

THE RELATIONAL HEALTH INDICES: A STUDY OF WOMEN'S RELATIONSHIPS

Belle Liang
Boston College

Allison Tracy, Catherine A. Taylor, Linda
M. Williams, Judith V. Jordan,
Jean Baker Miller
Wellesley College

A new measure of women's relationships, the Relational Health Indices (RHI), comprises three scales that assess growth-fostering connections with peers, mentors, and communities. The RHI was developed using the Relational Model (Jordan, Kaplan, Miller, Stiver, Surrey, 1991; Miller & Stiver, 1997), a theory of women's psychological development. The 37-item measure assesses three conceptual dimensions of growth-fostering relationships: engagement, authenticity, and empowerment/zest. This study examined the psychometric properties of the RHI with a group of 450 students at a women's liberal arts college, providing evidence for the reliability, validity, and utility of the new measure. The factor analyses confirmed a three-subscale structure: engagement, authenticity, empowerment/zest. The RHI's components generally demonstrate good overall internal consistency. Furthermore, associations between RHI scales and convergent validation scales were significant and in the direction hypothesized. Correlations with adjustment scales varied across the RHI components. The RHI has potential for enriching our understanding of important, subtle qualities and complex dynamics of both dyadic and group relationships, especially among women. The instrument is available for use by researchers interested in continuing the scale and theory development.

The importance of social support and relationships in women's lives has been studied extensively (e.g., Boyce, Harris, Silove, Morgan, Wilhelm, & Hadzi-Pavlovic, 1998; Komproe, Rijken, Ros, & Winnubst, 1997; Warren, 1997). Findings from such studies indicate that the quality and nature of women's relationships may be more meaningful than their quantity or structure (Bryant, 1985; Fiore, Becker, & Coppel, 1983; Waldrop & Halverson, 1975). In particular, relationships that are intimate and mutual can facilitate self-disclosure, emotional resiliency, coping strategies,

and additional social support (Genero, Miller, Surrey, & Baldwin, 1992; Gottlieb, 1992; Jordan, 1992).

Along these lines, researchers at the Wellesley College Stone Center have proffered the Relational Model as a theoretical paradigm for the assessment of women's psychological development and well-being (Jordan et al., 1991; Miller & Stiver, 1997). Whereas most traditional psychological theories focus on the task of separation-individuation as the ultimate goal of development, Relational Model theorists conceptualize ongoing, growth-fostering connection as critical to women's development (Jordan, 1986; Surrey, 1985). The Relational Model has been used to conceptualize innovations in areas such as psychotherapy, inpatient treatment, substance abuse, and HIV prevention among women (Amaro, 1995; Covington, 1998; Finkelstein, 1996; Nelson, 1996; Riggs & Bright, 1997).

In response to critics who contend that such a model over-idealizes caring qualities and denies personal needs (thus reinforcing the oppression of women), Jordan and others have convincingly held that growth-fostering aspects of women's relational skills empower individuals as well as their relationships by increasing a sense of self-worth, vitality, and validation, a knowledge of self and others, and a desire for further connection (Jordan, 1997; Westkott, 1997). Based on clinical data, Relational Model theorists have identified four major growth-fostering characteristics of

Belle Liang, Boston College. Allison Tracy, Catherine Taylor, Linda M. Williams, Judith Jordan, and Jean Baker Miller, Stone Center of the Wellesley Centers for Women, Wellesley College. The authors wish to thank the Office of Institutional Research, Larry Baldwin, Lisa Desai, Angie Evans, Joyce Fletcher, Nancy Genero, Irene Stiver, Jan Surrey, and student assistants, including Stefanie Wolf and Cinnamon Stetler, for their important contributions to our measurement conceptualization, development, and testing. This project was supported by Stone Center funding to the Office of the Director of Research, Linda M. Williams, Ph.D.

Address correspondence and reprint requests to: Belle Liang, Boston College, Department of Counseling, Developmental and Educational Psychology, Lynch School of Education, Campion Hall 314, 140 Commonwealth Avenue, Chestnut Hill, MA 02467-1433.

relationships: mutual engagement (as defined by perceived mutual involvement, commitment, and attunement to the relationship), authenticity (the process of acquiring knowledge of self and the other and feeling free to be genuine in the context of the relationship), empowerment/zest (the experience of feeling personally strengthened, encouraged, and inspired to take action), and the ability to deal with difference or conflict (the process of expressing, working through, and accepting differences in background, perspective, and feeling; Jordan, 1992, 1997; Miller & Stiver, 1997). Previous research has strongly suggested the significance in relationships of these four characteristics.

