# Psychometric Properties of a Turkish Version of the Difficulties in Emotion Regulation Scale

R. Neslihan Rugancı and Tülin Gençöz Middle East Technical University

This study aimed to examine the psychometric properties of the Difficulties in Emotion Regulation Scale (DERS; developed by Gratz & Roemer, 2004) in a Turkish sample. For this purpose, first, the factor structure of the scale was examined with a sample of 338 university students, and an identical factor structure with the original scale was obtained with the exclusion of a single item. Following the confirmation of the 6-factor structure of the scale with the current Turkish sample, the whole scale's and its six subscales' reliability coefficients were examined via internal consistency and test-retest reliability coefficients. These reliability analyses indicated satisfactory coefficients. As for the concurrent validity, the correlations of DERS and its subscales with measures of psychological distress were examined. This examination generally revealed strong correlations, although the awareness factor of DERS had relatively weaker correlations with the measures of psychological distress. Finally, concerning the criterion validity, all the measures of DERS could significantly differentiate the participants with "high psychological distress" from those with "low psychological distress"; however, for the awareness subscale the effect size was small. These findings were discussed in line with the relevant literature. © 2010 Wiley Periodicals, Inc. J Clin Psychol 66:442-455, 2010.

Emotion regulation strategies of an individual are assumed to be developed upon the quality of early relationship between the child and the caregiver (Beebe & Lachman, 2002; Bowlby, 1979; Fraley & Shaver, 1997; Fraley, Garner, & Shaver, 2000; Shaver & Mikulincer, 2002; Mikulincer, Shaver, & Pereg, 2003) and to have potential to change or improve in a later social developmental context of an individual (Gross, 1998a; Gross & Munoz, 1995). Healthy emotion regulation is referred to as a potentially unifying, central or predominating function of an individual's psychological (Bradley, 1990, 2003; Fonagy, Gergely, Jurist, & Target, 2002; Shore,

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Correspondence concerning this article should be addressed to: R. Neslihan Rugancı: Filistin Street No: 47/3, Gazi Osman Pasa, Ankara, Turkey; e-mail: lokomotiv07@gmail.com

2001; Stern, 2004; Wei, Vogel, Ku, & Zakalik, 2005; Westen, 1994, 1998) and even physiological health (John & Gross, 2004); or, on the contrary, an emotion regulation problem is accepted as a possible sign of diverse psychological symptoms, personality disorders, and maladaptive behavior (American Psychological Association [APA], 1994; Conklin, Bradley, & Westen, 2006; Linehan, 1993; Gratz & Roemer, 2004; Ruganci, 2003; Westen, 1998). Growing evidence in empirical research indicates that while inhibition, suppression, and control of negative emotion were found to be negatively related to psychological and physiological health (Gratz, 2007; Gross, 1998b; Gross & John, 2003), having access to one's own feelings through attending, processing the information about the salient negative experience, and recognition of the negative emotions were maximizing the adaptive social behavior (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). Similarly, emotion regulation components, from awareness to expression and to behaving in accordance with the goals, were found to be negatively associated with different types of psychological symptoms or disorders (APA, 1994; Bradley, 2003; Gratz & Roemer, 2004; John & Gross, 2004; Linehan, 1993; Taylor, Bagby, James, & Parker, 1997). Therefore, strategies, such as attending to, identifying, understanding, and valuing the experienced negative emotion (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995), and inhibiting inappropriate, ineffective impulsive acts that elevate the salient negative experience and behaving appropriately to the goals are supposed to regulate emotions effectively (Gratz & Roemer, 2004).

Though evaluation of clinical significance of emotion regulation requires a comprehensive investigation, the scales used for research purposes are not comprehensive enough to cover such aspects of emotion regulation or dysregulation mentioned above (Gratz & Roemer, 2004). One measure, namely, the Trait Meta-Mood Scale (TMMS) with its attention to feelings, clarity and mood repair subfactors, is partly covering the above conceptualization of emotion regulation (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). However, TMMS is not comprehensive enough to include *behaving appropriately to the goals through inhibiting impulsive behavior* (Gratz & Roemer, 2004). Gratz and Roemer (2004) integrated this aspect into their comprehensive conceptualization of emotion regulation and developed the Difficulties in Emotion Regulation Scale (DERS) as a self-report measure involving the following four dimensions of emotion regulation:

