Research Article

Research on Social Work Practice
1–8

DOI: 10.1177/10497315221128595
journals.sagepub.com/home/rsw
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Reliability and Validity of a Novel Measure of Nonviolent Communication Behaviors

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Abstract

Purpose: Nonviolent communication (NVC) has been increasingly recognized as a potentially beneficial approach that could promote empathy, resolve conflicts, and improve psychosocial well-being. No validated measure is available to assess or quantify NVC-specific characteristics or behaviors. This paper describes the development and pilot psychometric evaluation of a self-report measure for assessing behaviors characteristic of NVC (e.g., awareness of feelings, honest self-expression). **Method:** We analyzed data in an online convenience sample of young adults (N = 205). **Results:** The 7-item Nonviolent Communication Behaviors Scale (NVCBS) was found to have satisfactory internal consistency ($\alpha = 0.789$ to 0.810), good test-retest reliability (ICC = 0.781) and a single-factor structure. The NVCBS was also positively correlated with empathy while negatively correlated with negative beliefs about emotions, demonstrating its construct validity. **Discussion:** The study provides a reliable and valid measure of NVC behaviors which can facilitate future studies on NVC. Directions for future research are discussed.

Keywords

nonviolent communication (NVC), empathy, reliability, validation, mental health

Nonviolent communication (NVC), also known as compassionate communication, was first developed by Marshall Rosenberg in the 1960s. NVC is a particular approach to communication that encourages individuals to give from the heart, establishing connections between one another in a way that fosters the development of one's natural compassion (Rosenberg & Chopra, 2015). The NVC process comprises four consecutive steps: (1) observing a situation without judgment or evaluation, (2) identifying the accompanying feelings in relation to what we are observing, (3) understanding how those feelings signal met or unmet needs, and (4) requesting concrete action to meet the needs of all parties without making demands (Museux et al., 2016; Rosenberg & Chopra, 2015). In NVC, there are two major parts, namely empathically receiving (listening) and honestly/authentically expressing (Rosenberg & Chopra, 2015); however, before listening and expressing, it is important to connect with oneself first and start with self-empathy (e.g., what are our feelings and needs) (Malinowska, n.d.; Rosenberg, 2005). Without self-connection and recognizing our own emotions and needs, one could easily react emotionally rather than mindfully or peacefully. Some trauma survivors may tend to have reactive reactions (e.g., flashbacks, acting out) when they are triggered, unless they can connect with themselves and stay within the window of tolerance (Boon et al., 2011; Fung & Ross, 2019; Van der Kolk, 2014). By adopting NVC, individuals can examine their own needs as well as those of others, so that they can communicate with respect and empathy, lessen hostility, and build professional and interpersonal relationships (Hunsinger & Latini, 2013; Rosenberg & Chopra, 2015). Notably, NVC has been recognized by the United Nations (n.d.) as an important tool to maintain peace and resolve conflicts.

There is an increasing number of studies demonstrating the potential benefits of NVC on psychological and social well-

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being. In particular, using a mixed methods design, Nosek et al. (2014) found that baccalaureate student nurses had significant improvements in empathy after NVC training, and their qualitative analyses also revealed the positive impacts of NVC in empathizing with self and others, especially when working with psychiatric patients. Another study which examined the effects of NVC on patients also discovered that inpatients with alcohol problems (e.g., binge drinking, alcohol abuse, and alcoholism) had significant improvements in empathy, communication skills, self-efficacy in alcohol cessation, as well as the ability to express anger after NVC-based training programs (Yang & Kim, 2021). Importantly, one randomized controlled trial found that a group NVC training could reduce stress and anxiety in a sample of young Iranian women, although it could not reduce depression (Zandkarimi et al., 2019).

