The Inviting/Disinviting Index: Instrument Validation and Relation to Motivation and Achievement

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Exploratory factor analysis results revealed that the inviting self and inviting others scales of the Inviting/Disinviting Index possess internal consistency and provide a reliable assessment of invitations. Findings also suggest that the disinviting scales require additional study and possible modification. Inviting self and inviting others were related to motivation constructs, but path analysis results showed that, although invitations did not have a direct effect on academic achievement, inviting self influenced achievement indirectly through academic self-efficacy and self-efficacy for self-regulation. Girls were more inviting of others and less disinviting of others than were boys. Sixth-grade students reported being more inviting of themselves and of others than did eighth-grade students.

Invitational theory can be traced to a perceptual tradition in psychology which maintains that the beliefs people develop about themselves help form the perceptual lens through which they view the world and interpret new experiences. As a consequence, individuals' self-beliefs have a profound influence on their actions (Purkey & Novak, 1996). Support for this view comes from social cognitive theorists who argue that what individuals do is more likely to reflect what they believe themselves capable of accomplishing than what they are actually capable of accomplishing (Bandura, 1986, 1997; Schunk, 1991).

The messages that people send and receive play an important role in creating the beliefs that they develop about themselves, for it is these messages that often constitute the bridge on which perception, interpretation, and meaning travel. In school settings, teachers send messages through their behavior, posture, tone of voice, and even the enthusiasm with which they approach their teaching. Invitational theorists contend that people can intentionally send uplifting and empowering messages to themselves and to others, and so they have defined

invitational education as "the process by which people are cordially summoned to realize their potential" (Purkey & Novak, 1996, p. 4). According to invitational theory, the messages that people send can be either inviting or disinviting and can be directed either at oneself or at others. *Inviting messages* tell others that they are able, valuable, and responsible. *Disinviting messages*, on the other hand, tell people that they are incapable and worthless and that they are not welcome to participate in their own development. Because individuals can exercise control over the messages that they send, invitational theorists urge students, teachers, and school administrators to intentionally invite themselves and others, and they provide examples of how this can be accomplished (Purkey & Novak, 1996).

Research findings suggest that *self-efficacy*, the confidence that individuals have in their ability to accomplish a task or succeed at an activity, is related to academic motivation and achievement (Bandura, 1997). Scholars have noted the conceptual relationships between invitations and motivation constructs such as self-efficacy (Purkey & Novak, 1996; Pajares & Zeldin, in press; Wiemer & Purkey, 1994). Pajares (1994) has suggested that the tenets of self-efficacy theory and those of invitational theory complement each other, and he provided a model showing the hypothesized relationship between efficacy beliefs and invitations. Pajares asked students to recall instances in their lives when invitations contributed to, or disinvitations undermined, beliefs about their writing ability. He concluded that invitations created and bolstered self-efficacy beliefs whereas disinvitations destroyed and diminished them.

As do invitational theorists, social cognitive theorists argue that students' self-beliefs are created and developed in part by the messages, that is, the invitations and disinvitations, that students receive from themselves and from others. Pajares and Zeldin (in press) investigated the relationship between these messages and the sources of the self-efficacy beliefs of women with careers in mathematics, science, or technology. They found that the invitations the women reported receiving were important in their initial choice to pursue nontraditional careers and also formed the self-beliefs that nurtured the effort, persistence, and resilience required to overcome personal, social, and academic obstacles. It is worth noting that the invitations from others that the women received

early in their development reemerged at later points in their lives as self-invitations. These findings support the contention of invitational theorists that others play a powerful role in the beliefs that students come to develop about themselves.

To date, insights regarding the relationship between invitations and motivation beliefs such as self-efficacy have either been conceptual or based on findings from qualitative studies. In part, this has been due to the lack of a quantitative instrument with which to measure invitations. The Inviting/Disinviting Index (IDI) (Wiemer & Purkey, 1994) was designed to assess people's self-perceptions about the extent to which they are inviting or disinviting to themselves and to others. Although preliminary results indicate that the IDI possesses sound content validity, Schmidt, Shields, and Ciechalski (1998) urged researchers to engage in additional validation studies with school-age participants.