(a) Awareness and understanding of emotion, (b) acceptance of emotion, (c) ability to control impulsive behaviors and behave in accordance with desired goals when experiencing negative affect, and (d) ability to use situationally appropriate emotion regulation strategies, flexibly to modulate emotional responses as desired in order to meet individual goals and situational demands. (p. 42)

They proposed the DERS as a reliable and valid instrument that measures different domains of emotion regulation. The DERS covers six subscales, namely, lack of emotional *awareness*, lack of emotional *clarity*, *non-acceptance* of negative emotions, lack of *strategy* building, lack of control on *impulsive* behaviors, and inability to behave in accordance with *goal* sunder negative emotions. Specifically, they reported significant correlations of the DERS and its subscales with different constructs, such as *expectancy of negative mood regulation*, *emotional avoidance*, and *emotional expressivity* on the expected dimension, confirming the construct validity of the scale. They also reported significant correlations of the DERS with *self-harm* 

(see also Gratz, 2007; Gratz & Gunderson, 2006, for further evidence of self-injury and emotion regulation association) and *intimate partner abuse*, and differential pattern of associations of these constructs with different subscales of the DERS, indicating the clinical relevance of the scale (Gratz & Roemer, 2004).

Recent studies provided additional evidence for the validity of the DERS. Specifically, in a study examining the emotion regulation change due to abstinent treatment (Fox, Axelrod, Paliwal, Sleeper, & Sinha, 2007), cocaine dependent individuals were compared to community-controlled volunteers. Results indicated that the global score of the DERS and its impulse, awareness, and strategiessubscale scores successfully differentiated the control group from cocaine-dependent patients on the basis of the baseline measures, indicating latter group's difficulty of regulating their negative emotions. At the discharge, cocaine-dependent patients had significantly higher scores compared with control participants only on the impulsesubscale. Furthermore, patients with cocaine dependence have shown significant improvement on regulating their negative emotions after discharge, in terms of global DERS scores and in terms of goals, strategy, and claritysubscale scores of the DERS.

In another study, global DERS scores and awareness and impulsesubscale scores ofpeople having alcohol dependence were found to be significantly higher than those of social drinkers during the abstinence phase. However, after the treatment, the alcohol dependence group has shown improvements, especially about emotional awareness and clarity subscales, eliminating the pre-existing significant difference with the social drinkers group (Fox, Hong, & Sinha, 2008). Consistently, studies have reported that (e.g., Holowka, Schorr, & Roemer, 2005; Tull, Barrett, McMillian, & Roemer, 2007) problems in emotion regulation measured by the DERS and its subscales were found to be associated with the symptoms of posttraumatic stress disorder, though Tull and colleagues (2007) failed to find this association with the awareness subscale. The result of another study exploring the emotional regulation association with both general anxiety disorder and chronic worry on a non-clinical sample indicated that global DERS scores and subscales, except for the awareness subscale score, successfully differentiated the analogue general anxiety disorder group from the analogue non general anxiety disorder group. Furthermore, emotion regulation difficulty as a global measure, and its multiple factors other than the awareness subscale, were found to be positively associated with chronic worry even after the variance accounted for *negative* affectivity was removed (Salter-Pedneault, Roemer, Tull, Rucker, & Menin, 2006). Additionally, studies underlined the association of panic symptom severity with emotional non-acceptance and lack of emotional clarity measured by the DERS (Tull, Rodman, & Roemer, 2008). However, the awareness subscale did not reveal the expected associations (Tull & Roemer, 2007).

Thus, studies consistently indicated the lack of association between the awareness subscale of the DERS and some psychologically related constructs. This issue was discussed by Salter-Pedneault et al. (2006) concerning possible incapacity of the awareness subscale of DERS in discriminating the beneficial from the maladaptive types of internal attention. However, Tull and Roemer (2008) proposed an explanation specific to a certain psychological construct because they failed to find the association between *awareness*, measured through different procedure other than the DERS, and uncued panic attacks: "The finding may also speak to a conceptual difference between emotional awareness and clarity. That is, individuals with uncued panic attacks may not experience poor awareness of emotional arousal. Instead their

processing of this arousal may prevent the full processing of emotional experience, inhibiting their ability to fully differentiate between distinct emotions" (p. 383).

