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The Spontaneity Assessment Inventory (SAI) Anxiety, Obsessive-Compulsive Tendency and Temporal Orientation

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ABSTRACT. The authors examined the reliability and construct validity of two original inventories, the Spontaneity Assessment Inventory (SAI) and the Spontaneity Deficit Inventory (SDI). They administered the 2 inventories, along with the State-Trait Anxiety Inventory (STAI), the Revised Obsessive-Compulsive Inventory (OCI-R), and the Temporal Orientation Scale (TOS), to 85 students. They also administered the SAI and SDI twice, within a 5-week interval, to 35 employees of a travel agency. The results showed high split-half (odd-even) and test-retest reliability coefficients, with no statistically significant gender differences on the SAI and SDI inventories. The SAI scores correlated negatively with the STAI and with the OCI-R scores. The SAI score correlated positively with the present-time orientation. The SDI correlated positively with STAI, the OCI-R scores, and with the past orientation of TOS. The authors also discuss the possible implications of these results.

Key words: anxiety, measures, spontaneity, spontaneity assessment, spontaneity deficit

IN AN EARLIER STUDY, RESEARCHERS ENUMERATED the existing psychological tests that contained either subscales or factors somewhat related to spontaneity (Kellar, Treadwell, Kumar, & Leach, 2002). The list included, among others, such tests as the 16 Personality Factors Questionnaire (Cattell & Krug, 1986), the California Personality Inventory (Gough, 1987), the Personal Orientation Inventory (Shostrom, 1966), the Children Playfulness Scale (Barnett, 1990), the Adult Playfulness Scale (Glynn & Webster, 1992), and the Himaya Intuition Semantic Scale (Himaya, 1991). These largely indirect measures of spontaneity constituted only a small part of the otherwise more comprehensive tests, reflecting one facet among several others. Until the creation of the first version of the Personal Attitude Scale (PAS) developed by Collins, Kumar, Treadwell, and Leach (1997), there had not been any concerted effort to devise a standardized, paper-and-pencil measure of spontaneity.

The reasons for this void are not entirely clear, and at best, one can only offer speculations to account for the absence of a standardized test of spon-taneity. First, traditionally, spontaneity has been a concept that fell in the domain of philosophy. It was a topic that was amply discussed by philosophers such as Peirce (see Burch, 2001), Bergson (1889/1910), Bobula (1969), and Spinoza (see Meyer, 1941) but not by psychologists and not in the context of psychopathology.

Second, at the time spontaneity was introduced as a psychological concept by Moreno (1923), social scientists were more interested in his other inven-tion, namely sociometry (Moreno, 1953). In spite of the attempt to obtain a wider acceptance of the theory of spontaneity-creativity, spontaneity was regarded, with a few exceptions (e.g., Hollander, 1981; Horwitz, 1945), more as a philosophical outlook than as a concept relevant to psychotherapy.

Third, although spontaneity is a concept that appears to be understood intu-itively, it is not easy to define empirically. In fact, the scientific definition of spontaneity is quite different from its colloquial meaning. Colloquially, spontaneity stands for acting from natural feelings or impulse, without constraints or premeditation. Scientifically (Moreno 1941, 1944, 1953, 1964), the idea of spontaneity retained the notion of acting from natural feelings and free will and the lack of premeditation but contained the element of directionality and constraint (Kipper, 1967, 1986). For Moreno, spontaneity was an adequate response, not just a free one. Appropriateness has always been the hallmark of Moreno's spontaneity.

Fourth, initially Moreno understood spontaneity as energy that propelled toward certain responses (Fox, 1987, p. 42). Later, he altered the definition so that spontaneity was changed from representing a drive that produced certain types of responses to being the responses themselves. Our own approach, consistent with that held in an earlier study (Kipper & Hundal, 2005), is that spontaneity is a psychological state of mind or a quality of readiness that sets the individual to respond in a certain manner, with unpremeditated open mindedness and readiness to respond to internal and external stimulations. In that respect, we follow Moreno's original idea of spontaneity as a driving energy.