The purpose of this study was twofold. Our first aim was to follow the recommendations of Schmidt et al.(1998) and continue to investigate the internal reliability and construct validity of the IDI. Our second aim was to explore the relationship between inviting oneself and inviting others on the one hand and various motivation and achievement indexes on the other. To this end, we sought to discover whether being inviting to self or inviting to others differently predicts key constructs prominent in theories of academic motivation as well as academic achievement. Finally, we explored whether there are differences in invitations to self and to others across gender and grade level.

Method

Participants and Procedures

Participants consisted of 245 students (114 girls, 131 boys; 79 in grade 6, 85 in grade 7, 81 in grade 8) from a public middle school in the Northeast. Instruments were group administered in individual classes during one class period and took approximately 30 minutes to complete. Directions and individual items were read aloud by the first author, who administered all instruments.

Instruments and Variables in the Study

Invitations of Self and of Others. The Inviting/Disinviting Index (Wiemer & Purkey, 1994) consists of four subscales representing the degree to which individuals are inviting to self (sample: “I am impressed with my own abilities.”), inviting to others (sample: “I congratulate others on their successes.”), disinviting to self (sample: "I neglect my own needs."), and disinviting to others (sample: "I blame others when I think they did something wrong."). Schmidt et al. (1998) altered the wording of four items to better reflect age-appropriate vocabulary of middle school students. For example, “I forgive others for their transgressions” was changed to “I forgive others for their misbehaviors and mistakes." We also altered the wording of several items with age-appropriate vocabulary and greater clarity in mind. For example, "I plan time for enjoyable activities with myself" was changed to "I plan time for enjoyable activities that I can do on my own." We increased the 5-point Likert response scale to 7 points that ranged from 1 (never) to 7 (always) (see Albaum, 1997, for rationale on increasing points on a Likert scale). Inter-rater reliability coefficients ranging from .88 to .96 have been reported for the IDI. Test-retest reliability has ranged from .68 to .83 for the scales of the original IDI (Wiemer & Purkey, 1994) and .41 to .59 for those of the adapted version (Schmidt et al., 1998).

Academic Self-Efficacy. The Academic Self-Efficacy Scale is a subscale from Bandura’s Children’s Multidimensional Self-efficacy Scale (see Zimmerman, Bandura, & Martinez-Pons, 1992). This scale assesses students’ judgments of their capability to learn academic subjects as well as certain subject-specific academic skills such as reading and writing. Using a Likert scale that ranged from 1 (not well at all) to 6 (extremely well), students were asked to respond to six questions that asked how well they felt they could learn mathematics, science, social studies, and English grammar, as well as reading and writing skills. Zimmerman et al. (1992) reported a Cronbach’s alpha coefficient of .70. We obtained .76 in the present study.

Self-Efficacy for Self-Regulated Learning. The Self-Efficacy for Self-regulated Learning Scale is also a subscale from Bandura’s

Children's Multidimensional Self-efficacy Scale that assesses student's judgments of their capability to use various self-regulated learning strategies. As with the Academic Self-Efficacy scale, students were asked to respond on a 6-point Likert scale to items such as "How well can you motivate yourself to do schoolwork?" or "How well can you finish your homework on time." A validation study by Zimmerman and Martinez-Pons (1988) revealed that a single factor underlay the items. Cronbach's alpha values ranging from .80 to.87 have been reported by researchers (Pajares & Graham, in press; Pajares & Valiante, 1997,1998; Zimmerman & Martinez-Pons, 1988; Zimmerman et al., 1992). We obtained a coefficient of .81.