In sum, although the awareness subscale has some problems, in general, the DERS seems to be a promising instrument in identifying the associations among several clinically related constructs and emotion regulation problems, as well as assessing the change following the treatment. Therefore, this study aimed to examine the psychometric characteristics of the DERS in a Turkish sample. For this purpose, first, the factor structure of the scale was examined, which was followed by the reliability studies that included internal consistency and test-retest reliability analyses. As for the concurrent validity, the correlations of DERS and its subscales with the factors of psychological distress were examined. Finally, concerning the criterion validity, the discriminative power of all measures of DERS between people with "high psychological distress" and "low psychological distress" were examined. Establishing the psychometric properties of a Turkish version of the DERS will provide an important facility for the emotion regulation research in Turkey with its comprehensive, multidimensional structure, because to the best of the authors' knowledge, there is no reported instrument used for measuring emotion regulation in the Turkish population. Furthermore, the Turkish version will be the first attempt to examine the psychometric properties of the DERS in a different culture other than its original version. Hence, this study was expected to strengthen the cross-cultural utilization of the DERS.

## Method

#### **Participants**

Participants were 338 undergraduate students, of whom 207 were female and 122 were male (nine of them did not report their sex), from Bilkent, Middle East, and Hacettepe universities in Ankara, Turkey, numbering 140, 93, and 105, respectively. The ages of the participants ranged from 19 to 31 with a mean age of 22.6 (standard deviation [SD] = 1.80).

Fifty-nine participants from this sample were re-administered the DERS to examine the test re-test reliability of the total and the subscales of the DERS. Total and the subscale scores of the DERS of these participants were not significantly different from those who were not included (n = 279) into this phase of the study.

## Instruments

*DERS (Gratz & Roemer, 2004).* This sample comprised 357 university students, range 18 to 55 years of age, mean age of 23 (SD = 5.67), and having ethnic diversity. The DERS includes six subscales as follows: (a) lack of awareness of emotional responses (awareness); (b) lack of clarity of emotional responses (clarity); (c) non-acceptance of emotional responses (non-acceptance); (d) limited access to effective strategies (strategies); (e) difficulties in controlling impulsive behavior when experiencing negative affect (impulse); and (f) difficulties in engaging goal directed behavior when experiencing negative affect (goals). The scale comprises 36 items that are rated on a 5-point Likert-type scale, with higher scores indicating a difficulty of emotion regulation. As a reliability score, Cronbach'a alpha was found as .93 for the total scale, implying high internal consistency, and alpha coefficients ranged from .80

to .89 for the subscales, indicating adequate internal consistency. Test-retest reliability was found to be .88 (n = 21).

The Turkish form of the DERS has been set through some extensive translation steps. Following the initial translation of the DERS into Turkish, three bilingual professionals from the field of psychology and one bilingual person from a different field translated the original scale (36 items) back into English. Although the translators' native language was Turkish, they were quite fluent in English. The back-translation was compared with the original scale regarding the semantic content of the items. If the back-translations were approximately similar to the original version of the DERS, then this item was kept as it was in the initial Turkish form. The items, for which the back-translations did not catch the meaning of the original item, were revised so as to fit with the original item. The final form of the Turkish version of the DERS was set after all these revisions.