Engagement may have a beneficial impact on individuals as well as relationships as indicated by studies on closeness and empathy. These qualities mediate stress and depression and are associated with self-esteem, self-actualization, cooperation, low interpersonal distress, and relationship satisfaction (Beeber, 1998; Burnett & Demnar, 1996; Gawronski & Privette, 1997; Schreurs & Buunk, 1996; Shulman & Knafo, 1997). Authenticity appears to be related to being liked, increased liking of others, and motivation in relationships (Collins & Miller, 1994; Kay & Christophel, 1995). Empowerment has a direct impact on positive affect, meaningful activity, and creativity (Hall & Nelson, 1996; Spreitzer, 1995). The ability to deal with difference or conflict appears to be related to higher self-esteem, more positive attitudes toward life, less depression or anxiety, and enhanced internal locus of control (Kashani, Burbach, & Rosenberg, 1988; Zhang, 1994).

Despite these relevant findings, empirical examination of the Relational Model concepts has been limited by a lack of validated instruments designed to reflect the model's concepts specifically and collectively. To date, we are aware of only one published measure, Mutual Psychological Development Questionnaire (MPDQ; Genero et al., 1992), that explicitly reflects the described concepts. The MPDQ is a 22-item, self-report measure that asks respondents to rate their perceptions of their relationship with someone to whom they feel close, as well as their perceptions of the other's experience of this relationship.

The Relational Health Index is distinct from this measure in a number of ways. First, the MPDQ is an assessment based on impressions during verbal interactions with a partner. The RHI, on the other hand, includes attitudinal and behavioral assessments in more general context (e.g., "I can be genuinely myself with my mentor"). This is particularly useful in assessing mentoring relationships whose growth-fostering impact may occur through modes other than dyadic, verbal interaction (e.g., classroom or group instruction, coaching on a sports team, role-modeling, or advocacy). In the same way, growth-fostering community or group interaction may be manifest in ways other than in verbal communication (e.g., shared physical activities). Second, the RHI community scale can assess relationships in groups larger than a dyad. Third, whereas the MPDQ reflects a more unitary concept, the RHI items were de-

signed to reflect the four distinct attributes of growth-fostering relationships or relational health described above. Lastly, the RHI is designed to assess three specific types of relationships: peer, mentor, and community relationships. The significance of this final distinction deserves further discussion.

Significance of Studying Mentor, Peer, and Community Relationships

Mentoring relationships. Adolescents consistently identify nonparental adults as playing a major role in their lives (Blyth, Hill, & Smith, 1982; Garbarino, Burston, Raber, Russell, & Crouter, 1978). Despite this, surprisingly little research has been conducted to elucidate the impact and nature of mentoring relationships, especially for females. Most of the empirical work on mentoring has focused narrowly on adult professional development and advancement (Carden, 1990; Fox, Waldron, Bohnert, Hishinuma, & Nordquist, 1998; Hubbard & Robinson, 1998). This traditionally male model of mentoring ignores the mutual and holistic qualities of mentoring described by Levinson (1978) when he conceptualized the latter as a form of love relationship.

A few investigators have adopted a broader perspective by viewing mentoring as not merely a "professional transaction," but as a relationship essential to psychological growth and development. Two notable studies have underscored the impact of mentoring on females. For example, females felt much more strongly than males that mentoring helped them bridge professional and personal concerns such as integrating career and family (Beck, 1989). In a study of urban, adolescent girls, those with mentors who listened, understood, and validated their experiences and feelings evidenced transformations in personal confidence and ability (Sullivan, 1996). Their mentors appeared to enable their social interactions and serve as a buffer against social stressors.

Peer relationships. Similarly, existing measures of peer relationships are not designed to reflect relational qualities that may be particularly salient in female friendships; yet it is the quality of supportive peer relationships that is more important among females compared to their male counterparts (Bryant, 1985; Waldrop & Halverson, 1975). Studies examining gender differences in quality versus quantity of peer support networks have revealed that whereas, in general, boys and girls had networks of similar size (Riley & Cocharan, 1987), network size had differential significance. Interestingly, one study demonstrated that girls who had intense and intimate friendships were rated as more socially mature than other girls, whereas boys who had a greater number of friends were rated as more socially mature (Waldrop & Halverson, 1975).

Research on peer friendships has shown that women's relationships are more dyadic, self-disclosing, empathic,

and intimate than were men's, which tend to center on shared activities such as sports (Belle, 1987; Booth & Hess, 1974; Candy, Troll, & Levy, 1981). Females tend to rate close, same-sex friendships equally as intimate or even more intimate than they rate their relationships with their parents (Blyth & Foster-Clark, 1987; Buhrmester & Furman, 1987).

Community relationships. In addition to dyadic relationships such as close peer and mentor attachments, community or group affiliation has been shown to have an important impact on social and psychological functioning. Community relationships contribute to a sense of belonging. Sense of belonging has been described as embodying two characteristics: the experience of being valued, needed, or important with respect to other people, groups, or environments, and the experience of fitting in or being congruent with other people, groups, or environments through shared or complementary characteristics (Hagerty, Williams, Coyne, & Early, 1996). Hagerty and colleagues posit that prerequisites of a sense of belonging include: energy for involvement, the desire and potential for meaningful engagement, and the potential for shared or complementary attributes (Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992). Women, compared to men, are more likely to report a sense of belonging due to their community membership and involvement (Hagerty et al., 1996). Moreover, compared to other women and men, women who report a sense of belonging seem to report fewer social and psychological problems, such as loneliness, depression, and anxiety.