The present study is a continuation of an earlier investigation of two newly designed paper-and-pencil inventories (Kipper & Hundal, 2005). One inventory, the Spontaneity Assessment Inventory (SAI), measures spontaneity, and the sec-ond, the Spontaneity Deficit Inventory (SDI), measures the lack of it. Specifi-cally, we designed the present study to replicate the earlier findings regarding the reliability of the SAI and the SDI, including providing new information concerning test-retest reliability. Furthermore, we also planned to add more information about the concurrent validity of the two inventories. We hypothesized that the SAI

would show a negative relationship with state and trait anxiety and with a measure of compulsive behavior. Also, we expected that the SAI would show a positive relationship with the present time orientation. We expected the SDI to correlate positively with state and trait anxiety and with compulsiveness and to show a positive relationship with the past time orientation.

An earlier investigation by Kipper and Hundal (2005) provided data supporting the hypothesis that spontaneity and spontaneity deficit (nonspontane-ity) were two separate continua. The SAI measures various levels of spon-taneity, and the SDI measures various levels of nonspontaneity. We interpreted the data from those inventories to mean that nonspontaneity was not the opposite of spontaneity and hence does not necessarily represent an undesirable state (Kipper, 2000). Rather, some degree of nonspontaneity proved to be independent of one's spontaneity and, therefore, did not seem to hinder spon-taneity. We designed the present study to reexamine those findings.

Method

Participants

The participants were 85 graduate and some undergraduate students at Roosevelt University in Chicago. Their ages ranged from 18 to 50 years (M = 28.22, SD = 7.09). They included 56 women and 29 men. The age of the participants divided by gender was M = 28.09 (SD = 7.23) and M = 28.48 (SD = 6.93) for the women and the men, respectively.

We used a second sample of 35 participants to investigate the test-retest reliability of the SAI and the SDI. Those participants were employees of a large tourism organization in Cyprus, where the main language of communication is English (the senior author, who is a Cypriot, conducted this part of the study). The participants' proficiency in English enabled them to take

both inventories in the original English versions. The 35 participants included 12 men and 23 women whose age ranged from 18 to 56 years with $M = 36.29$ ($SD = 10.01$). The ages of the participants divided by gender was $M = 34.41$ ($SD = 8.95$) and $M = 39.75$ ($SD = 11.28$) for women and men, respectively. All the participants took part in the study voluntarily and anonymously.

Measures

The SAI is a 20-item self-report inventory designed to assess spontaneity, namely, the intensity of one's feelings and thoughts that characterize the state of mind described as spontaneity. At the top of the inventory is the question: How strongly do you have these feelings or thoughts during a typical day? In the list of the 20 items that follow the question, we asked participants to note the intensity of their feelings on a 6-point Likert-type scale (1 = *none*, 2 = *weak*, 3 = *somewhat weak*, 4 = *somewhat strong*, 5 = *strong*, 6 = *very strong*). The total score is calculated by adding the scores of all the items. Kipper and Hundal (2005) reported split-half reliability with a Cronbach alpha of 88. There was also a positive correlation with a measure of well-being and its five subscales (Friedman, 1989).

The SDI is a 17-item self-report measure of the extent to which one is lacking spontaneity. At the top of the inventory is the same question that appears on SAI. The participants reported their responses to a list of the 17 items that follow the question on a 6-point Likert-type scale (1 = *none,* 2 = *weak,* 3 = *somewhat weak,* 4 = *somewhat strong,* 5 = *strong,* 6 = *very strong*). The total score is calculated by adding the scores of all the items. The reported split-half reliability was 80, and it correlated negatively with a test of well-being and its five subscales (Friedman Well-Being Scale [FWBS]; Friedman, 1989).