Several studies also demonstrated the potential benefits of NVC for professional service providers. For instance, Museux et al. (2016) discovered that following NVC training, care teams from the health and social services sectors improved in role clarity and group competency, notably in decision-making and developing a shared action plan for patients. Participants were more capable of demonstrating the functioning of empathy and recognizing the impacts of spontaneous communication. Similarly, Epinat-Duclos et al. (2021) discovered that NVC training boosted subjective empathy, and their results revealed that a brief NVC training given to medical students could help them understand the role and significance of empathy when working with their patients. According to Wacker and Dziobek (2018), NVC training can be a useful method for fostering emotional and interpersonal skills in those who work in socioemotionally challenging fields (e.g., health care), and NVC may also prevent empathic distress and social stressors. Kansky and Maassarani (2022) also showed that NVC training could build tolerant attitudes and compassionate behavior towards wildlife and foster collaboration by enhancing human connections.

Moreover, NVC has been described as a simple, powerful, and widely adopted method that could peacefully address issues related to conflict, pain, and violence at the community level (Burleson et al., 2011; Rosenberg & Chopra, 2015). Some studies demonstrated the benefits of NVC for the community, particularly in conflict resolution. According to McMahon and Pederson (2020), NVC assisted at-risk youth in resolving conflicts and enhanced youth perseverance, interpersonal communication, and academic performance. Nosek and Durán (2017) also discovered that NVC training helped adults and youth comprehend their own emotions and needs and those of others, which improved their empathy and conflict resolution skills. Another study indicated that training participants in an NVC training program to communicate and manage their anger could reduce interpersonal conflicts (Yang & Kim, 2021). Moreover, Suarez et al. (2014) found recidivism rates among former inmates were significantly decreased after participating in a training program that combined mindfulness and NVC. Thus, NVC has the potential to promote empathy, resolve conflicts, and improve psychological and social well-being. Therefore, NVC may be a helpful approach for communication at both individual and community levels. Moreover, since NVC is not a therapeutic approach but a promising tool for improving psychosocial well-being and resolving conflicts in different populations, it has the potential to become a very helpful method for social workers to use in community settings. For example, social workers may teach family NVC so as to prevent childhood maltreatment and family violence. NVC may also be used to resolve intrapersonal and interpersonal conflicts, which are common challenges for trauma survivors with mental health problems (Fisher, 1999; Fung & Ross, 2019; Herman, 1992).

Despite the potential benefits of NVC, no validated assessment tool or measure is available to specifically assess or quantify the NVC-related characteristics or behaviors. Previous studies that evaluated NVC interventions mainly relied on empathy or related measures (e.g., Kansky & Maassarani, 2022; Nosek & Durán, 2017) or other secondary outcomes (e.g., anxiety). It is crucial to develop a valid and reliable NVC assessment tool because it could allow scientific research on the clinical and psychosocial correlates of NVC and facilitate future NVC outcome evaluations in both research and health and social service settings. Therefore, this paper describes the development and pilot psychometric evaluation of a novel measure that was designed to assess NVC behaviors. In particular, we reported the reliability (internal consistency, test-retest reliability) and validity (factor structure, construct validity) of the novel NVC measure.

Method

Participants and Procedures

This study analyzed data collected in a community mental health project conducted by Achievements Foundation, which is a registered charitable institution recognized by the Hong Kong government. The project's original purpose was to examine the psychosocial experiences and mental well-being among Chinese young adults aged between 18 and 24 (according to the "youth" definition of the United Nations). Approval for this project was obtained from the executive committee of the organization. The methodology and sample characteristics have been reported elsewhere (Fung et al., 2022).

In particular, a convenience sample of Chinese young adults was recruited through social media platforms and online groups in 2021 to participate in an anonymous online survey that included self-report measures of psychosocial experiences and mental well-being. Participants had to be between the ages of 18 and 24 to participate; they had to be able to access the Internet, write and read Chinese, and

provide informed consent. To establish the test-retest reliability of the measures, participants were invited to complete the same set of measures again after one week.

Measures

The online survey included questions about demographic and health backgrounds in addition to several self-report psychological measures.