Brief Symptom Inventory (BSI; Derogatis, 1992). The BSI is the brief form of the Symptom Checklist–90 (SCL–90) and comprises 53 items. Sahin and Durak (1994) examined psychometric characteristics of the Turkish BSI. The participants evaluate each item on a 5-point (0 to 4) Likert-type scale. Concerning the construct validity of the inventory, five factors have emerged: anxiety, depression, negative self, somatization, and hostility. These subscales were found to have significant correlations with some clinically relevant constructs, such as depression, stress vulnerability, and loneliness, indicating the concurrent validity of BSI. Chronbach's alpha of the subscales ranged from .55 to .86, and for the whole inventory, ranged from .96 to .95 in three different samples, indicating satisfactory internal consistency (Sahin & Durak, 1994). Later research (Sahin, Durak-Batigün, & Ugurtas, 2002) has provided evidence supporting the validity of BSI on an adolescent sample, with approximately similar factor structure and internal consistency of the global scale (Chronbach's alpha = .94) and the subscales (Chronbach's alpha ranging from .71 to 85). In terms of concurrent validity, higher global and subscale scores of the BSI were found to be associated with less satisfaction of life, depression, trait anxiety, and negative social comparison of self (Sahin, Durak-Batigün, & Ugurtas, 2002). Additionally, high symptomatology as a risk factor measured by the BSI was found to be associated with traffic violations and lack of safety skills of the driver (Sümer & Ozkan, 2002), and BSI total and subscale scores significantly differentiated the suicide risk group from the suicide non-risk group, with the former group having significantly higher scores (Sahin, & Durak-Batigün, 2009), and the alexithymic group from the non-alexithymic group, with the former group having significantly higher scores (Durak-Batigun & Buyuksahin, 2008).

## Procedure

The instruments were randomly ordered for every participant to control for the possible sequence effect. After the informed consent, participants completed the instruments in classroom settings. Either the researcher or the instructor of the course carried out administrations with similar instructions. For the test-retest reliability analyses of the DERS, the time interval ranged from 20 to 33 days between the first and the second administrations of the scale.

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#### Results

# Factor Structure of the DERS

To examine the factor structure of the DERS, similar to the original version of the scale (Gratz & Roemer, 2004), the principal axis factoring method of extraction and promax oblique rotation was carried out. Before the factor analysis, reverse items of the DERS were recoded. Based on the scree plot and item distribution, a six-factor structure was preferred similar to the original version of the study. Being consistent with the original scale (see Gratz & Roemer, 2004, p. 48) these factors were named as follows: (a) difficulties engaging in goal directed behavior (goals), (b) limited access to emotion regulation strategies (strategy), (c) non-acceptance of emotional responses (non-acceptance), (d) difficulty to control impulsive behaviors under negative emotions (impulse), (e) lack of emotional clarity (clarity), and (f) lack of emotional awareness (awareness). The total variance accounted for by these six factors was 62.4%. The eigenvalues for these factors were 11.5, 3.4, 2.5, 1.9, 1.7, and 1.4, respectively.

The items with the loadings of above .35 were considered under these factors. With this criterion, results revealed a similar factor structure with the original version of the DERS, though there were only two items loaded on different factors as compared with the original scale. One of these items was "I experience my emotion as overwhelming and out of control," and this item had a loading of .28 under the impulse factor, which was its original factor, and an item loading of .49 under the clarity factor. Considering the semantic content of the item and its original factor loading, it was decided to keep this item under the impulse factor, even though it had a lower loading under this factor. Consistent with this decision, in terms of the internal consistency of these factors, with the addition of this item into the impulse factor, the alpha coefficient of this factor remained the same (i.e., .90); and as for the clarity factor, by the exclusion of this item, the alpha coefficient of this factor changed only slightly (i.e., from .83 to .82). Thus, these findings also supported the decision of keeping this item under the impulse factor.

The other item, for which the results were not consistent with the original scale's factor structure, was "When I'm upset, I acknowledge my feelings." This item (item 10), had loadings of -.49 under the strategy factor and .27 under the awareness factor, which was its original factor. The content of this item in the Turkish version of the DERS seemed to be more related to *acceptanceof* the emotionrather than *awareness*, and any semantic association between this item and the strategy factor could not be formulated. Moreover, this item decreased the alpha coefficients, from .75 to .70 when included in the awareness factor, and, similarly, from .89 to 85 when included in the strategy factor. Furthermore, this item had almost no correlation (r = .06) with the total scale. On the basis of these findings, this item (item 10) has been excluded from the Turkish version of the DERS; and further analyses have been conducted with the remaining 35 items. Thus, with the exclusion of item 10, the Turkish version of the DERS seemed to have a construct validity that is parallel with the original scale.

## Reliability Analyses of the DERS

To examine the internal consistency of the DERS and its factors, Cronbach's alpha coefficients were computed. As a whole scale, the Turkish version of the DERS was found to have a Cronbach's alpha coefficient of .94, which was highly good and

similar to the internal consistency of the original version of the scale. For the Turkish version of the DERS, the item total correlations ranged between .18 and .71, and 32 of the items had item total correlations of above .35.