Both the SAI and the SDI were constructed at the same period and in the same manner. The researchers asked 25 internationally known psychodrama-tists in the United States and Europe, each with at least 25 years of experience, to provide five adjectives describing how it feels to be in a state of spontaneity and five descriptions of how it feels to be nonspontaneous. After eliminating redundancies and long descriptions, they slightly shortened the two lists of 125 items each. After a series of three-item analyses with three different samples, the inventories had 20 items for the SAI and 17 for the SDI. Kipper and Hundal (2005) provide a detailed description of the construction of the inventories.

The State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) consists of two separate self-report scales that measure state and trait anxiety. *State anxiety* refers to the tendency to respond to certain situations with anxiety. *Trait anxiety* measures an enduring personality characteristic marked by heightened anxiety. Each scale consists of 20 items arranged on a 4-point Likert-type scale. The state anxiety scale assesses how the respondents feel at the present, and the ratings range from 1 = *not at all* to 4 = *very much so*. The trait anxiety scale assesses how the respondents feel in general, and the responses range from 1 = almost never to 4 = *almost always*. The state anxiety scale assesses the intensity of the present feelings, whereas the trait anxiety scale assesses the frequency of anxious feelings.

The STAI is used widely in psychological practice and research, and the literature contains more than 3,300 studies using the STAI. Researchers found that the STAI has excellent psychometric properties. The internal consistency reliability estimates for state anxiety ranged from .86 to .95 for samples of alpha co adults college and high school students, and military recruits. The reina coefficients reported for trait anxiety ranged from. 89 10.91. Test-retest-reliability of the trait anxiety scale ranged from 65 to 86. Test-retest reliability of the

state anxiety scale was reported to be 62. The developers of the STAI cautioned that the state anxiety scale presents low stability coefficients because it measures situational psychological stress. The STAI manual contains reports of several correlations with other anxiety measures, personality and adjustment measures, and academic aptitude and achievements measures (Spielberger et al., 1983).

The Obsessive-Compulsive Inventory-Revised (OCI-R), developed by Foa, Huppert, Leiberg, Langner, Kichic, Hajcak, et al. (2002), is an 18-item self-report measure designed to assess symptoms of obsessive compulsive disor-der. The authors of the scale point out that the test items are heavily weighted to detect compulsions over obsessions. They asked respondents to rate the amount of distress that they felt from specific experiences during the past month, using a 4-point Likert-type scale ranging from 0 = *not at all* to 4 = *extremely*. The 18 items comprise the following behaviors, divided into six subscales: washing (e.g., "I find it difficult to touch an object when I know it has been touched by strangers or certain people"), checking (e.g., "I repeatedly check gas and water taps and light switches after turning them off"), ordering (e.g., "I get upset if others change the way I have arranged things"), obsessing (e.g., "I am upset by unpleasant thoughts that come into my mind against my will"'), hoarding (e.g., "I collect things I don't need"), and neutralizing (e.g., "I feel compelled to count while I am doing things"). Each subscale consists of three items. They computed the total score by adding the scores of all items. The OCI-R had satisfactory psychometric properties. Alpha coefficients for the total scale ranged from .81 to .93. Test-retest reliability with 2-week and 1-week intervals was .82, and .84, respectively. For the college student population, the test-retest reliability outcome (with a 4-week interval) yielded a correlation of .70 (Foa et al.; Hajcak, Huppert, Simons & Foa, 2004).

The Temporal Orientation Scale (TOS), developed by Jones, Banicky, Pomare, and Lasane (2004), is a 15-item self-report measure designed to assess the respondents' time orientation, that is, whether they focus attention on, and react to, their past, present, or future. The items are rated on a 7-point Likert- type scale ranging from 1 = *not true* to 7 = *very true*. The items address three factors representing three subscales, one for each time dimension (i.e., past, present, and future). Each subscale consists of five items. An example of the items measuring past orientation is "I often think of all the things I wish I had done differently in my past." Examples of the items addressing present and future orientations are "I try to live one day at a time" and "When I want to get something done, I make step-by-step plans and think about how to complete each step respectively." The reported reliability for each of the past, present, and future subscales as measured by Cronbach alpha was .81, 65, and .79, respectively. Test-retest reliability (6-week interval) ranged from .60 to .82 Convergent and divergent validity was demonstrated by several correlations with different psychological and personality constructs (Jones et al., 2004).