The Nonviolent Communication Behaviors Scale (NVCBS). The NVCBS is a novel self-report measure that was designed to quantify behaviors specifically associated with NVC. The original items were developed by the authors HWF (a social worker and a psychology researcher) and KLL (an experienced NVC practitioner and trainer) based largely on the *Pathways to Liberation: Matrix of Self-assessment* (Gotwals et al., n.d.). This Matrix originally describes 28 behaviors characteristic of NVC (e.g., feelings awareness, observing, self-acceptance, honest self-expression). As noted above, authentic self-expression and empathic listening are two major parts of NVC, while self-connection (including self-empathy) is also crucial before one can listen and express/respond peacefully (Press, n.d.; Rosenberg, 2005; Rosenberg & Chopra, 2015). Therefore, two authors selected items that represent these three core aspects of NVC from the *Matrix*. As lengthy scales have considerable disadvantages, such as increased response burden and being difficult for people with limited attention spans to complete, reliable yet brief measures are increasingly preferred for psychosocial assessments (Haroz et al., 2020; Smits et al., 2007). Therefore, we also wanted to develop a practical and short NVC measure that can be easily used in future service-based and research projects. Keeping this in mind, two authors selected two items for each aspect from the *Matrix*. Six items were initially selected. We then invited an external NVC practitioner to review and comment on our initial scale in order to ensure the content validity (i.e., whether the items are asking about behaviors characteristic of NVC). The external NVC practitioner suggested adding one additional item from the *Matrix* for the listening aspect in order to reflect its importance in NVC. Thus, a scale consisting of seven items was developed for pilot psychometric evaluation in this study. When adapting items from the *Matrix*, we slightly modified the wording to fit the purpose of the psychological assessment (see Table 1) (self-connection: Items 1 and 4; empathic listening: Items 5, 6 and 7; authentic self-expression: Items 2 and 3). The items are written in Chinese. To provide an English version for readers and to facilitate future studies, the items were translated into English using a collaborative approach with an emphasis on equivalence in meaning and concepts (Chan et al., 2017; Douglas & Craig, 2007). In particular, two researchers independently translated the scale into English, two initial English versions were then reviewed and compared among the authors in order to develop a final English version (the items are presented in Table 1). The NVCBS asks how often one has certain specific behaviors (1 = Never, 4 = Frequently). Higher scores indicate more NVC-related behaviors. Since previous studies linked NVC with empathy, we hypothesized that the NVCBS would be positively correlated with an empathy measure while negatively correlated with measures of depression, post-traumatic stress, and negative beliefs about negative emotions.

Table 1. Descriptive Statistics and Internal Consistency of the NVCB Items (N = 205).

Items	Mean	SD	Corrected Item-Total Correlation
1. Knowing that my emotions stem from my own thoughts and unmet needs—my emotions are not caused by others	1.58	0.85	.364
2. Willing to make requests for my own needs and remaining open to any response after requesting, not obsessed with a particular outcome	1.40	0.86	.622
3. Being responsible for my own experience, and willing to express my feelings and needs sincerely without accusation or criticism	1.55	0.85	.609
4. Being present enough (i.e., staying in the present moment) when feeling stressed to be aware of one's own emotional response without reacting to it.	1.49	0.87	.538
5. Being open and flexible when communicating with others.	1.76	0.87	.540
6. When in conflict with others, use conflict to connect with each other and create mutually satisfactory outcomes.	1.21	0.91	.576
7. Listen patiently, try to understand other people from their perspective.	2.14	0.81	.582

Remarks: The items were translated back into English using a collaborative approach.

The Empathy Subscale of the Interpersonal Reactivity Index (IRI-ES). The IRI is a well-established measure of interpersonal reactivity (Davis, 1983). The Chinese version of the IRI was also reliable and valid (Siu & Shek, 2005). In particular, there are three items (items 2, 9, and 22, e.g., "*Protect them being taken advantage of*") that specifically assess the level of empathy. Factor analysis showed that these three

items were loaded in the empathy factor in both Chinese and English versions. Therefore, these three items were used in this project to assess the level of empathy. Higher scores indicate higher levels of empathy.

The Patient Health Questionnaire-9 (PHQ-9). The PHQ-9 is a 9-item self-report measure of depressive symptoms (Kroenke & Spitzer, 2002). The Chinese version of the PHQ-9 is reliable and valid (Yeung et al., 2008) and has been used in several studies (e.g., Fung et al., 2019; Fung et al., 2020). Higher scores indicate higher levels of depressive symptoms.

