

The Inviting-Disinviting Index: A Study of Validity and Reliability

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As invitational theory continues to develop and invitational practices continue to be investigated, researchers will seek reliable and valid measures upon which to base their findings and conclusions. This article summarizes validity and reliability studies of the Inviting-Disinviting index (Wiemer & Purkey, 1994) and an adapted version of the index for children (Schmidt, 1996). Results of these studies show weak to strong test-retest reliability for the 101 and strong content validity. Further investigation of both the original and adapted version of the IDI is recommended.

As protagonists of an emerging theory of practice, invitational theorists search for instruments with which to measure perceptual traits, inviting and disinviting behaviors, and other aspects of human behavior and development to increase knowledge and understanding about invitational processes. Researchers sometimes find it necessary to create surveys and other types of instruments to gather data for their studies. Since the initial development of invitational education and the introductory publication of *Inviting School Success* (Purkey, 1978), several researchers have attempted

to develop instruments that would assist in assessing the efficacy of invitational theory and practice. Among these have been *The Florida Key: A Scale to Infer learner Self Concept* (Purkey, Cage, & Graves, 1973), the *Invitational Teaching Survey* (Smith, 1986; Smith, Purkey, & Amos, 1987), and other instruments designed specifically for theses, dissertations, and research presentations at national conferences.

Research of invitational theory has been possible, in part, because investigators have attempted to create useful self-reporting and observational instruments. The efficacy of research findings, and subsequently of invitational assumptions, is dependent on the validity and reliability of instruments created and used in the study of invitational theory.

The present article summarizes an evaluation of the *Inviting Disinviting Index* (IDI) (Wiemer & Purkey, 1994), a recently reported instrument that purports to measure people's self-perceptions about the extent to which they are inviting or disinviting towards themselves and others. In an effort to lend credibility to current and future research on the perception of inviting and disinviting behaviors, this article reports the results of validity and reliability studies on the original IDI as well as on an adapted version of the IDI for children (Schmidt, 1996).

Wiemer and Purkey (1994) created a 20-item self-report questionnaire that consisted of two sets of 10 paired statements - one set describing behaviors toward self and the second set describing behaviors toward others. Each pair of statements was worded the same except for alternating the reference to either "self" or "others. In addition, each set of statements contained five positive (inviting) statements and five negative (disinviting) statements. The 20 statements were placed in random order "to avoid response bias" (Wiemer & Purkey, 1994, p.26). In responding to the 20 items on the IDI, subjects were instructed to use a 7-point scale accordingly: (1) Always, (2) Very often, (3) Often, (4) Occasionally, (5) Seldom, (6) Very Seldom, and (7) Never (see Appendix A).

An adapted IDI was created by Schmidt (1996) to use with children. That version changed a few items on the original IDI to adjust vocabulary suitable for students in the middle grades. A total of four items were adjusted by altering one or two words. For example, the item that read, "I condemn myself when I think I did something wrong," was changed to "I blame myself when I think I did something wrong" (see Appendix B).

Method

Subjects

For the test-retest reliability study of the original IDI (Wiemer& Purkey, 1994), 46 graduate students in counselor education at a southeastern university made up the sample population. All the students were in introductory counseling courses and voluntarily participated in the test-retest study. A total of 43 students (93%) completed the retest.

A different group of 11 counselor education students at the same university participated as judges to assess the content validity of the adapted IDI. This group consisted of students who had completed the introductory courses of their counselor education program.

In the test-retest reliability study of the adapted IDI (Schmidt, 1996), all the fifth-grade students in a single elementary school were administered a copy of the instrument. These students comprised a heterogeneous group in a school located in a small city. The county where the study was conducted is mostly rural with the exception of a small city of 60,000 people that is also home to a state university of 18,000 students. Sixty-nine fifth-grade students were administered the adapted IDI and three weeks later it was administered again. A total of 62 students (90%) completed the retest.

Procedures

Two separate analyses were performed. The first one evaluated the original IDI and consisted of a test-retest procedure. This analysis was performed to assess the reliability of the original IDI. A three-week test-retest design with graduate students as participants was used.

A second analysis examined the adapted form of the IDI (Schmidt, 1996). It consisted of a content validity study similar to that performed by Wiemer and Purkey (1994) on their original IDI, and a test-retest reliability study using fifth-grade students as participants. The test-retest procedure used a three-week design.

The content validity study of the adapted IDI used 11 graduate students from a counselor education program as the panel of judges. The graduate students were given a copy of the adapted IDI and the following four descriptions:

- IS (Inviting self)-behaviors or messages that are positive to self.
- 10 (Inviting others)-behaviors or messages that are positive to others.
- DS (Disinviting self)-behaviors or messages that are negative to self.
- DO (Disinviting others)-behaviors or messages that are negative to others.

Using the above descriptions, the 11 judges proceeded to identify each of the 20 items on the adapted IDI as a measure of one of the four scales (IS, 10, DS, DO). Next to each item, the judges wrote either "IS, 10, DS, or DO."