Academic Self-Concept. Consistent with Bandura's (1997) definition of self-concept, we conceptualized academic self-concept as a student's composite view of his or herself formed through experience and feedback from others. Self-concept differs from self-efficacy in that self-efficacy is a context-specific assessment of competence to perform a task. Self-efficacy is, in essence, a cognitive appraisal of confidence. Self-concept is measured at a broader level of specificity than is self-efficacy. Self-concept also includes the feelings of self-worth associated with engaging in a task or activity (see Pajares, 1997, or Skaalvik, 1997, for a discussion of this issue). We adapted 6 items from Marsh's (1990) Academic Self-Description Questionnaire (ADSQ), transforming them from subject-specific content into general academic content. For instance, an item such as, " I get good grades in mathematics" was changed to " I get good grades in school." Students responded on a 6-point Likert scale ranging from definitely false to definitely true. Reliability estimates for the self-concept instrument in areas such as mathematics or writing have ranged from .86 to .94 (Marsh, 1990; Pajares, 1992; Pajares & Valiante, 1998). We obtained a coefficient of .86.

Value of School. The degree to which students value school was measured using 8 items assessing 3 indexes that contribute to perceived value of a domain: importance, interest, and enjoyment. Students were asked to rate how true or false statements were on a 6-point Likert scale. (sample item for importance: "It is important to me to get good grades in school"; enjoyment: "I enjoy school"; and interest: "My schoolwork is interesting for me."). Researchers have reported alpha coefficients

ranging from .69 to .91 when value has been assessed relative to a specific subject area (Pajares & Graham, in press; Pajares & Valiante, 1998). We obtained .91.

Academic Anxiety. We conceptualized academic anxiety as the feelings of tension and apprehension that interfere with engaging in tasks and activities across a wide variety of academic situations. To measure general academic anxiety we adapted items from the Mathematics Anxiety Scale used by Pajares and Urdan (1996). We selected 4 of the 10 original items and altered the wording to make them reflect general academic anxiety. For example, "I am afraid of doing math assignments when I know they will be graded" was changed to "I am afraid of doing school work when I know it will be graded." Students were asked to respond on a Likert scale ranging from 1 (definitely false) to 6 (definitely true). Reliability estimates for this scale in the areas of mathematics and writing have ranged from .80 to .93 (Pajares & Graham, 1997; Pajares & Valiante, 1997).We obtained a Cronbach's alpha of .79.

Academic achievement. Teachers ratings of students' academic aptitude have been acknowledged as a reliable assessment of academic capability (Hoge & Butcher, 1984), and we selected this as our measure of academic achievement. Teachers were asked to rate their students' general academic achievement on a 5-point scale (F to A). The teachers were organized into teaching teams, each teacher saw every student daily, and the teachers met weekly as a team to discuss student progress. As a consequence, each teacher on the team was capable of providing an overall judgement of a student's academic aptitude. The assessment was made in late March, midway through the third quarter of the school year, after teachers had ample time to become familiar with the abilities of all the students on the team.

Analyses

To meet the first objective and test the reliability of the IDI, we conducted exploratory factor analysis of the IDI and also obtained Cronbach's alpha coefficients for the four subscales. We used the maximum likelihood method of extraction (Jöreskog & Lawley, 1968) because this is the method believed to produce the best parameter estimates (Pedhazur, 1982). Criteria to determine the number of common factors to retain and analyze included Cattell's (1966) scree test, eigenvalues greater than one, the percentage of common variance explained by each factor using the weighted, reduced correlation matrix, and the interpretability of the rotated factors. Because we expected any factors that emerged from the analyses to be intercorrelated, we chose the obliminal method of oblique rotation. All analyses were conducted using the SAS system's FACTOR procedure (SAS Institute, Inc., 1989). We explored construct validation by examining the relationship between the IDI and measures of academic motivation and achievement.

To discover the nature of the relationship between invitations, motivation constructs, and academic achievement, we conducted a path analysis using the variance-covariance matrix with inviting self and inviting others as exogenous variables and the motivation constructs and academic achievement as endogenous variables. By using path analysis, we hoped to discover the direct and indirect influence that invitations would have on the variables in the study. Finally, to discover whether inviting self and inviting others differed as a function of gender and grade level, we conducted a multivariate analysis of variance (MANOVA) with gender, grade level, and the interaction of gender and grade level as independent variables.