The need for separate indices. Although research described above suggests that mentor, peer, and community relationships all contribute to positive outcomes in women's lives, there are several reasons that separate indices should be used to assess these different types of relationships. First, the presence and quality of these three types of relationships may vary across individuals. Further, these types of relationships may have differential impacts on women's adjustment, particularly because they are characterized by unique dynamics (e.g., power differentials in mentor relationships and group dynamics in community relationships). In the RHI, these differences are reflected in the wording of the items chosen to represent each facet of relational health across the three types of relationships.

The Present Study

This study sought to establish the positive effects of authenticity, engagement, empowerment/zest, and conflict tolerance on adjustment in peer, mentor, and community relationships. In order to accomplish this purpose, we created three relationship scales that could be used independently for studying each type of relationship. Specific psychometric properties of the RHI were evaluated, including factor structure, internal consistency, and convergent and concur-

rent validity. As indication of convergent validity, it was expected that adequacy of social support, quality of social support, and mutuality in relationships would be positively associated with growth-fostering relationships. As indication of concurrent validity, it was hypothesized that a "relationally healthy" peer, mentor, or community relationship would be negatively related to poor outcomes in self-concept, mood state, and sense of connection. These outcomes were selected for the following reasons.

First, girls and women are highly oriented to others; hence, their experience of negative emotion toward self (e.g., poor self-esteem and depression) is often linked to experiences of hurt and concern over relationships (Csikszentmihalyi & Larson, 1984; Larson & Asmussen, 1991). Second, stressful transitions that are common during late adolescence, such as school transition (entering or exiting a school setting) may further exacerbate developmental instabilities in self-esteem and sense of connection by disrupting existing social networks. In combination, these changes can overwhelm an adolescent's coping ability and thereby increase stress. Therefore, it stands to reason that salient peer, mentor, and community relationships that are high in authenticity, engagement, empowerment/zest, and conflict tolerance ameliorate personal insecurity and loneliness, especially during stressful times such as college transition and may contribute to the development of certain competencies and coping resources. Accordingly, it was expected that the composite and subscale scores of the RHI would be inversely related to poor self-esteem, depression, perceived stress, and loneliness.

METHOD

Initial Instrument Development

Four aspects of growth-fostering relationships were initially identified from the Relational Model framework of psychological development (Jordan et al., 1991; Miller & Stiver, 1997; Surrey, 1985): engagement, empowerment/zest, authenticity, and differences/conflict. To assess these four aspects of relationships, an initial pool of 44 items (18 Mentor, 16 Peer, 10 Community) was created, drawing from the extant literature on the Relational Model and related work, as well as suggestions from Relational Model theorists. These items were then evaluated by two focus groups. In the first group, Relational Model theorists were asked to rate the relevance of the items in the initial item pool to the four relational constructs. In the second, a parallel focus group was conducted with eight students from the same population from which the study participants were to be drawn. These students critically assessed the four constructs and the items in the initial pool for relevance to their real-life relationships. Based on feedback from these focus groups, items were added, omitted, or reworded.

The revised measure and scales (108 items) were subsequently pilot-tested on 25 students, who were asked to fill

out the survey and to indicate items that seemed ambiguous or irrelevant. The distributions of these items were also examined in order to identify items with possible ceiling or floor effects. The items were then modified and fine-tuned in light of pilot test results.

As a final step, Relational Model theorists were asked to categorize each of the revised items as reflective of authenticity, engagement, difference/conflict, or empowerment/zest. They were also asked to identify any aspects of these Relational Model concepts they felt were missing and should be included in a comprehensive assessment of growth-fostering mentor, peer, and community relationships. In the end, a total of 76 items were retained as the preliminary version of the RHI to be tested in this study. Of these, 23 assessed peer relationships (RHI-P), 25 assessed mentor relationships (RHI-M), and 28 assessed community relationships (RHI-C). The responses to each item were designed to be scored by respondents on a 5-point Likert scale (1 = *never* to 5 = *always*), with a high mean composite score on each of these indices corresponding to a high degree of relational health in the context of peer, mentor, and community relationships.

Participants

Because this study was particularly aimed at elucidating characteristics of women undergoing a challenging transition period, such as the transition in and out of college, a sample of 850 first- and senior-year students at a small women's liberal arts college in the Northeast was selected. Data were collected near the end of Fall semester, a stressful time for first-year students due to the imminence of their first college final exams, and a stressful time for fourth-year students due to graduation preparation activities (i.e., job interviews, graduate school application deadlines). The survey packets were distributed after obtaining Institutional Review Board approval for the sample and procedure. Four hundred fifty who had not participated in the focus groups or pilot study returned the survey, a 53% response rate. Ethnic distribution of the sample was 58% White, 28% Asians/Pacific Islander, 4.3% Black, 4.3% Hispanic, 1% Native American, and 4% other backgrounds. This ethnic composition was roughly equivalent to that of the college population. These students ranged in age from 17 to 23 years ($M = 19$, $SD = 1.5$). Roughly two-thirds of the sample were first-year students and one-third were seniors. All of these participants lived on campus during the time of the assessment.