Analysis

The test-retest analysis used the Pearson correlation of the MYSTAT (1990) program to estimate reliability coefficients. This procedure was used for the test-retest studies of both the original IDI and the adapted version.

Analysis of the content validity study of the adapted IDI recorded classifications of the 11 judges for the 20 items and tabulated the percent of agreement with the expected classification for each item (i.e., IS, IO, DS, or DO). The expected classifications were those assigned by Wiemer and Purkey (1994) to the 20 items on the original IDI. For example, the responses of judge #1 were compared with the expected classifications on all 20 items and the percent correct became an index of agreement for that judge (e.g., 70% correct = .70). The average of all the indexes for the 11 judges provided a single inter-rater reliability coefficient.

Analysis of judges' responses was also performed on each item. This was done by taking the responses of the 11 judges for each of the 20 items and tabulating their percent of agreement with the expected classification. On a particular item, the number of judges whose responses agreed with the expected classification was divided by 11 to compute an agreement index (e.g., 7 correct responses $\div 11 = .64$). The 20 agreement indexes were then averaged to compute an inter-item average index.

Results

Content Validity

Wiemer and Purkey (1994) reported an inter-rater reliability coefficient of .96 using a panel of 12 judges who had "written about or conducted research on the invitational model" (p. 27). The 11 judges who rated the adapted IDI generated a slightly lower yet strong coefficient of .88. The counselor education students who judged the adapted IDI were not as knowledgeable of invitational theory as the judges in the study by Wiemer and Purkey (1994) and that difference may attribute to the slightly lower coefficient. Nevertheless, both results appear to indicate content validity for the original and adapted IDI, which purport to measure an individual's perceptions of inviting and disinviting behaviors towards oneself and others.

Data from the Wiemer and Purkey (1994) study of the original IDI were not available, but further analysis of the ratings of the

adapted IDI indicated that some items generated lower levels of agreement. When inter-item agreement among the judges was tabulated and percentages were averaged, the index of agreement was .87, similar to the coefficient found for inter-rated reliability (.88). While most items generated high percentages of agreement (nine of the items generated 100% agreement), a few were notably lower. Five items were below the average percentage of agreement. Table I shows these five items and their indexes of agreement among the 11 judges.

Table I
Five Items on the Adapted IDI with Lowest Percentage of
Judges' Agreement

Item		Index of Agreement
#1	I plan time for enjoyable activities with others.	.36
#7	I tell myself when I think I've done something stupid.	.73
#10	I criticize myself when I think it is needed.	.54
#14	I am insensitive to my own needs.	.64
#17	I am insensitive to the needs of others.	.73

Disagreement among the 11 judges seemed to consist of whether the items pertained to "self" or "others," as in the case of item #1, or whether the items pertained to "inviting" or "disinviting" behaviors, as in the case of items #7, 10, 14, 17. Judges were correct or incorrect in their identifications based on the assigned classifications for the original IDI (Wiemer & Purkey, 1994). For example, the majority of judges incorrectly identified item #1 as an "inviting self" behavior. Likewise, on item #10, five of the judges indicated that it was an "inviting self" behavior (IS) to "criticize myself when I think it is needed," while the remaining judges correctly identified this item as a "disinviting self" (DS) behavior.

Reliability

Test-retest reliability on the original IDI produced moderate to strong coefficients, all of which were statistically significant ($p < .001$). As shown in Table II, the IS scale produced the strongest correlation coefficient (.83) while the DO scale showed the weakest (.68).

Table II

Test-Retest Reliability Coefficients for the Original IDI

<u>Scale</u>	<u>r*</u>
IS	.83
IO	.79
DS	.78
DO	.68

* all coefficients are significant ($p < .001$, $df = 41$)

Test-retest reliability on the adapted IDI for children produced mostly weak to moderate coefficients ranging from .41 to .59. All the correlation coefficients were significant at the .001 level, however, the percentage of variance accounted for in the adapted IDI ranged from 16% to 36% using the coefficient of determination. Therefore, about 64% to 84% of the remaining variance is left to error. In contrast to the test-retest of the original IDI with university graduate students, the test-retest with fifth-grade students not only generated lower correlations, but also the strongest and weakest scales were reversed. With the children's IDI, the IS scale showed the lowest correlation and the DO scale the highest. Table III displays the correlation coefficients for the adapted IDI.

Table III

Test-Retest Reliability Coefficients on the Adapted IDI

<i>Scale</i>	<i>r*</i>
IS	.41
IO	.51
DS	.50
DO	.59

* all coefficients are significant ($p < .001$, $df = 60$)

Discussion

The procedures in this assessment were designed to examine the reliability and content validity of the IDI (Wiemer & Purkey, 1994) and an adapted version of the IDI for children (Schmidt, 1996). Results generally indicated that both instruments may have content validity as measured by the inter-rater reliability of judges.