Results

Results of the factor analysis revealed that three factors underlay items on the IDI. The first factor included 9 of the 10 inviting items and accounted for 46% of the common variance; the second factor included all 5 items of the disinviting self subscale and accounted for 29% of the common variance; the third factor included all five items of the disinviting others subscale and accounted for 25% of the remaining common

variance. Item #6 ("I forgive others for their misbehavior and mistakes") failed to load. Table 1 shows the factor loadings from the rotated pattern matrix and percentage of variance explained for the three-factor solutions. The loadings from the pattern matrix are conceptually similar to standardized regression coefficients, demonstrating the re-lationship between a variable and a factor when holding all other variables constant. Factor loadings of .35 or higher were considered strong enough to demonstrate that the variable indicated the common factor.

It seems reasonable to view low scores on the invitation items as reflecting disinviting responses and low scores on disinvitations as reflecting inviting responses. Respondents who strongly disagree that they are disinviting on a particular matter are actually reporting that they are inviting on that matter. For instance, a response of "never" to the disinviting item "I don't pay attention to others needs" indicates that the respondent is inviting of others and pays attention to their needs. Consequently, we believed that inviting self and disinviting self should be highly, if negatively, correlated, as should inviting others and disinviting others. That was not the case, however. Interfactor correlations were low and reveal problematic relationships. For example, the correlation between the Factor 1 (inviting self and others) and Factor 2 (disinviting self) was a positive .14. The correlation between Factors 2 and 3 (each composted of disinviting behaviors) was a negative -.15. Only between Factor 1 and Factor 3 did the correlation reflect an appropriate negative relationship (-.20). That the inviting items loaded separately from the disinviting items can, in part, be explained by the positive and negative wording of the items (see Kim & Mueller, 1978). It is troubling, however, that factors that should mirror each other were weakly correlated.

Table 1.
Factor Analysis Results for IDI - Standardized Regression Coefficients from Rotated Factor Pattern

	FACTOR 1	FACTOR 2	FACTOR 3
Inviting Self items			
8. I am quick to recognize my own value.	49 *	6	0
11. I plan time for enjoyable activities that I can do on my own.	39 *	9	0
13. I congratulate myself on my successes.	72 *	-3	16
18. I forgive myself for my misbehavior and mistakes.	63 *	-7	14
20. I am impressed with my own abilities.	62 *	-19	19
Inviting Others			
1. I like to include other people in enjoyable activities.	38 *	4	-20
4. I congratulate others on their successes.	43 *	29	-23
6. I forgive others for their misbehavior and mistakes.	29	29	-31
9. I am impressed with the abilities of other people.	39 *	40 *	-12
15. I am quick to recognize the value of other people.	37 *	30	-23
Disinviting Self			
2. I am hard on myself when I think I've done something wrong.	3	62 *	3
5. I neglect my own needs.	-11	57 *	40 *
7. It affects me for a long time when I think I've done something stupid.	1	61 *	-1
10. I am overly critical of myself.	-16	58 *	24
14. I don't pay attention to my own needs.	-28	54 *	6
Disinviting Others			
3. I criticize others when I think it is needed.	5	13	39 *
12. I neglect the needs of other people.	-1	24	64 *
16. I tell other people when I think they have done something stupid.	27	1	52 *
17. I don't pay much attention to other people's needs.	1	-6	47 *
19. I blame others when I think they did something wrong.	13	3	57 *
Common Variance explained	46%	29%	25%

Note: Loadings on the pattern matrix > | .35 | are underlined.