Procedure

Each of the study participants received a packet containing preliminary RHI survey items, validity scales, and demographic questions. Each participant was instructed to complete the entire survey package in one sitting. Participants were also informed to keep in mind the following definitions, as they responded to questions regarding peer

(closest friend), mentor (most important, if more than one) and community relationships:

Closest friend: "Someone whom you feel attached to through respect, affection, and/or common interests, someone you can depend on for support and who depends on you." Of the 448 students who selected a best friend, nearly all (93%) indicated that the friend they chose was female.

Mentor: "An adult who is often older than you, has more experience than you, and is willing to listen, share her or his own experiences, and guide you through some part or area of your life." Of the 302 students who selected a mentor, most (69.5%) indicated that the mentor was female.

Community: "Your college community."

Comparison Measures

Convergent validity. As indications of convergent validity, two existing, previously validated measures were identified that address constructs similar to the relational aspects identified for the RHI. The Mutual Psychological Development Questionnaire (MPDQ; Genero, Miller, Surrey, & Baldwin, 1992) is a 22-item measure that reflects Relational Model concepts including perceived mutuality in close relationships. This scale was used to assess both close friendships and important mentoring relationships by asking the respondent to rate their relationship with the friend and with the mentor they had previously identified. Since this scale was designed for assessing dyadic relationships, no equivalent was possible for the community relationships.

The Quality of Relationships Questionnaire (QRI; Pierce, Sarason, Sarason, Solky-Butzel, & Nagle, 1997) is designed to assess three aspects of a dyadic relationship: support, depth, and conflict. It was used to assess a close mentor and a close peer relationship. As with the MPDQ, this scale was used to assess both peer and mentor relationships but not community relationships.

In addition, the friend support subscale of the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988), a 4-item measure of perceived social support from friends, was used as a third measure to assess the convergent validity of the Peer-related RHI scale.

Concurrent validity. Several scales measuring the constructs of self-esteem, loneliness, depression, and stress were used to examine concurrent validity of the RHI. Rosenberg's Self-Esteem Scale (Rosenberg, 1965) was used to assess individuals' self-perceptions. Loneliness was assessed by the University of California, Los Angeles Loneliness Scale (Russell, Peplau, & Cutrona, 1980). Depression was assessed with the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). And respondents' levels of stress was assessed using the Perceived Stress Scale (Cohen, Kamarck, Mermelstein, 1983).

Administration of measures. Because of concerns that the inclusion of all of these scales would prove to be too unwieldy for a self-administered survey, it was decided to administer the peer and mentor versions of the MPDQ and the QRI to a subset of the sample. Four versions of the questionnaire were created: (1) a survey containing the peer version of both the MPDQ and QRI measures, (2) one containing the mentor version of both, (3) one containing the peer version of the MPDQ and the mentor version of the QRI, and (4) one containing the mentor version of the MPDQ and the peer version of the QRI. These surveys were randomly distributed to study respondents. By using this method, it was possible to obtain data on each scale from half of the respondents and to estimate interrelationships between each scale. Since much of the missing data on these constructs were purposely random, the estimates obtained from the data available are unbiased (Graham Taylor, & Cumsille, 2001).

Data Preparation

Participants having responded to at least 25% of the items within an index were retained for analyses. Of the 450 respondents, 448 were retained for the peer-related analyses and 445 for the community-related analyses. However, only 303 participants were able to identify a mentor. None of these had fewer than 25% completion rates for the RHI-M items, so all were retained for analysis. This subsample was representative of the overall sample in terms of class standing and ethnic composition.

Prior to analysis, spot missingness in the RHI items was addressed by imputation using a program based on data augmentation, which represents the state of the art in data imputation (Schafer, 1999). This method was used to avoid bias due to the deletion of participants with incomplete data (Graham et al., 2001). Then, the sample was randomly split into two roughly equal subsamples. The factor models were fit and refined using data from the first subsample; and the data from the second subsample were used to cross-validate the final model.

ANALYSES

The analyses were conducted in two steps. First, a series of confirmatory factor analysis models were fit using LISREL 8 (Joreskog & Sorbom, 1996) to confirm and refine the factor structure of the RHI scales. Then, composite and subscale scores were constructed for each of the three indices of the RHI and the relationships examined between these and measures selected for construct validation.

Confirmatory Factor Analyses

The initial models were fit to the first subsample. Next, guided by modification indices and residual analysis, the model was refined until an acceptable fit was achieved. A model was refined by removing items that contained re-

dundant information or had weak factor loadings and by allowing items to load on a different factor when this made sense theoretically. The refined model was then fit to the data of the second subsample to establish the stability of the solution across independent samples. Finally, in order to obtain the most precise parameter estimates, the model was fit to the data from the two samples combined. Factor loadings and correlations among subscales shown in the following figures are based on results from the combined sample.