An inter-rater reliability index of .96 reported by Wiemer and Purkey (1994) on the original IDI compared favorably with the index of .88 found on the adapted IDI. Both findings indicate that the IDI (both the original and adapted version) may measure the perceptions individuals have about degree of inviting and disinviting behavior they use toward themselves and others.

While inter-rater reliability demonstrated a degree of content validity for the overall instrument, analysis of inter-item agreement among raters on the adapted IDI indicated that some items may not be understood by respondents. That is, certain items categorized as "Inviting" behaviors may be viewed as "Disinviting" by some respondents. Likewise, a few items that claim to measure "self" or "other" behaviors may be viewed conversely. These discrepancies may have implications for designing instruments to measure fundamental premises and assumptions of invitational theory.

On the basis of two test-retest procedures, the original and adapted versions of the IDI showed weak to strong reliability coefficients. The original IDI generated the strongest correlation coefficients using a graduate student population, while the test-retest of the adapted IDI with children yielded weak to moderate correlations. All correlations for both instruments were statistically significant ($p < .001$).

These results may indicate that the original IDI, when given to adults, may produce more reliable measures than the adapted IDI for children. This finding is not surprising because if the IDI is a measure of self-perception, we might expect children's perceptions of their behaviors to be less stable over time than adult perceptions would be. In addition, the concepts and vocabulary of the adapted IDI, despite the adjustments made, may remain too difficult for children to understand. If so, the reliability of results from the adapted instrument would be weak. Further investigation of the developmental appropriateness of using the IDI with children is necessary.

In summary, this study found that the original IDI, developed by Wiemer and Purkey (1994), may have value as a self-report instrument in researching people's perceptions of their behaviors toward themselves and others. The current assessment yielded less certain results concerning the adapted IDI (Schmidt, 1996). More thorough and rigorous research on both instruments is recommended if future investigators desire to use these self-report questionnaires to study the efficacy of invitational theory and practice.

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Appendix A

Inviting-Disinviting Index

Name _____

Please respond to each of the following statements according to frequency of occurrence. Please give a number corresponding to the following continuum:

Always (1) ;Very Often (2); Often (3); Occasionally (4); Seldom (5); Very Seldom (6); Never (7)

1. ____ I plan time for enjoyable activities with others.
2. ____ I condemn myself when I think I did something wrong.
3. ____ I criticize others when I think it is needed.
4. ____ I congratulate others on their successes.
5. ____ I neglect my own needs.
6. ____ I forgive others for their transgressions.
7. ____ I tell myself when I think I've done something stupid.
8. ____ I am quick to recognize my own value.
9. ____ I am impressed with the abilities of other people.
10. ____ I criticize myself when I think it is needed.
11. ____ I plan time for enjoyable activities with myself.
12. ____ I neglect the needs of other people.
13. ____ I congratulate myself on my successes.
14. ____ I am insensitive to my own needs.
15. ____ I am quick to recognize the value of other people.
16. ____ I tell others when I think they have done something stupid.
17. ____ I am insensitive to the needs of other people.
18. ____ I forgive myself for my transgressions.
19. ____ I condemn others when I think they did something wrong.
20. ____ I am impressed with my own abilities.

(Wiemer & Purkey, 1994, *Journal of Invitational Theory and Practice*, 3 (1), 25-31.)

Appendix B
Inviting-Disinviting Index
(for children)

Name: _____ Age: _____

Check whether you are a: _____ Girl or _____ Boy

Please respond to each of the following statements according to how often you feel it is true about you. On the line in the left column for each item, please write a number that corresponds to the following scale:

Always (1); Very Often (2); Often (3); Occasionally (4); Seldom (5) ;Very Seldom (6); Never (7)

Example: _____ 5 _____ I play sports. (Since "5" is given as the response, this person plays sports "seldom.")

1. _____ I plan time for enjoyable activities with others.
2. _____ I blame myself when I think I did something wrong.
3. _____ I criticize others when I think it is needed.
4. _____ I congratulate others on their successes.
5. _____ I neglect my own needs.
6. _____ I forgive others for their misbehaviors and mistakes.
7. _____ I tell myself when I think I've done something stupid.
8. _____ I am quick to recognize my own value.
9. _____ I am impressed with the abilities of other people.
10. _____ I criticize myself when I think it is needed.
11. _____ I plan time for enjoyable activities with myself.
12. _____ I neglect the needs of other people.
13. _____ I congratulate myself on my successes.
14. _____ I am insensitive to my own needs.
15. _____ I am quick to recognize the value of other people.
16. _____ I tell other people when I think they have done something stupid.
17. _____ I am insensitive to the needs of other people.
18. _____ I forgive myself for my misbehaviors and mistakes.
19. _____ I blame others when I think they did something wrong.
20. _____ I am impressed with my own abilities.

* Adapted from the IDI (Wiemer & Purkey, 1994, *Journal of Invitational Theory and Practice*, 3 (1), 25-31).