Similarly, the subscales of the DERS revealed considerably high internal consistency with alpha coefficients, ranging from .75 to .90, which had ranged from .80 to .89 for the original version (Gratz & Roemer, 2004). More specifically, alpha coefficients of the Turkish version were as follows: .82 for the clarity, .90 for the goals, .90 for the impulse, .83 for the non-acceptance, .89 for the strategy, and .75 for the awareness subscales.

Split-half reliability was also computed for the whole scale. The scale was randomly separated into two parts. The Guttman split-half reliability for the DERS was .95: the Cronbach alpha coefficient for the first part comprised 18 items and was .86, and the second part comprised 17 items and was .89. Split-half reliably coefficients for the subscales were not examined because of having few items under these factors.

The test-retest reliability of the total DERS was found as .83 (n = 59), which was good but slightly lower than the original version which was .88 (n = 21; Gratz & Roemer, 2004). The test-retest reliability coefficients of the subscales of the Turkish version of the DERS ranged between .60 and .85; more specifically, they were .85 for the strategy, .72 for the awareness, .69 for the clarity, .68 for the impulse, .72 for the goals, and .60 for the non-acceptance factors.

## Concurrent Validity of the DERS

Table 1

To examine the concurrent validity of the DERS and its subscales, correlations between these measures and the total BSI (i.e., the psychological distress measure) and its factors were examined. Table 1 presents these correlations, along with the mean and standard deviation scores of these measures.

Consistent with the expectations, there were strong positive correlations between the total scores of the DERS and the BSI (r = .58, p < .001), and between the subscales of the DERS and the total BSI, ranging from r = .39 to r = .54 (ps < .001); except for the awareness subscale which exhibited a weaker correlation (r = .16,

|     | DERS   | D1     | D2     | D3     | D4     | D5     | D6    | М     | SD    |  |
|-----|--------|--------|--------|--------|--------|--------|-------|-------|-------|--|
| BSI | .58*** | .40*** | .54*** | .46*** | .48*** | .39*** | .16** | 49.90 | 33.98 |  |
| B1  | .58*** | .42*** | .53*** | .45*** | .50*** | .36*** | .13*  | 11.23 | 8.66  |  |
| B2  | .52*** | .36*** | .52*** | .37*** | .39*** | .38*** | .14** | 14.58 | 9.97  |  |
| B3  | .55*** | .35*** | .49*** | .46*** | .44*** | .39*** | .15** | 10.33 | 8.92  |  |
| B4  | .34*** | .25*** | .29*** | .28*** | .27*** | .22*** | .14** | 5.74  | 5.16  |  |
| B5  | .53*** | .32*** | .47*** | .45*** | .48*** | .30*** | .15** | 8.20  | 5.54  |  |
| М   | 78.81  | 16.29  | 17.34  | 10.55  | 12.57  | 10.68  | 11.54 |       |       |  |
| SD  | 19.84  | 4.75   | 6.47   | 4.08   | 5.24   | 3.29   | 3.43  |       |       |  |

Correlations Between Total and Subscale Measures of DERS and BSI, Along With Mean and Standard Deviation Scores of These Measures

*Note.* DERS = Difficulty in Emotion Regulation Scale; BSI = Brief Symptom Inventory; M = mean; SD = standard deviation. Subscales of the DERS: D1 = goal; D2 = strategy; D3 = non-acceptance; D4 = impulse; D5 = clarity; D6 = awareness. Factors of the BSI: B1 = anxiety; B2 = depression; B3 = negative self; B4 = somatization; B5 = hostility. \*P < .05; \*\*P < .01; \*\*\*P < .001.

P < .01) with the total score of BSI. Similarly, the total DERS score exhibited strong positive correlations with all factors of the BSI, the correlations ranged from r = .34 to r = .58 (ps < .001).