RHI-P. The original formulation of this index contained 23 items: 6 items each for the engagement, empowerment/zest, and authenticity subscales and 5 items for the differences subscale. After refinement, so few items defined the differences subscale that it was decided to drop this factor entirely. The resulting model contained four items for each of the engagement, empowerment/zest and authenticity factors. This model fit the data in both the first and the cross-validation samples (see Table 1), and the factor loadings were roughly the same in the two solutions. Parameter estimates based on this final model are shown in Figure 1.

The high correlation between the engagement and empowerment/zest subscales begs the question of specifying two separate factors. One could combine these two factors into a single factor with a high reliability level ($\alpha = .85$). However, we chose to retain the factors as separate constructs for two reasons. First, the individual items loaded strongly on the factor they were meant to indicate and not on the other factors. Second, the correlation reported in the figure reflects parameters from the standardized solution. Given that the peer-related items are negatively skewed (i.e., subjects tended to rate their best friendships in the high end of the scale), a standardized solution would tend to be upwardly biased. In fact, when composite scores are created, using the factor loadings to weight the items in the construction of the composite score, the correlations between the resulting variables are substantially lower (correlations of 1.00, .78, and .59 become .74, .55, and .40, respectively). This suggests that the factors are strongly related but do reflect different factors conceptually.

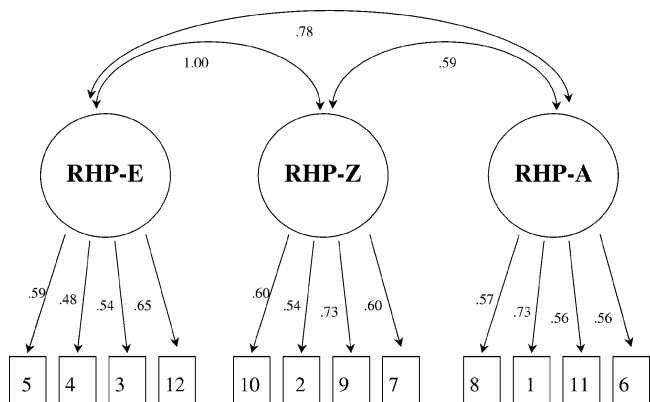


Fig. 1. Standardized solution for the peer index based on the data from the cominded sample.

Table 1
Goodness-of-Fit Indices for Each Model

			GFI	CFI	IFI	RMR
RHP	First Subsample (n = 229)	Original Model	.77	.76	.77	.056
		Refined Model	.89	.93	.93	.040
	Second Subsample (n = 219)	Cross Validation	.87	.85	.85	.047
		Combined Sample (n = 448)	Final Model	.90	.90	.90
RHM	First Subsample (n = 155)	Original Model	.60	.42	.43	.079
		Refined Model	.86	.88	.88	.044
	Second Subsample (n = 148)	Cross Validation	.84	.87	.87	.053
		Combined Sample (n = 303)	Final Model	.89	.91	.91
RHC	First Subsample (n = 228)	Original Model	.67	.71	.72	.120
		Refined Model	.88	.92	.92	.059
	Second Subsample (n = 217)	Cross Validation	.88	.92	.92	.049
		Combined Sample (n = 445)	Final Model	.91	.93	.93

GFI: Goodness-of-fit index. The ratio of the fit function after the model has been fitted to the fit function before the model has been fitted (i.e., assuming no covariances between items). Ranges between 0 and 1 with a high score indicating better fit.

CFI: Comparative fit index. Similar to the GFI but compares fit function of current model to fit function of less restrictive but more realistic baseline model (i.e., no factors are assumed).

IFI: Incremental fit index. Fit index that has been adjusted for small sample bias (small sample: n ~ 200).

RMR: Root mean square residual. The average of the fitted residuals. Can only be interpreted in relation to the sizes of the observed variances and covariances but is useful for comparing across similar models. Lower values signify better fit.

RHI-M. This index originally had 25 items: 7 for the engagement subscale and 6 each for the empowerment/zest, authenticity and differences subscales. Again, it was found that the differences subscale was not well identified and so this factor was dropped. Refinement resulted in a substantially better fit (see Table 1), which was maintained in cross-validation. The final model contained three items defining the engagement subscale and four items each defining the empowerment and authenticity subscales (see Figure 2).

