somatic symptoms (16). Subjects were asked for the last 4 weeks to rate the severity of 13 symptoms as 0 ("not bothered at all"), 1 ("bothered a little") or 2 ("bothered a lot"). Two additional physical symptoms - feeling tired or having little energy and trouble sleeping – are contained in the PHQ-9 depression module (19). For scoring, response options for these two symptoms are coded as 0 ("not at all"), 1 ("several days") or 2 ("more than half the days" or "nearly every day") (6) internal consistency (Cronbach's α) for the PHQ-15 scale reached the value of α =0.76 (20).

The All questionnaires were checked for completion of information and the responses were coded for entry in the computer. Questionnaire data analyse was performed with Microsoft the statistical package for the social science (SPSS-pc) software version 21. Gender was considering with frequency statistics and bivariate correlation and liner regression test used for anxiety and depression with dimensions of self-regulation and somatization, furthermore, all

statistical tests were done to determine any significant difference at 5% level.

## *Results*

Among the anxiety, depression, and dimensions of self-regulation in participants, they expressed stronger in Receiving (M = 28.08, SD = 5.46) while depression had lower level (M = 6.46, SD = 5.24).

**The relationship between anxiety with dimensions of self-regulation and somatization**

Bivariate correlation analysis was used to assess whether anxiety has an effect on dimensions of self-regulation and somatization.

Table 1: Descriptive statistics for anxiety with dimensions of self-regulation and somatization

| Variable | Mean | Std. Deviation |
|---|---|---|
| Anxiety | 7.55 | 4.72 |
| Depression | 6.46 | 5.24 |
| Receiving | 28.08 | 5.46 |
| Evaluating | 25.01 | 4.28 |
| Triggering | 26.01 | 4.05 |
| Searching | 26.61 | 5.06 |
| Implementing | 26.54 | 4.63 |
| Assessing | 25.67 | 6.71 |
| Somatization | 7.51 | 3.68 |

Table 2: The Relationship between anxiety with dimensions of self-regulation and somatization

| | Anxiety | Receiving | Evaluating | Triggering | Searching | Implementing | Assessing | Somatization |
|---|---|---|---|---|---|---|---|---|
| Anxiety | 1 | | | | | | | |
| Receiving | -.011 | 1 | | | | | | |
| Evaluating | .089** | .087 | 1 | | | | | |
| Triggering | .032 | .138** | .415** | 1 | | | | |
| Searching | .056 | .206** | .458** | .358** | 1 | | | |
| Implementing | .064 | .219** | .167** | .229** | .300** | 1 | | |
| Assessing | .051 | .262** | .369** | .290** | .476** | .321** | 1 | |
| Somatization | .519** | -.066 | -.008 | -.028 | -.065 | -.085 | -.020 | 1 |

There is significant different between evaluating with anxiety by positive correlation ($r$ =0 .089, $p$ = 0.001), in addition somatization had correlation with anxiety ($r$ = 0.519, $p$ = 0.001). Correlation in evaluating and somatization were 99% confidence interval (H1).

**The prediction dimensions of self-regulation and somatization by anxiety**

Regression analysis (stepwise method) was used to assess whether anxiety has an effect on dimensions of self-regulation and somatization.

Table 3: Linear Regression to Predict dimensions of self-regulation and somatization with anxiety

| | β | p | R | $R^2$ | $\Delta R^2$ |
|---|---|---|---|---|---|
| Implementing | 0.096 | 0.001 | 0.530 | 0.281 | 0.278 |
| Evaluating | 0.077 | 0.001 | 0.535 | 0.286 | 0.282 |
| Somatization | 0.527 | 0.001 | 0.519 | 0.269 | 0.267 |

According to regression analysis, anxiety was a significant predictor of dimensions of self-regulation and somatization. Anxiety accounted for 4.01% of the variance in

implementing ($\Delta R^2$ = 0.278, $F$ =22.179, $p$= 0.001), 4% of the variance evaluating ($\Delta R^2$ = 0.282, $F$= 66.35, $p$=0.001) and 4.04% of the variance somatization ($\Delta R^2$ = 0.267, $F$ = 183.121, $p$= 0.001). The results indicated that *Implementing and evaluating which are dimensions of self-regulation with somatization* increased as *anxiety* increased. These findings support the research hypothesis that dimensions of self-regulation and somatization can predict by anxiety score (H2).

**The relationship between depression with dimensions of self-regulation and somatization**

Bivariate correlation analysis was used to assess whether depression has an effect on dimensions of self-regulation and somatization.