The Post-Traumatic Stress Disorder Checklist for DSM-5 (PCL-5). The PCL-5 is a self-report measure of post-traumatic symptoms (Blevins et al., 2015). The Chinese version of the PCL-5 has been validated (Fung et al., 2019). Higher scores indicate higher levels of post-traumatic stress.

The Negative-Usefulness Subscale of the Emotion Beliefs Questionnaire (EBQ-NU). The EBQ-NU is a 4-item subscale of the original EBQ, which assesses the beliefs about how useless (e.g., undesirable, unimportant, or harmful) negative emotions are (Becerra et al., 2020). The four items were translated into Chinese using a collaborative approach (Douglas & Craig, 2007). The Chinese version of the EBQ-NU had good internal consistency ($\alpha = 0.842$) and moderate test-retest reliability (ICC = 0.718, $p < .001$) in the present study. Higher scores indicate higher levels of negative beliefs about negative emotions.

Data Analysis

The analyses were carried out using SPSS version 20. Exploratory factor analysis (EFA) was used to examine the construct validity and factor structure of the scale (Canivez et al., 2021). To determine sampling adequacy, the Kaiser–Meyer–Olkin (KMO) and Bartlett's sphericity tests were tested (Yong & Pearce, 2013). To assess internal consistency reliability, Cronbach's alpha was utilized. A reliability indicator of 0.70 or higher was deemed sufficient (Quoquab et al., 2019).

We used the principal component analysis with Eigenvalue and examined the scree plot for solution interpretability. A re-examination of the seven items' correlation matrix demonstrated that no correlation coefficient was greater than 0.9 and no correlation coefficient was less than 0.1. Data analysis procedures of this study contained multicollinearity correlation matrix checks, including the KMO measure of sampling adequacy with standard value above 0.50 and the Bartlett's test of sphericity for patterned relationships which is $p < .05$ (Hair 2010). As shown in Table 2, the Bartlett's test of sphericity revealed that the indicators have structured relationships ($p < .001$). Besides, the KMO measure of sampling adequacy was > 0.83. For EFA, these indicators are suitable.

Table 2. Kaiser–Meyer–Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity.

Kaiser–Meyer–Olkin Measure of Sampling Adequacy	0.834
Bartlett's test of sphericity	
Approximate. Chi-square	398.676
df	21
p	<.001

After evaluating the factor structure of the NVCBS, we examined its internal consistency and test-retest reliability. According to the guidelines of Koo and Li (2016), an intraclass correlation coefficient (ICC) (two-way mixed effects, absolute agreement) was used; ICC values below 0.05, between 0.5 and 0.75, between 0.75 and 0.9, and greater than 0.90 were considered to be poor, moderate, good, and excellent reliability. To examine the construct validity, we examined whether the NVCBS would be positively correlated with the IRI-ES while negatively correlated with PHQ-9, PCL-5, and EBQ-NU.

Results

Sample Characteristics

This sample included 205 young adults who lived in Hong Kong (29.3%) and/or Taiwan (65.4%). Most were female (84.9%), 14.6% were male, and 0.5% reported themselves as "other" on the question for gender. Most participants had an undergraduate degree or above (68.8%); 63.4% were full-time students; 18.0% were full-time employed. The sample characteristics are reported elsewhere (Fung et al., 2022). A subsample (n = 116) voluntarily completed a retest after an average of 9.32 days (SD = 3.97).

Factor Structure

The Eigenvalues are higher than one rule (Figure 1) and the Scree plot indicates the component numbers. This seven-item factor could explain 47.34% of the common variance. The Chi-square test of the scale was significant (value: 398.676; df: 21; $p < .001$), implying a poor model fit. All loadings were above 0.5 as suggested for convergent validity (Vazirani & Bhattacharjee, 2020), except for item 1, which indicated a 0.48 factor loading, this is still an acceptable value (Al-Mohaimeed et al., 2022).