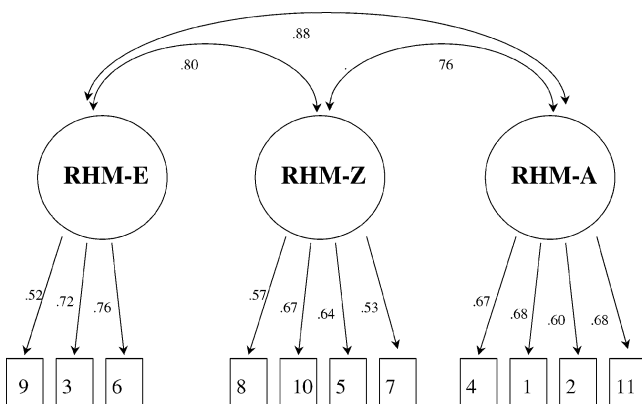


Fig. 2. Standardized solution for the mentor index based on the data from the cominded sample.

RHI-C. This index originally had 28 items: 9 for the engagement subscale, 7 for the empowerment subscale, and 6 each for the authenticity and differences subscales. The differences subscale fared better in the community context than it did in the dyadic peer and mentor relationships. However, modification indices showed that items measuring authenticity and those measuring the perception of how differences were received in this community tended to cross load, so these two subscales were modeled as a single factor. This model fit both the first and cross-validation subsamples (see Table 1). The final model had five items for both the engagement and empowerment subscales and four items for the authenticity/differences subscale (see Figure 3).

Each of the composite indices and their associated subscales demonstrated a level of internal consistency accepted by most social science researchers (see Table 2). These estimates are probably conservative, since they are based on ratings for a best friend, a particularly important mentor, and a particularly cohesive community. The implication of this is that respondents often chose the high end of the scale in rating these relationships, thereby truncating the true score variability. Because reliability estimates are based on the proportion of true score variability to the total variability, decreases in true score variability will necessarily mean decreases in reliability coefficients, all else being equal. Estimates based on the full range of peer, mentor,

Table 2

Cronbach's Alpha Coefficients for Each of the Subscales and Composites for the Peer, Mentor and Community Indices

	Peer <i>n</i> = 448	Mentor <i>n</i> = 303	Community <i>n</i> = 445
Engagement	.74	.72	.86
Zest	.73	.72	.87
Authenticity	.69	.77	.75
Composite	.85	.86	.90

and community relationships may very well show higher reliabilities.

Construct Validation

Once the final models for the factor structure were established, composite and subscale scores were constructed for the peer, mentor, and community relationships. These scores were used to examine the relationships between the RHI scales and validation measures. Correlations were moderately high and in the direction hypothesized for the composite and each of the subscale scores for peer relationships (see Table 3). The RHI was most similar to the MPDQ measure, which was expected since the MPDQ is also based on the Relational Model. The RHI was also very similar to the QRI-Depth measure and the QRI-Support measure, but less similar to the QRI-Conflict measure. It was expected that the Conflict subscale would be highly related to the difference subscale of the RHI-P assessing the way in which differences and conflict are typically handled in a friendship. Still, it was not surprising that problem-

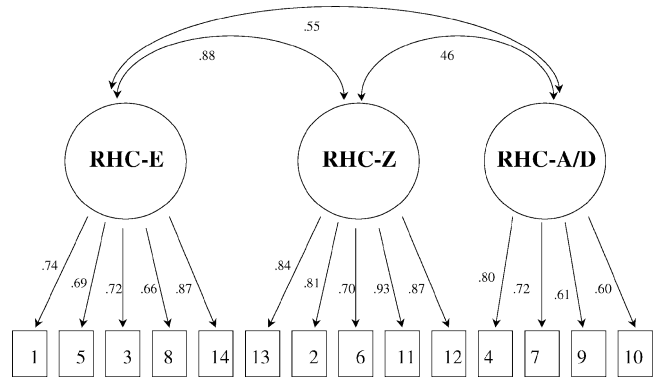


Fig. 3. Standardized solution for the community index based on the data from the cominded sample.

atic coping with conflict is moderately negatively related to other dimensions of a relationship thought to be positive. Moderately high positive correlations were also obtained between aspects of the RHI-P and assessments of peer supportiveness.

The same patterns held for the RHI-M and its subscales: MPDQ seemed to be most strongly related to the RHI-M and its subscales, and QRI-Conflict the least (see Table 3). Support seemed to be a stronger component than did depth for defining relational aspects of a mentoring relationship, except in the case of empowerment. It may be that depth in a mentoring relationship creates strong feelings of inspiration (empowerment/zest), more so than does support. However, support may engender more of a sense of commitment (engagement) and comfort with expressing oneself (authenticity) within the mentoring relationship. It appears that depth may be less related to relational health in mentoring relationships than in peer relationships.

Table 3

First-Order Correlations Between the Peer Relational Health Index Composite/ Subscale Scores and Convergent Validation Measures

	MPDQ-P (<i>n</i> = 219)	QRI-P Depth (<i>n</i> = 227)	QRI-P Conflict (<i>n</i> = 228)	QRI-P Support (<i>n</i> = 229)	Peer Support (<i>n</i> = 446)
RHP-composite	.69**	.64**	-.32**	.61**	.50**
RHP_E	.61**	.62**	-.30**	.56**	.46**
RHP_Z	.55**	.54**	-.26**	.44**	.41**
RHP_A	.56**	.47**	-.24**	.56**	.38**
	MPDQ-M (<i>n</i> = 153)	QRI-M Depth (<i>n</i> = 150)	QRI-M Conflict (<i>n</i> = 150)	QRI-M Support (<i>n</i> = 150)	
RHM-composite	.68**	.51**	NS	.58**	
RHM_E	.53**	.49**	NS	.59**	
RHM_Z	.58**	.40**	NS	.31**	
RHM_A	.63**	.44**	NS	.60**	

* *p* < .05.
** *p* < .01.