Our initial exploratory factor analysis results suggest that inviting self and inviting others tapped into the same source of variance when they are included in an instrument that includes the disinvitations. Because the nature of the intercorrelations suggested some instability in the disinviting factors, we submitted only the inviting items to a second factor analysis. Note on Table 2 that, when the disinviting items were removed, two factors accounted both for the inviting self and for the disinviting self scales. This increases the likelihood that the disinviting items, either for conceptual or empirical reasons (or both), introduce a good deal of noise into the IDI. To shed more light on this issue, we ran correlations between the four subscales of the IDI and the variables in our study. Note on Table 3 that, in each case, the inviting items were strongly correlated with the motivation variables. The disinviting items, however, which logically should also have been highly, if negatively, correlated, were either uncorrelated or weakly correlated. In addition, note that disinviting self was positively related to value, further evidence that the disinviting items may possess less than optimum internal consistency. Cronbach's alpha coefficients also revealed that the inviting scales had modestly higher internal consistency (.72) than the disinviting scales (.69 for disinviting self; .63 for disinviting others). As a consequence of these findings we decided to use only the more stable inviting self and inviting others subscales to meet the second objective of the study.

Recall that the second objective was to discover the nature of the relationships between invitations, motivation variables, and academic achievement. Table 3 provides correlations between the invitation subscales and the motivation and achievement variables in the study. As the factor analysis results foreshadowed, the inviting subscales were correlated (.42), but the correlations involving the disinviting scales were difficult to interpret. For example, the disinviting scales were not significantly correlated with each other, and the correlation between inviting self and disinviting self, scales that should mirror each other negatively, was also nonsignificant (-.06). In addition, inviting others and disinviting self were positively correlated (.25), a finding that we find conceptually counterintuitive and thus difficult to interpret.

Table 2.
Factor Analysis Results for Inviting Items of the IDI - Standardized Regression Coefficients from Rotated Factor Pattern

	FACTOR 1	FACTOR 2
Inviting Self items		
8. I am quick to recognize my own value.	19	44 *
11. I plan time for enjoyable activities that I can do on my own.	12	33
13. I congratulate myself on my successes.	13	61 *
18. I forgive myself for my misbehavior and mistakes.	18	44 *
20. I am impressed with my own abilities.	-19	81 *
Inviting Others		
1. I like to include other people in enjoyable activities.	37 *	17
4. I congratulate others on their successes.	64 *	6
6. I forgive others for their misbehavior and mistakes.	59 *	-2
9. I am impressed with the abilities of other people.	45 *	20
15. I am quick to recognize the value of other people.	71 *	-3
Common Variance explained	74%	26%

Note: Loadings on the pattern matrix > | .35 | are underlined.

The next step was to conduct a path analysis to decompose the effects for the variables in the model and test direct effects of the two invitations subscales (see Figure 1). The influence of inviting others was observed on self-efficacy for self-regulatory practices ($\beta = .257$) and on value of school ($\beta = .363$). Inviting self had a significant direct effect on self-regulation ($\beta = .343$) and on academic self-efficacy ($\beta = .170$). As expected, the effects of academic self-efficacy and self-concept were the only significant predictors of academic achievement. Invitations did not influence academic achievement directly, but they had indirect influences through self-efficacy for self-regulation. In addition, inviting self had an indirect effect on achievement through self-efficacy. Estimation of the path model revealed a Goodness of Fit Index of .94 and a Normed Fit Index of .92. Both are strong indices of goodness of fit.

Table 3.
Correlations between Subscales of the IDI and Variables in the Study

	Self-Achievement	Self-	Self-efficacy	Anxiety concept	Value regulation	
Inviting Self	.40***	.45***	.45***	-.10	.31***	.24**
Disinviting Self	-.13	-.17	-.10	.32	.21**	-.11
Inviting others	.32***	.37***	.40***	-.02	.51***	.16*
Disinviting others	-.08	-.08	-.16*	.10	-.17*	-.15

	M	SD	IS	DS	IO	DO
Inviting Self (IS)	5.2	1.1	--	-.06	.42***	.12
Disinviting Self (DS)	3.9	1.3		--	.25***	.16
Inviting Others (IO)	5.3	1.0			--	-.23**
Disinviting Others (DO)	3.4	1.1				--