Examination of the correlations given in Table 1 indicated that the somatization factor of the BSI had relatively moderate positive correlations with the subscales of DERS; the correlations ranged from r = .22 (P < .001) to r = .29 (P < .001), except for the awareness subscale, which displayed an even weaker correlation (r = .14, P < .01). However, the other factors of the BSI exhibited strong positive correlations, with the DERS subscales ranging from r = .30 to r = .53 (ps < .001), again, except the awareness subscale of the DERS, which had weaker correlations with all factors of the BSI, ranging from r = .13 (P < .05) to r = .15 (P < .01). These associations indicated satisfactory correlations between the DERS and the BSI measures, though the awareness subscale of DERS revealed weaker correlations with the other measures.

### Criterion Validity of the DERS

Possible gender differences were analyzed before the criterion validity analyses. *t*-test results revealed that there was no significant difference between male and female participants on the global DERS scores. As for the subscales of DERS, multivariate analysis of variance results indicated significant main effect of gender; multivariate F (6, 315) = 4.82, p < .001, Wilks' Lambda = .92,  $\eta^2$  = .08. However, univariate analyses revealed gender main effect only on the awareness subscale; F (1,320) = 12.64, P it;.001,  $\eta^2$  = .04 (Ms = 12.35 and 10.99 for males and females, respectively). On the other hand, gender main effect accounts for only 4% of the variance for this subscale. According to Cohen (1988), the effect sizes larger than .16 indicate large effect sizes, and the effect size of .04 is close to medium, but still an indication of small effect size.

To examine the criterion validity of the DERS, two extreme groups were generated on the basis of the participants' BSI scores. For this aim, the BSI scores within the highest and lowest thirtieth percentile were grouped as "high psychological distress" and "low psychological distress" categories, respectively. In the "high psychological distress" group, there were 87 participants who had a mean BSI score of 90.87 (SD = 23.23), and for this group, the BSI scores ranged from 60 to 161. In the "low psychological distress" group, there were 90 participants who had a mean BSI score of 16.72 (SD = 6.99), and for this group, the BSI scores ranged from 2 to 28. As the criterion validity, the DERS scores were expected to be significantly different for these groups with high versus low psychological distress. To examine the significant differences between these groups in terms of total DERS measures, a t test was conducted. Following this analysis, to examine the power of the subscales of the DERS on differentiating between these groups, group differences (i.e., high vs. low psychological distress) were analyzed via multivariate analysis of covariance (MANCOVA) on six subscales of the DERS (i.e., awareness, clarity, strategy, goals, impulse, non-acceptance), controlling for variance accounted for by gender.

Consistent with the expectations, the participants with high psychological distress reported more difficulty in emotion regulation (mean [M] = 95.08, SD = 1.96) than those with low psychological distress (M = 66.50, SD = 1.69) on total DERS scores; t (173) = -11.04, P < .001.

| DERS subscales | Low psychological distress | High psychological distress | F (1, 172) | Effect Size $(\eta^2)$ |  |
|----------------|----------------------------|-----------------------------|------------|------------------------|--|
| Goal           | 13.78                      | 18.86                       | 56.52**    | .25                    |  |
| Strategy       | 13.64                      | 22.21                       | 99.44**    | .37                    |  |
| Non-acceptance | 8.95                       | 13.03                       | 44.66**    | .21                    |  |
| Impulse        | 10.15                      | 16.53                       | 73.26**    | .30                    |  |
| Clarity        | 9.27                       | 12.46                       | 47.81**    | .22                    |  |
| Awareness      | 10.87                      | 12.50                       | 9.77*      | .06                    |  |

Table 2Group Differences on Separate DERS Subscales

DERS = Difficulties in Emotion Regulation Scale. \*P < .005; \*\*P < .001.

As a part of the criterion validity, DERS subscales were also expected to be significantly different for these groups with high and low psychological distress. MANCOVA results, which examined the differences between groups in terms of DERS scores, revealed a significant group main effect for the measures of the DERS; multivariate F (6, 164) = 21.40, P < .001, Wilks' Lambda = .56,  $\eta^2$  = .44. That is, in general, DERS subscales significantly differed between the groups with high versus low psychological distress after the variance accounted for by gender had been controlled. As for the examination of univariate analyses, Bonferroni corrections were adapted, and the alpha level was set as .008 (i.e., .05/6 = .008). Even after this adaptation, the group main effect was confirmed for all subscales of the DERS (see Table 2). The mean differences revealed that the participants having high psychological distress reported more difficulty on all dimensions of emotion regulation as compared with those participants having low psychological distress. However, as can be seen in Table 2, examination of the effect size values indicated that the group main effect accounts for about 21% to 37 % of the variability in the subscales of the DERS, other than the awareness subscale. For this latter subscale, the effect size is .06, indicating that group main effect accounts for only 6% of the variance for this subscale, indicating a small effect size.