Table 4

First-Order Correlations Between the Relational Health Index Composite/Subscale Scores and Concurrent Validation Measures

	<i>Self</i>			<i>Perceived Stress</i>
	<i>Esteem</i>	<i>Loneliness</i>	<i>Depression</i>	
RHP-composite (n = 448)	.18**	-.35**	NS	NS
RHP_E	.12**	-.32**	NS	-.09*
RHP_Z	.13**	-.27**	NS	NS
RHP_A	.19**	-.31**	NS	NS
RHM-composite (n = 303)	NS	-.14*	NS	NS
RHM_E	NS	NS	NS	NS
RHM_Z	NS	NS	NS	NS
RHM_A	.12*	-.18**	NS	NS
RHC-composite (n = 445)	.28**	-.47**	-.39**	-.32**
RHC_E	.28**	-.49**	-.38**	-.23**
RHC_Z	.26**	-.38**	-.31**	-.23**
RHC_A	.15**	-.27**	-.28**	-.30**

* $p < .05$.

** $p < .01$.

The pattern of relationships between the RHI scales and the psychological outcome scales were generally as hypothesized, particularly for the RHI-C scales (see Table 4). As expected, loneliness was most strongly related to each of the RHI scales, although much less so in the context of a mentor relationship. Self-esteem was somewhat weakly related to the relational health of friendship relationships and college community relationships. In mentor relationships, only authenticity or the respondent's sense of freedom to be herself was related to self-esteem, and then only weakly. Depression was not at all related to the relational health of peer or mentor relationships, but it was moderately related to relational health in the college community. Similarly, perceived stress was related only to relational health in the college community.

DISCUSSION

The current study provides evidence of the reliability and validity of the Relational Health Indices. The confirmatory factor analysis supports the theory-based proposition that individuals make distinctions based on three types of relational qualities: authenticity, engagement, and empowerment/zest. The internal consistency investigation suggests good reliability for each of the three composite indices and their authenticity, engagement, and empowerment/zest subscales. The correlational analyses of the RHI with related measures provide further evidence of the RHI's validity.

These data indicate that relational health, as defined and operationalized in the current study, is generally associated

with mental health and adjustment in college-aged women. However, separate indices for different types and aspects of relationships are justified in that not only do authenticity, engagement, and empowerment/zest appear to have differential impacts on various adjustment outcomes, but different patterns of interrelationships among the factors are evident across relationship types.

These findings elucidate the nature of these relationships. Growth-fostering peer and mentor relationships are indicative of perceived support adequacy, as well as perceived mutuality within those relationships. On the other hand, it is interesting to note that growth-fostering community relationships compared to dyadic relationships (peer and mentor) are more likely to be associated with decreased stress and depression. This suggests that the dynamics of dyadic relationships may be subjectively distinct from group dynamics. For instance, a sense of belonging in a larger community may do more to reduce stress and feelings of loss during school transition than connections with one close friend or mentor. An alternative explanation may be that individuals who are less stressed or depressed are better able to engage in a community, whereas intimate one-to-one relationships may form irrespective of an individual's distress levels.

Although we did not find the expected correlation between adjustment outcomes and relational health in mentor relationships, it is possible that outcome constructs other than those assessed in the current study are more related with mentor scales (i.e., academic achievement, confidence, leadership, and direction).

It is also interesting to note that the difference/conflict subscales did not seem to hold together well as separate from the other subscales. Inspection of the subscale items revealed that the difference/conflict subscale items in the peer and community domains reflect two facets of difference rather than a unitary construct—difference as a foundational quality (e.g., different ethnic background) and as a dynamic/affectional quality (e.g., active conflict/discord). The mentor items reflect only the latter, that is, the conflict or affectional quality of difference. The mentor differences scale may be problematic for other reasons as well. For one, it may be unlikely that respondents can tolerate much active conflict in mentor relationships due to the power differential; thus the range of responses for these items may be restricted. On the other hand, by definition, the mentor relationship is predicated on foundational differences in such areas as skill-level, age, expertise, and education. Therefore, perhaps the notion of differences/conflict is much more threatening and complex in mentor relationships than in peer or community relationships; the mentor differences subscale may require separate consideration.

Limitations

Although the overall results are expected to be generalizable to college-aged women, they should be interpreted within the limitations of this study. Two potential sampling biases

should be taken into account. First, the sample of college students for this study included only first- and fourth-year students; therefore, this sample may not be fully representative of students in their middle years of college, who are not subject to the same transitional stresses of students starting or leaving college. Second, because the response rate was only 53%, there may be a self-selection bias related to respondents' level of connection in relationships. However, such a bias would serve to underestimate the reliability of the measures by decreasing the variance of the true scores.