Procedure

We tested the participants in their classes or while they were in the common areas of the university, including the library and the study rooms. We informed all about the nature of the research and read them a verbal consent form. They understood that participation was voluntary and anonymous and that they were free to withdraw at any time without penalty. Each testing package included the SAI, the SDI, the STAI, the OCI-R, and the TOS and took 15 to 20 min to com-plete. We changed the order of the inventories for half of the sample.

To investigate the test-retest reliability, the first author administered the inventories to participants during a workday at their offices. Each package included only the SAI and SDI, which took less than 10 min to complete. Again, all the participants read the consent form before agreeing to participate in the study. After a 5-week interval, the author readministered the SAI and the SDI to the same participants. The method of retesting also secured anonymity because each participant was identified by the last three digits of his or her ID number, which each used again when taking the inventories for the second time. All responses were held in strictest confidence. After the testing, participants were debriefed.

Results

The average score of the participants on the SAI was $M = 82.09$ ($SD = 14.55$). In a previous study (Kipper & Hundal, 2005), a similar student population scored a slightly lower average with the same size standard deviation ($M = 76.93$, $SD = 14.54$). On the SDI, the average score of the participants in the present study was $M = 50.19$, $SD = 15.87$). These results are similar to those reported in the earlier study by Kipper and Hundal of $M = 51.17$ ($SD = 12.66$).

When we divided the average scores of the participants on the SAI by gender, the results were $M = 80.86$ ($SD = 11.72$) for the 29 men and $M = 82.73$ ($SD = 15.88$) for the 56 women. A t-test computation revealed that the difference between the scores of the two groups was not statistically significant, $t(83) = 56$. The same picture emerged in the comparison of the scores of the men and women on the SDI, that is, $M = 51.90$ ($SD = 15.12$) and $M = 49.30$ ($SD = 19.31$) in which the differences between the scores of the two groups was also statistically not significant, $t(53)=.71$.

We predicted that there is a negative relationship between spontaneity and spontaneity deficit. Indeed, the Pearson product moment correlation between the SAI and the SDI was r = -48, $p < .01$. This finding lends credence to the theoretical claim that spontaneity and spontaneity deficit are incongruous states of mind. As to the hypothesis that these two states of mind are not necessarily two opposites of the same quality, the results follow. When the participants were divided into two groups at the SAl median score, the correlation between those who scored in the upper 50% on the SAI and their SDI scores was - 39, $p < .05$, a somewhat lower correlation coefficient found for the entire sample. However, the correlation between those who scored in the lower 50% on the SAI 50% and their SDI scores was r = -. 10, which is extremely low and statistically not significant. Evidently, moderate to low spontaneity scores cannot predict one's SDI scores.

In this study, we investigated the construct validity of the SAI and the SDI by exploring their relationship with three measures. Those were a test of anxiety (STAI), an obsessive-compulsive inventory (OCI-R), and a measure of temporal orientation (TOS). Table 1 contains the means and standard deviations obtained on the three measures.

We predicted that SAI is related negatively to STAI. Table 2 contains the Pearson's product-moment correlation between the scores on the SAI and the STAI, with trait and state anxiety in the negative direction as -67, $p < .01$, and -44, $p < .01$. Conversely, we predicted a statistically significant positive correlation between scores obtained on the SDI and the STAI. Again, the results confirmed that expectation, showing an r = .73. P <.01 for the relationship between SDI and trait anxiety and r = .62, $p < 01$ between SDI and state anxiety.