*** $p < .0001$, ** $p < .001$, * $p < .01$

Our final objective was to discover whether there were differences in invitations across gender and grade level. MANOVA results revealed a multivariate effect both for gender, Wilks' Lambda = .89, $F(4, 238) = 7.69$; $p < .0001$, and for grade level, Wilks' lambda = .91, $F(8, 476) = 2.84$, $p < .0043$. The interaction of gender and grade level was nonsignificant. As Table 4 shows, the univariate effect for gender on inviting others revealed that girls (M = 5.6) were more likely to report being inviting to others than were boys (M = 5.0); similarly, girls (M = 3.1) were also less likely to be disinviting to others than were boys (3.7). Sixth-grade students were also more inviting to themselves (M = 5.4) and to others (M = 5.5) than were eighth-grade students (4.9 and 5.1, respectively). Recall that the Likert scale was composed of 7 points.

Figure 1
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Table 4.
Differences by Gender and Grade Level for Invitations and Disinvitations

	Girls		Boys		6		7		8	
	M	SD	M	SD	M	SD	M	SD	M	SD
Inviting Self	5.1	1.1	5.2	1.1	5.4a	1.0	5.1ab	1.1	4.9b	1.1
Inviting Others	5.6a	0.9	5.0b	1.1	5.5a	0.9	5.2ab	1.0	5.1b	1.1
Disinviting Self	4.0	1.2	3.7	1.4	4.1	1.2	3.8	1.2	3.7	1.4
Disinviting Others	3.1a	1.0	3.7b	1.1	3.3	1.2	3.8	1.1	3.6	1.1

Note: Group means for a dependent variable (row) that are subscripted by different letters are statistically different (experimentwise α .05) computed on an effect identified by MANOVA or follow-up.

Discussion

The first objective of our study was to test the reliability of the Inviting/Disinviting Index (Wiemer & Purkey, 1994). Factor analysis results revealed that three factors underlay the instrument. One factor was composed of all inviting items with the exception of #6. We believe that the problem with this item may lie in students' being asked to forgive others both for their "misbehaviors and mistakes." It seems reasonable to suppose that respondents may be more predisposed to forgive mistakes more than misbehaviors. That potential lack of clarity may account for its failure to load. Note that the original IDI used only the word "transgressions" (Wiemer & Purkey, 1994), which Schmidt et al. (1998) judged age-inappropriate. We concur with Schmidt et al. but suggest that "misbehaviors" be removed from that item to increase both its clarity and its intent. We believe that the inviting self and inviting others subscales of the IDI possess strong internal consistency and provide a reliable assessment of invitations. Although they initially loaded on the same factor, this was due to the influence of the less stable disinviting items. When the inviting self and inviting others items were factor analyzed on their own, the expected two factors emerged.

It seems clear that the disinviting subscales also have strong internal properties, as reflected by their loading on the second and third factor of the IDI, but the problematic intercorrelations with the inviting factor and with each other, as well as their general failure to correlate with the motivation constructs, lead us to conclude that continued investigation of their reliability properties is warranted. Although it is likely that the positive and negative wording of the items may account for the differing loadings, it is also possible that being inviting and being disinviting, either to oneself or to others, may be perceived quite differently by students. The intercorrelations and weak relationship with the motivation constructs of the disinviting scales lead us to believe that something other than wording is at play. Recall that the inviting items of the IDI strongly correlated with motivation indexes whereas the disinviting items did not. Researchers will want to continue to explore differences between reported invitations and disinvitations to see whether they are indeed differently viewed and represent different constructs. If, as we inferred, they should be measuring the same phenomena but from different direction, it seems clear that the disinviting items may be accomplishing that problematically.