## Discussion

This study aimed to examine the psychometric characteristics of the DERS in a Turkish sample. Results indicated that the Turkish version of the scale revealed a similar factor structure with the original scale. Internal consistency and test-retest reliability analyses indicated satisfactory results. As for the validity studies, both concurrent validity, where DERS measures' associations with the measures of psychological distress were examined, and the criterion validity, where discriminative power of DERS measures were questioned, revealed adequate outcomes.

The Turkish version of the DERS had a similar factor structure with the original version, indicating its construct validity. Factor analyses revealed six factors accounted for 62.39 % of the total variance, which was slightly larger than the variance accounted for by the original six-factor version (i.e., 55.68%; Gratz & Roemer, 2004). Only one item was found to have a different pattern when compared with the original factor structure. This item, "When I'm upset I acknowledge my emotions," had been loaded under the awareness factor in the original study. In the present study, even after recoding, this item was loaded under the strategy factor with a negative loading (i.e., -.49), indicating that the acknowledgement of negative emotions.

One possible explanation for this result might be that the meaning of acknowledgment in Turkish is frequently associated with *resignation*, which causes a tendency to give up due to the feeling that nothing can be done for this particular situation. Thus, this inconsistency between the original and the Turkish version of the scale might point out some cultural differences, which needs further investigation for more accurate interpretation.

Regarding the reliability studies, the Turkish version of the DERS and its subscales were found to be internally consistent confirming the original study (i.e., Gratz & Roemer, 2004). Because Gratz and Roemer carried out test-retest reliability analysis on a very limited sample size (i.e., n = 21), they suggested examining test-retest reliability analysis with a greater sample size. The test-retest reliability coefficients of the Turkish version, which were conducted on a relatively larger sample (i.e., n = 59), were good for the total DERS, strategy, goals, awareness subscales, and moderate for the clarity, non-acceptance, impulse subscales of the DERS. Moreover, split-half reliability coefficients of the total DERS, which were analyzed only with the Turkish sample, were considerably high.

Considering the concurrent validity of the Turkish version of the DERS, psychological distress, and emotion regulation measures were found to be significantly associated, which verifies the assumption that difficulties in emotion regulation is a common feature of diverse psychological symptoms (APA, 1994; Conklin, Bradley, & Westen, 2006; Linehan, 1993; Gratz & Roemer, 2004; Ruganci, 2003; Westen, 1998). Specifically, the DERS measures were strongly and positively correlated with the measures of psychological distress (i.e., BSI and its subscales). However, these associations were weaker for the awareness subscale of the DERS.

As for the criterion validity of the Turkish version of the DERS, it was found that the groups having high versus low psychological distress were successfully differentiated on the basis of DERS and its subscales. In other words, compared to those having low levels of psychological distress, those having high psychological distress had significantly more difficulties on regulating their emotions. More specifically, this latter group had more difficulties in being aware of, identifying, and accepting their emotional responses, as well as in developing strategies to overcome negative emotions and in initiating or accomplishing goal-directed behaviors, and they also tended to be more impulsive in their behaviors under negative emotions.

At this point, it is worth noting that BSI has been widely used in assessing psychological distress among both clinical and non-clinical populations, including the university students (Derogatis, 1993; Derogatis & Spencer, 1982; Durak-Batigun & Buyuksahin, 2008; Sahin & Durak, 1994; Sahin & Durak-Batigün, 2009; Sahin, Durak-Batigün & Ugurtas, 2002). Moreover, psychometric properties of this scale in Turkish samples have been examined via university students as well (Sahin & Durak-Batigun, 1994; Sahin, Durak-Batigün, & Ugurtas, 2002). As for the categorization of the BSI scores, the possible range of this inventory has been 0 to 212; and for the current sample, it ranged from 2 to 161 (M = 49.90, SD = 33.98). Though studies rarely provided descriptive information, the mean scores for total BSI for the alexithymic group and the non-alexthymic group were 61.88 (SD = 32.99) and 34.01 (SD = 26.58), respectively (Durak-Batigun & Buyuksahin, 2008), while those of the suicide risk group and the suicide low-risk group were 104.86 (SD = 36.30) and 17.14 (SD = 13.07), respectively (Sahin & Durak-Batigün, 2009). Thus, it seems to be reasonable to argue that the mean score of 17 safely corresponds to "low level of psychological distress" and 91 corresponds to relatively "high level of psychological distress." Thus, these two groups were named accordingly.