TABLE 1. Means and Standard Deviations for the State -Trait Anxiety Inventory (STAI), the Obsessive-Compulsive Inventory-Revised (OCI-R), and the Temporal Orientation Scale (TOS)

Scale	*M*	*SD*
Trait Anxiety (STAI)	39.76	10.74
State Anxiety (STAI)	38.69	11.18
OCI-R	16.94	12.53
TOS		
Past	18.81	6.26
Present	21.68	6.46
Future	23.31	5.67

Note. $N = 85$.

TABLE 2. Correlations Between the Spontaneity Assessment Inventory (SAI) and the Spontaneity Deficit Inventory (SDI) and State-Trait Anxiety Inventory (STAI), the Obsessive-Compulsive Inventory-Revised (OCI-R), and the Temporal Orientation Scale (TOS)

	Anxiety			Temporal Orientation Scale		
Scale	Trait	State	OCI-R	Past	Present	Future
SAI	–.67**	44**	21*	–.13	24*	.08
SDI	.73**	62**	.44**	.42**	.02	–.07

Note. $N = 85$.
*$p < .05$. **$p < .01$

Regarding the relationship of the SAI and the SDI with obsessive-compulsive tendencies, we predicted statistically significant correlations but in the opposing directions, with the SAI in the negative direction and the SDI in the positive one. The results, shown in Table 2, confirm that prediction. There was a negative correlation between SAI and OCI-R (r = -21, p < .05) and a positive one between SDI and OCI-R (r = 44, p <.01).

Theoretically, one would surmise that people who score highly on spontaneity are expected to be oriented more toward the present, namely, be very attentive to the moment. Those who score high on the SDI are expected to focus on the past and are characterized as people of habits and repeated behaviors. The results (see Table 2) support these expectations. The correlation coefficients between the SAI and the scores on time orientation revealed r = .24, p < .05 with the present orientation compared to small and statistically not significant correlations obtained with the two other temporal orientations, the past (-.13) and the future (.08). For the SDI, the results contained a statistically significant positive correlation coefficient with the past orientation (.42, p < .01) but non-significant correlations with the two other temporal orientations, .02 for the present and -.07 for the future.

The outcomes for the split-half reliability for the SAI (.88) and the SDI (.91) were similar to or better than those reported in an earlier study with the SAI and the SDI (Kipper & Hundal, 2005). A test-retest reliability, with a 5-week interval, involved 35 participants and yielded r = .75 for the SAI and r = .84 for the SDI.

Discussion

Overall, the findings supported the reliability and concurrent validity of the SAI and the SDI. The obtained psychometric data corroborated with the earlier reports by Kipper and Hundal (2005) and contained even better outcomes, especially in the split-half (odd-even) reliability figures for both inventories. In addition, a test-retest result, with a 5-week interval, demonstrated the stability of both inventories, thus providing a sound psychometric foundation for the SAl and the SDI.

The average score of the participants on the SAI was slightly above the midpoint of the scoring range, whereas that of the SDI was slightly lower than the midpoint of its possible range. These results are not entirely surprising. One might anticipate that the desirable qualities commonly attributed to spontaneity in our culture might skew the average toward the positive end. Conversely, the less desirable qualities associated with spontaneity deficit might skew the average toward the negative end. The observation that both the SAI and SDI were susceptible to the influence of social desirability (Kipper & Hundal, 2005) is congruent with such expectations.

From the results, we concluded that there were no statistically significant differences between the average scores of the men and the women on either inventory. Collins et al. (1997) found that men scored higher than women on their test of spontaneity (the PAS). In a subsequent study, Kellar et al. (2002) obtained similar findings on the improved version of their test of spontaneity (the PAS-II). The gender difference, however, was said to account for only 2% of the variance and, therefore, deemed unimportant. Our results appear to be more conclusive regarding the absence of significant gender differences in spontaneity or the lack of it.

The primary objective of the present study was to explore further the psychometric properties of a measurement of spontaneity; hence we constructed the SAI. The need for such a measure was long obvious (Kipper, 1986). Without it, psychodrama scholars were ill equipped to

conduct empirical investigations concerning long-standing, untested assumptions that underlie the theory of classical psychodrama. Furthermore, a brief and simple-to-score spontaneity assessment scale makes it easy for practitioners to log empirically the therapeutic progress of psychodrama clients, which is information that is sorely needed.