We recommend two strategies. The first is to conduct a study in which the IDI items are presented with positive wording. Although we certainly agree with Wiemer and Purkey's (1994) contention that being inviting to others and inviting to self represent separable theoretical constructs, we also believe that the difference between invitations and disinvitations can also be explained by reverse scoring of each of the items. It seems reasonable for us to suppose that students who strongly disagree that they are disinviting on a particular item are actually reporting that they are strongly inviting. For instance, we believe that a response of "never" to the item "I don't pay much attention to other people's needs" (item #10) is actually indicating the same thing as a response of "always" to an item that could be positively phrased "I pay attention to other people's needs." We continue to believe that inviting and disinviting should be mirror images of each other, or perhaps a better metaphor would be two sides of the same coin. We believe also that students respond to negative items in ways quite different than they respond to positive items, and that this difference often has a great deal to do with affective concerns unrelated to the content of the item. We

believe that removing the negative wording would help reduce the noise and instability in the disinviting items. Let us also note that most motivation instruments present in the literature are composed primarily of positively-worded answers.

The second strategy would be to rethink the disinviting items with an eye to ensuring that respondents do indeed view the item as a clear disinvitation. We are not altogether sure that this is always the case with the present items. For example, "I am hard on myself when I think I've done something wrong" may very well be viewed as a form of an invitation if I believe that the "wrong" thing I have done deserves a reasonable amount of self-censure and self-reflection. "I criticize others when I think it is needed" may also be viewed as inviting if the respondent focuses on "when I think it is needed" rather than on "criticize." "I tell other people when I think they have done something stupid" could reasonably be viewed as a kind and somewhat inviting act if the interpretation made is that others need to know and we are willing to tell them when we believe that they are being foolish and potentially doing self-harm. The disinvitation may be, in this case, more a matter of *how* I tell other people than on whether I actually tell them.

Our second objective was to investigate the relationships between invitations and various motivation constructs and achievement, and in these analyses we chose to use only the two inviting subscales. Although neither inviting self nor inviting others had a direct effect on academic achievement, each set of invitations had a direct effect on students' reported self-regulatory practices. In addition, being inviting to oneself influenced academic self-efficacy, which itself influenced academic achievement. Two important issues merit noting. The first is that being inviting, especially self-inviting, has clear indirect effects on students' academic achievement through their effect on key motivation constructs. The second is that invitations are strongly related to self-regulatory practices and beliefs. It makes sense, for example, that students who engage in the sort of self-regulatory practices we tapped are, in essence, inviting themselves to succeed in the academic arena, hence the connection between self-regulation and self-invitations. It also makes sense that, when students are successful with self-regulatory habits such as participating in class discussions, completing their homework on time,

or concentrating on their schoolwork, they create the time and the self-confidence necessary to become more actively inviting and accepting of others in ways such as including people in enjoyable activities and congratulating others on their successes, two of our other-invitations.

Finally, we sought to discover gender and grade level differences in invitations and disinvitations. We discovered that girls and boys did not differ in the degree to which they report inviting themselves, but girls were more inviting of others and less disinviting of others than were boys. This is consistent with theoretical contentions regarding the relational and individual postures to which boys and girls are differently socialized, the view that girls perceive themselves as the center of an intricate relational web, and findings that girls function from an ethic that is built on care and on social responsibility (Gilligan, 1982; Noddings, 1988). Findings are not consistent with those of Wiemer and Purkey (1994), however, who found no gender differences in invitations or disinvitations. Their respondents were counselor education graduate students, however, so it is likely that the difference in our samples account for discrepant findings. We found also that sixth-grade students reported being more inviting of themselves and of others than were eighth-grade students. This finding does not surprise us, as it is consistent with results obtained by various researchers regarding the transition through middle school. In general, researchers report that middle-school students suffer a decrease in self-beliefs as they make their way through the middle grades (Bandura, 1997; Pajares, 1997; Wigfield, Eccles, MacIver, Reuman, & Midgley, 1991).

In general, we are excited by the joint research possibilities that the Inviting/Disinviting Index offers motivation and invitational researchers. We believe that its continued refinement and use will reveal the extent to which invitations and disinvitations are related to key psychological and motivational constructs. In addition, it is our hope that these connections will both validate the key contentions made by invitational theorists and afford insights that can be used to enhance the educational world of people, places, policies, programs, and processes.

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