Reliability

The NVCBS had satisfactory internal consistency in both tests ($\alpha = 0.810$ and 0.789, respectively). Moreover, the corrected item-total correlations of the measurements ranged

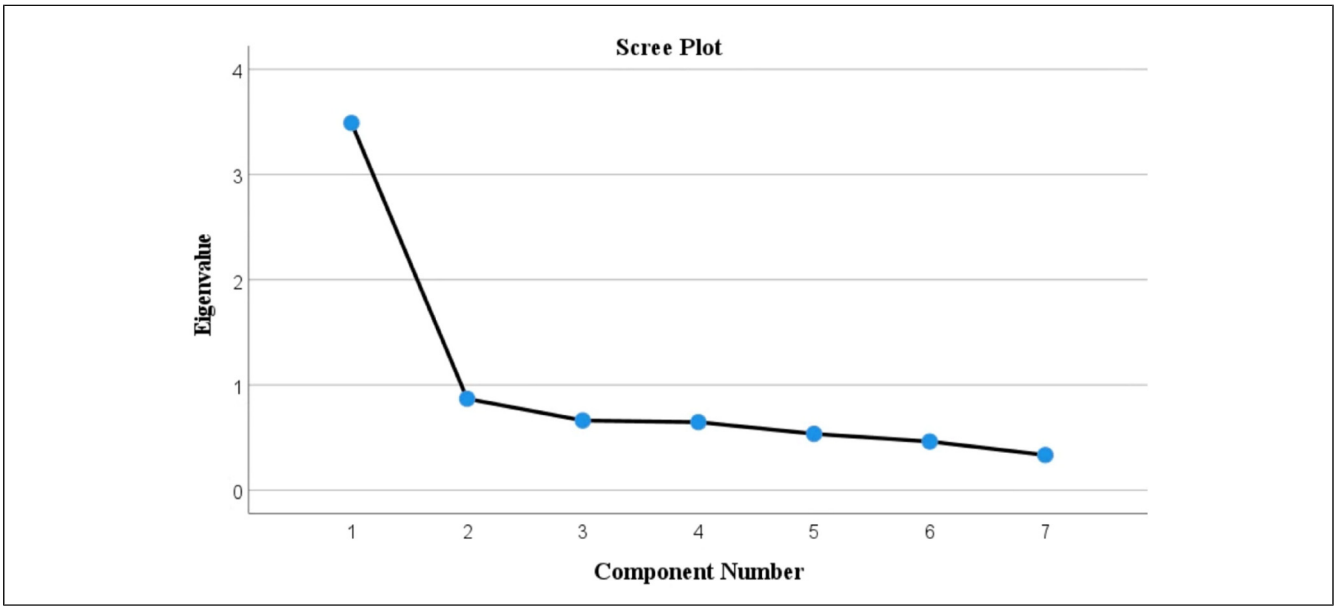

Figure 1. Scree plot NVC with one-factor measurement model.

from 0.36 to 0.62, which were acceptable according to Nunnally and Bernstein (1994). In addition, according to interpretation guidelines provided by Koo and Li (2016), the NVCBS also had moderate test-retest reliability (ICC = 0.781, $p < .001$; 95% confidence interval, 0.699–0.843) across two timepoints.

Construct Validity

As expected, the NVCBS was positively correlated with empathy ($r = .211$, $p = .002$) while negatively correlated with depression ($r = -.196$, $p = .005$), post-traumatic stress ($r = -.179$, $p = .010$) and negative beliefs about emotions ($r = -.200$, $p = .004$). These were weak correlations according to Schober et al. (2018).

Discussion

This study describes the development and psychometric properties of a novel self-report measure of behaviors characteristic of NVC. This is a very short measure with satisfactory internal consistency ($\alpha = 0.789$ to 0.810), moderate test-retest reliability (ICC = 0.781), and a one-factor structure. The NVCBS was also positively correlated with empathy while negatively correlated to negative beliefs about emotions, demonstrating its construct validity. These correlations were statistically significant but weak, implying that NVC behaviors are a relevant yet unique construct.