Finally, it is important to keep in mind that these correlational data do not imply causation in the relationships between relational health and depression, perceived stress, loneliness, and self-esteem.

Future Directions

In sum, this study provides evidence of the reliability, validity, and utility of the new Relational Health Indices. The instrument is now available for use by researchers interested in continuing the scale and theory development. Future work may be conducted to further improve several of the subscales. In particular, the conceptualization of the Differences subscales in each type of relationship may need to be revisited. Furthermore, adding reliable items to the subscales might improve their internal consistency.

The Relational Health Indices have great potential for enriching our understanding of important subtle qualities and complex dynamics of both dyadic and group relationships. In order to assure generalizability and to expand our understanding of the complexity of relational health and its impact on successful adjustment, it will be important to replicate these findings and to validate the RHI across gender, ethnic groups, and other diverse populations.

Mechanisms by which concepts measured by the RHI affect health and adjustment should be explored. By examining changes in relational health over time, researchers could identify factors that appear to improve growth-fostering relations or factors that tend to inhibit these relationships. Once mechanisms have been identified, researchers could design interventions that may enhance the probability that these relationships will develop, especially for at-risk populations.

The study of relational health or growth-fostering relationships represents an exciting direction for future research as it elaborates our understanding of the beneficial qualities of relationships. Whereas existing social support measures have tended to focus on structure, quantity, and tangible and general functions of support, Relational Health represents more nuanced aspects of interpersonal connections that are thought to be fundamental to psychological development.

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APPENDIX

Relational Health Indices (RHI)

(R) indicates that the item should be reverse scored prior to calculation of a mean score.

PEER (RHI-P)

Next to each statement below, please indicate the number that best applies to your relationship with a close friend.

1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often; 5 = Always

1. Even when I have difficult things to share, I can be honest and real with my friend.
2. After a conversation with my friend, I feel uplifted.
3. The more time I spend with my friend, the closer I feel to him/her.
4. I feel understood by my friend.
5. It is important to us to make our friendship grow.
6. I can talk to my friend about our disagreements without feeling judged.
7. My friendship inspires me to seek other friendships like this one.
8. I am uncomfortable sharing my deepest feelings and thoughts with my friend. (R)
9. I have a greater sense of self-worth through my relationship with my friend.
10. I feel positively changed by my friend.
11. I can tell my friend when he/she has hurt my feelings.
12. My friendship causes me to grow in important ways.

MENTOR (RHI-M)

Next to each statement below, please indicate the number that best applies to your relationship with your most important mentor.

1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often; 5 = Always

1. I can be genuinely myself with my mentor.
2. I believe my mentor values me as a whole person (e.g., professionally/academically and personally).
3. My mentor's commitment to and involvement in our relationship exceeds that required by his/her social/professional role.
4. My mentor shares stories about his/her own experiences with me in a way that enhances my life.
5. I feel as though I know myself better because of my mentor.
6. My mentor gives me emotional support and encouragement.
7. I try to emulate the values of my mentor (such as social, academic, religious, physical/athletic).
8. I feel uplifted and energized by interactions with my mentor.

9. My mentor tries hard to understand my feelings and goals (academic, personal, or whatever is relevant).
10. My relationship with my mentor inspires me to seek other relationships like this one.
11. I feel comfortable expressing my deepest concerns to my mentor.

COMMUNITY (RHI-C)

Next to each statement below, please indicate the number that best applies to your relationship with or involvement in this community.

1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often; 5 = Always

1. I feel a sense of belonging to this community.
2. I feel better about myself after my interactions with this community.
3. If members of this community know something is bothering me, they ask me about it.
4. Members of this community are not free to just be themselves. (R)
5. I feel understood by members of this community.
6. I feel mobilized to personal action after meetings within this community.
7. There are parts of myself I feel I must hide from this community. (R)
8. It seems as if people in this community really like me as a person.
9. There is a lot of backbiting and gossiping in this community. (R)
10. Members of this community are very competitive with each other. (R)
11. I have a greater sense of self-worth through my connection with this community.
12. My connections with this community are so inspiring that they motivate me to pursue relationships with other people outside this community.
13. This community has shaped my identity in many ways.
14. This community provides me with emotional support.

Note: Empowerment/Zest subscales

RHI-P items: 2, 7, 9, 10

RHI-M items: 5, 7, 8, 10

RHI-C items: 2, 6, 11, 12, 13

Engagement subscales

RHI-P items: 3, 4, 5, 12

RHI-M items: 3, 6, 9

RHI-C items: 1, 3, 5, 8, 14

Authenticity subscales

RHI-P items: 1, 6, 8, 11

RHI-M items: 1, 2, 4, 11

RHI-C items: 4, 7, 9, 10