We also designed a second measure of nonspontaneity or spontaneity deficit (the SDI). The reason for that was twofold. First, we believed that to unravel the particular psychological qualities subsumed under spontaneity, one needed to understand the qualities that characterize nonspontaneity. The contrast between the two might clarify their uniqueness. Second, we hoped to untangle the theoretical ambiguity with regard to two important questions: (a) Does nonspontaneity always represent an undesirable state of mind? and (b) What is the relationship between spontaneity and nonspontaneity?

From the present outcomes, we concluded that spontaneity could not coexist with either trait or state anxiety. This finding confirmed Moreno's (1964) earlier hypothesis about the adversarial relationship between spontaneity and anxiety. However, adversarial relationships do not necessarily imply that the two incompatible qualities represent two opposites of the same quality. This situation might be similar to the relationship between joy and sickness. The two might be negatively related, but one is not necessarily the opposite of the other. Furthermore, adversarial relationships may mean that spontaneity and anxiety can exist within the same person but not at the same time (or within the same situation). The results concerning anxiety shed an interesting light on the difference between spontaneity as typically understood colloquially and its meaning scientifically. The former often takes the form of an uncontrolled expression driven by anxiety. The latter, however, is not triggered by an anxious personality or an anxiety-provoking situation.

We also found that spontaneity was negatively related to obsessive-com-pulsive tendencies. Moreno (1964) proposed that there are several types of spontaneity, one of which he called stereotyped spontaneity, a less-valued form of spontaneity compared to the high-grade one. The characteristics of the stereotyped spontaneity and its resultant SAI and behavior seemed consistent with those of obsessive-compulsive trends. As such, they are viewed as inconsistent with so-called high-grade spontaneity. As for spontaneity deficit, the present findings indicate that it is associated with anxiety, both state and trait, and with an obsessive-compulsive tendency. The greater the deficit, the more anxious and obsessive-compulsive tendencies are evident. It appears, there-fore, that unlike the SAI, spontaneity deficit, as found with the SDI, represents a scale of pathology.

The results concerning the temporal orientation are particularly interesting. They ascribed to spontaneity, one of its most fundamental aspects, namely, that it focuses on the here and now. The authors of the TOS described a present-oriented individual as a person who "is considered to be more action oriented, a doer." (Jones et al., 2004, p. 5). Such a person tends to focus on behavior, feelings, and thoughts related to the present context and avoids dwelling on the past. This fits Moreno's suggestions that spontaneity can only be spent in the moment and cannot be conserved (Kipper, 1967). Our results showed that, of the three temporal orientations, spontaneity is positively correlated only with the present. Conversely, spontaneity deficit correlated sig-nificantly, in the positive direction, only with the past and not with present or future orientations. According to Jones et al., individuals characterized with past orientation "think about the past a lot and seem to want to relive those earlier experience." (Jones et al., p. 9)

Conclusions

As to the relationship between spontaneity and spontaneity deficit, the present findings replicated those reported in an earlier study by Kipper and Hundal (2005). Overall, spontaneity was negatively correlated with spontaneity deficit. However, when we divided the participants into two subgroups, those above and below the SAI median, we observed this relationship only among the top SAl scorers. For those scoring below the SAI median, there was no correlation with their SDI scores. It appears to us that spontaneity and spontaneity deficit represent two separate continua, one for measuring the degree of one's ability to be spontaneous and the other for measuring the extent of one's spontaneity incapacity.

Finally, we recommend that researchers in subsequent studies explore the psychometric properties of the SAI and the SDI with populations other than students. The present results, along with those reported by Kipper and Hundal (2005), support the use of the SAI and the SDI. Nonetheless, we recommend further studies regarding the predictive validity of the SAI, with future investigative efforts considering this research avenue.

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