Taken together, this preliminary study provides a valid measure that can enable researchers, healthcare professionals, and social service providers to assess NVC behaviors reliably. The NVCBS has the potential to serve as a primary outcome measure in future NVC training and intervention studies. As the potential benefits of NVC have been increasingly recognized, we believe that such a brief evaluation tool could largely facilitate research on the effectiveness of NVC interventions.

In addition, since NVC behaviors may be positively associated with socioemotional well-being while negatively associated with mental health symptoms, as demonstrated in previous studies (Yang & Kim, 2021) as well as shown in the present study, it would be interesting to further investigate the prevalence and mental health correlates of NVC behaviors using the NVCBS in future population and epidemiological studies. Moreover, although no study has been done regarding potential individual and social differences in NVC, NVC behaviors may be associated with certain sociocultural factors, and these should be taken into account in future research and practice. For instance, communication styles have been found to have gender (Chaplin & Aldao, 2013; Graf et al., 2017) and cultural differences (Nelson et al., 2002; Park et al., 2012). There are also age differences in emotional experience and expression (Rohr et al., 2019). Thus, although it is beyond the scope of this paper, we assume that there are also individual and social differences in NVC behaviors, and these differences should be considered when teaching and researching NVC in the future.

As discussed, given the potential benefits of NVC, we believe that it can be a helpful tool for social workers in health and social service settings. Social workers can teach children and families NVC to resolve conflicts and improve family well-being; we can teach teachers NVC to build a trauma-informed, peaceful, and empathetic school environment. We may also use NVC to facilitate marital adjustment

(Islam & Naher, 2017), reduce cultural violence and stigma (Murphy, 2022), and improve anger management (Kim & Kim, 2022). NVC is a promising yet largely unresearched approach. The NVCBS developed in the present study can facilitate future research and service evaluation in this emerging field of study. In particular, we believe that the NVCBS may be particularly useful for future studies on trauma-exposed populations. Given that trauma survivors often have conflicts, including both intrapersonal conflicts (e.g., anger, intrusive symptoms due to trauma-related dissociation, irrational thoughts such as locus of control shift) and interpersonal conflicts (e.g., unstable relationship, trusting issues, attachment issues) as a result of traumatization (Cloitre et al., 2012; Fung & Ross, 2019; Herman, 1992), they typically lack a healthy approach to accept and express themselves, peacefully communicate with others and maintain stable interpersonal boundaries (Fisher, 1999). Research also shows that trauma is associated with aggressive and violent behaviors (Ford et al., 2012; Fox et al., 2015). Therefore, it would be interesting to investigate how NVC behaviors may be associated with trauma and post-traumatic reactions and whether NVC could be an effective intervention to improve the well-being of people with post-traumatic symptoms. Considering that expressed emotions of family members are associated with an increased risk of relapse (Ma et al., 2021), another important area is to explore whether NVC training for caregivers could reduce the clinical symptoms and prevent relapse in people with mental health problems. This research line requires more efforts and should benefit from a reliable and valid measure of NVC behaviors.

Despite the significance of the findings, the study has several limitations. First, we used an online convenience sample of Chinese young adults, and most participants were female, and therefore the generalizability of the findings may be limited. Second, we relied on self-report measures; future studies could use qualitative methods to explore how participants understand the NVCBS items. Third, we did not examine the responsiveness (sensitivity to change) of the measure, and we did not examine the criterion validity of the measure (e.g., comparing participants with and without previous NVC training). Therefore, future studies should examine whether the NVCBS could measure the changes after NVC training.

This paper describes the development and psychometric properties of a novel measure designed to assess behaviors characteristic of NVC. The study contributes to the increasing body of knowledge regarding the potential benefits of NVC by providing a reliable and valid measure of NVC behaviors. To the best of our knowledge, there is the first NVC measure with reported internal consistency, test-retest reliability, factor structure, and construct validity. The NVCBS is very brief but has good psychometric properties. It has the potential to serve as a primary outcome measure in future NVC evaluation studies, but further studies are required.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article

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