Table 3: The Relationship between anxiety with dimensions of self-regulation and somatization

| | Depression | Receiving | Evaluating | Triggering | Searching | Implementing | Assessing | Somatization |
|---|---|---|---|---|---|---|---|---|
| Depression | 1 | | | | | | | |
| Receiving | -.035 | 1 | | | | | | |
| Evaluating | .108* | .087 | 1 | | | | | |
| Triggering | .046 | .138** | .415** | 1 | | | | |
| Searching | .069 | .206** | .458** | .358** | 1 | | | |
| Implementing | .111* | .219** | .167** | .229** | .300** | 1 | | |
| Assessing | .095* | .262** | .369** | .290** | .476** | .321** | 1 | |
| Somatization | .373** | -.066 | -.008 | -.028 | -.065 | -.085 | -.020 | 1 |

There is significant different between evaluating with depression by positive correlation ($r$ = 0.108, $p$ = 0.016), implementing ($r$ = 0.111, $p$ = 0.013) and assessing ($r$ = 0.095, $p$ = 0.034), in addition somatization had correlation with depression ($r$ = 0.373, $p$ = 0.001). Correlation in evaluating, implementing and assessing were 95% confidence interval meanwhile somatization were 99% confidence interval (H3).

**The prediction dimensions of self-regulation and somatization by depression**

Regression analysis (stepwise method) was used to assess whether anxiety has an effect on dimensions of according to regression analysis, depression was a significant predictor of dimensions of self-regulation and somatization. Depression accounted for 4.81% of the variance in implementing ($\Delta R^2$ = 0.160, $F$ = 47.30, $p$ = 0.001), 4.79% of the variance evaluating ($\Delta R^2$ = 0.168, $F$ = 33.31, $p$ = 0.001) and 4.86% of the variance somatization ($\Delta R^2$ = 0.139, $F$ = 80.67, $p$ = 0.001). The results indicated that *Implementing and evaluating which are dimensions of self-regulation with somatization* increased as *depression* increased. These findings support the research hypothesis that dimensions of self-regulation and somatization can predict by depression score (H4).

Table 4: Linear Regression to Predict dimensions of self-regulation and somatization with depression

| | β | p | R | R2 | ΔR2 |
|---|---|---|---|---|---|
| Implementing | 0.096 | 0.001 | 0.400 | 0.160 | 0.157 |
| Evaluating | 0.077 | 0.001 | 0.409 | 0.168 | 0.163 |
| Somatization | 0.527 | 0.001 | 0.373 | 0.139 | 0.138 |

## *Conclusion*

This study hypothesized that there is difference exists between anxiety with self-regulation and somatization in employees. In addition, anxiety correlated with Evaluating and somatization in contrast, an investigation indicated anxiety and somatization scores were higher in the clinical group (21) furthermore in terms of implementing and evaluating which are dimensions of self-regulation with somatization increased as anxiety increased. However, researchers argued the higher the level of conscious self-regulation, showed the lower anxiety level with the better results (22), also, another study declared self-regulation difficulties observed in depression are not necessarily the expression of a general motivational deficit (23). Higher standards of self-regulation, and in turn, reduced anxiety symptoms, learning self-regulation skills may decrease anxiety, particularly for those who tend to doubt their actions, potentially by increasing self-efficacy in decision making (24). After self-regulation treatment by behavior tests they show decline level of anxiety with development in the verbal-cognitive (25). Researchers show, there is significant correlation between attachment style and vulnerability to anxiety and somatization disorders. Furthermore insecure attachment styles (ambivalent and avoidant) can play an important role in the creation and maintenance of anxiety and somatization disorders (26).

According third hypothesized, depression correlated with evaluating, implementing, assessing and somatization, furthermore by fourth hypothesized, Implementing and Evaluating which are dimensions of self-regulation with somatization increased as depression increased. Self-regulation-based psychotherapeutic approaches to depression hold significant promise for enhancing treatment efficacy and ultimately may provide a personal framework for treatment planning (27). Potential advantages of self-regulation are perspective on depression (28). Self-regulation pathways act differently in depression and somatization (29).

The contribution of the commonalities of depression, anxiety and somatization to functional impairment substantially exceeded the contribution of their independent parts. Nevertheless, depression, anxiety and somatization had important and individual effects (i.e., separate from their overlap effect) on certain areas of functional impairment. Given the large syndrome overlap, future diagnostic classification would be to describe basic diagnostic criteria for a single overarching disorder and to optionally code additional diagnostic features that allow a more detailed classification into specific depressive, anxiety and somatoform subtypes (30). In fact, anxiety is responsible for elevated reports of momentary symptoms, whereas depression is related to exaggerated recall of past symptoms. Understanding the distinctive roles of anxiety and depression in the experience of physical symptoms has implications for researchers and practitioners in the fields of personality, clinical science, health psychology, psychiatry, cognitive and affective neuroscience, and medicine (31).

Findings are consistent with a relationship between anxiety in self-regulation and somatization involved in both self-regulation and somatization as well as altered in clinically manifest depression/anxiety disorders. In fact, it had a number of limitations. The first limitation was in regard to the way the sample it was limited employees. It might be beneficial in the future to extend the sample to other groups.

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