In terms of statistical analysis, MANCOVA was preferred when comparing two groups of psychological distress with each other on six subscales of emotion regulation. Considering that the emotion regulation scale (i.e., DERS) has six subscales, to be more robust, we have conducted MANCOVA, whereby all subscales were included in the same analysis, and at the same time, the variance accounted for by gender was controlled. Hence, univariate analysis was conducted via Bonferroni corrections, as suggested by Pallant (2005, p.247). Following the same reasoning, multivariate analysis of variance was conducted when comparing genders on six subscales of the DERS.

For the variance analyses, examination of the effect size values became quite crucial. When these values were examined, in terms of the proportions of variance of the DERS subscales that are explained by the group main effect (i.e., different levels of psychological distress), it was found that other than the awareness subscale, all subscales had large effect sizes. The awareness subscale was the only subscale that failed to attain even a medium-effect size in terms of its discriminating feature. Both concurrent validity and criterion validity results regarding the awareness subscale of DERS seem to be in line with the findings of the previous studies, which failed to find an association between the awareness subscale and certain constructs, such as post-traumatic stress disorder, uncued panic, and generalized anxiety disorder (e.g., Salter-Pedneault, Roemer, Tull, Rucker, & Menin, 2006; Tull, Barrett, McMillian, & Roemer, 2007; Tull & Roemer, 2007).

These relatively weak associations between awareness and psychological distress in this study and other psychological constructs in the previous studies might be because of the fact that attending to inner experience does not necessarily mean to be aware of the true phenomenal experience. Examination of the items of the awareness subscale (i.e., "I'm attentive to my feelings," "I care about what I'm feeling," "When I'm upset I take time to figure out what I'm really feeling," "I pay attention to how I feel," and "When I'm upset I believe that my feelings are valid and important") suggests that they are referring to peoples' tendency to *focus* on their feelings, rather than identifying the salient negative emotions. In other words, although focusing on an inner experience seems to be the initial step of emotion regulation, this does not necessarily mean that *awareness* in this sense enables the individual to *clarify* exactly what emotion they are currently experiencing, as Tull & Roemer emphasized specific to individuals with uncued panic attacks (2007).

Furthermore, Stern (2004) emphasized the distinction between *awareness*(minimal consciousness), which is merely a phenomenal condition focusing on an experience, and *consciousness* (reflective consciousness), which is the awareness of being aware. Apparently, the only realm in which self-report scales could be measured is the one in which a person has in his mind at the conscious level, and this might not involve the true phenomenal experience as Stern has discriminated. Therefore, there might be a validity issue concerning what the awareness subscale, in fact, measures.

Further studies are strongly recommended to understand the role of the emotional awareness in emotion regulation process and to reveal some possible cultural influences on this issue, though the results reported by the previous studies decreased the cultural significance of the results of the present study about the awareness subscale.

Therefore, in general, the results of the current study supported the psychometric characteristics of the DERS in a Turkish sample. The DERS, covering multiple dimensions of the emotion regulation, seems to be a promising instrument for identifying the emotion regulation features of some clinically relevant constructs.

Hence, it might become an important tool while planning the treatment and measuring the effectiveness of the intervention. However, further studies are required to investigate the association of emotion regulation measured by the DERS with clinical constructs on clinical populations, which will provide important knowledge for clinical practice.

As Gratz & Roemer (2004) had also emphasized, the DERS has a limitation considering that it measures only the regulation of negative emotions. Further research is needed to examine the relation between the regulation of positive emotions and psychological health. Cross-cultural studies are also strongly recommended to uncover some possible cultural features on emotion regulation processes.

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