THE TEENAGE NONVIOLENCE TEST:
A FACTOR ANALYTIC INVESTIGATION

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Abstract

In this study, we investigated the use of nonviolent strategies by young adults in the United States when faced with conflict. To date, there has been little research on this topic anywhere. The factorial structure of the Teenage Nonviolence Test (TNT), an instrument designed to elicit information on teenagers' stated tendencies toward nonviolence, was examined. Two hundred and twenty-eight college students from the United States participated in the project. A series of principle components factor analyses with varimax rotation were performed on TNT item responses. A three-factor solution comprised of 37 of the original 55-items best fit the data. Factor 1 seemed to represent acting violently toward others and was labeled, "Physical and Psychological Violence." Factor 2 tapped an empathic response toward persons in need and was named, "Empathy." The final factor was labeled "Satyagraha," as this factor appeared to assess the discovery of truth. Implications for research and social justice interventions are presented.

Keywords: nonviolence; violence; peace; Gandhi; empathy.

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Introduction

The World Health Organization (WHO) has claimed that youth violence is a prevalent global phenomenon that impacts the lives of victims, families, friends, and entire communities (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). In fact, it is considered a worldwide health concern, as it increases the costs of health and welfare services, reduces individual productivity, and destroys property (Krug, *et al*, 2002). The prevalence of violence around the globe even prompted the United Nations to declare nonviolence as a key theme for the first decade of the 21st century (Hallak, Quina, & Collyer, 2005). For example, a report published by WHO in 2002 (Krug, *et al*, 2002) concluded that estimates of youth homicide rates in parts of Asia and the Pacific were approximately 0.9 per 100,000. Further, this document noted that cultures, in general, that neglect promoting non-violence and alternative conflict resolution strategies were likely to experience higher degrees of youth violence.

In the United States (U.S.), a number of programs have focused on social development and the promotion of positive, friendly, and cooperative behaviors as a means to reduce antisocial and aggressive behaviors in youth (Tolan & Guerra, 1994). Johnson and Johnson (1994), when reviewing various conflict resolution and peer mediation programs for youth in the U.S., discovered that these types of programs appeared moderately effective in teaching students' negotiation and mediation skills. They also concluded that upon learning these skills, students began to use them, which led to a decline in the number of conflicts referred to school administrators. Moreover, Feeney and Davidson (1996) found that conflict resolution training in the U.S. increased participant cooperation, active listening, understanding, and appropriate self-assertion when discussing a controversial subject in groups (e.g., abortion).

There are many organizations and programs outside of the U.S. that are dedicated to promoting nonviolence. From what we could determine, however, there is a lack of empirical research on the effectiveness of such programs. There also is a scarcity of research that has relied on rigorous methodology when examining young individuals use of nonviolent strategies to resolve conflict.

Given the prevalence of violence throughout the world mentioned above, it is not surprising that there has been an increased interest in the counseling and psychology professions worldwide in nonviolent solutions to resolve conflict including the reduction and elimination of structural and direct violence (e.g., Gerstein, 2005; Gerstein & Kirkpatrick, 2005; Gerstein & Moeschberger, 2003; Norsworthy & Gerstein, 2003; Shankar & Gerstein, 2007). The literature on nonviolence can be found in many countries and it also exists in numerous disciplines including peace studies, history, theology, anthropology, political

science, psychology, and other social sciences (for a few examples see Boulding, 2000; Bonta, 1993; Erikson, 1969; Sharp, 1973).

This article discusses the factorial structure of the Teenage Nonviolence Test (TNT), an instrument designed to elicit information on teenagers' stated tendencies toward nonviolence. The TNT is a unique instrument in that it was created for use with a teen and young adult population. Responses to the scale have the potential to provide researchers, educators, and counseling professionals with the ability to assess this population's use of different nonviolent strategies and to further develop innovative, relevant, and effective programs to facilitate and strengthen young individuals' repertoire of nonviolent skills when faced with conflict situations.

Assessing Nonviolence

There is extensive literature on various methods to assess violence. A couple of objective measures also exist to identify characteristics of nonviolence. These measures seek to assess nonviolent attitudes and behaviors and nonviolent tendencies in personality (Mayton *et al*., 2002). More specifically, the Pacifism Scale (Elliott, 1980) was designed to measure individual attitudes on four continuums: physical nonviolence/violence, psychological nonviolence/violence, active/passive value orientation, and internal/external locus of control. In contrast, the Gandhian Personality Scale (Hasan & Khan, 1983) was constructed to identify Gandhian personality characteristics within individuals including Machiavellianism/anti-Machiavellianism, authenticity, cynicism/anti-cynicism, openness to experience and tolerance, tenderness and generosity, and trust in human nature. The Non-violence Test (Kool & Sen, 1984) also can be used to assess attitudes related to nonviolence. Higher scores on this scale are thought to indicate a greater likelihood of using nonviolent strategies to address conflict. In comparison, the Multi-dimensional Scales of Nonviolence (Johnson *et al*, 1998) was thought to assess six dimensions of nonviolence (direct nonviolence, systems-level nonviolence, compassion and connection, indirect oppression, nonviolence toward the planet, and spirituality).

The 24-item Nonviolent Relationship Questionnaire (Eckstein & La Grassa, 2005), in contrast, focuses on principles of nonviolent communication (non-threatening, respect, honesty, parenting together, equal responsibility, economic partners, fairness, and trust), while the 14-item Attitudes Toward Interpersonal Peer Violence (Slaby, 1989) scale assesses young persons' passive or violent attitudes towards violence and their knowledge and skills related to nonviolent conflict resolution. In addition, the Teen Conflict Survey (Bosworth & Espelage, 1995) measures students' intentions and perceived self-efficacy to use nonviolent strategies to manage conflict and anger, as well as their ability to listen, care, and trust others.

Finally, Mayton, Weedman, Sonnen, Grubb, and Hirose (1999) introduced the TNT to investigate the propensity to act nonviolently with other individuals. The TNT was designed, in part, to incorporate Gandhian principles and strategies of nonviolence. Gandhi's philosophy of nonviolence was founded on three main concepts. The first concept *Satyagraha* addressed potentially violent situations in a way that promotes nonviolence. Gandhi espoused *Satyagraha*, the use of non-violent "soul force" or "truth force." This meant pursuing the truth with insistent will, but without physical violence (da Silva, 2001). The second concept, *Ahimsa* referred to a refusal to do harm or allow injury because of the belief in the sacredness of life (Pelton, 1974). The third concept, *Tapasya*, was "self-suffering." According to Gandhi, suffering was a necessary condition for *Satyagraha*. In order to achieve social resistance, a person must be ready to sacrifice comfort, personal safety, or even her life. Enduring suffering, instead of reacting violently, is a way to interrupt a cycle of violence according to this philosophical position.

Purpose of Study

Since its introduction, a number of studies (Konen, 1999; Mayton, 1999; Mayton, *et al.*, 1999) have explored the underlying constructs of the TNT and its reliability. To date, however, responses to the TNT have not been subjected to a factor analysis. Thus, it is unclear whether the six reported factors in the literature actually explain the underlying constructs of the measure, or if they possess adequate construct validity based on one of the commonly employed strategies to establish construct validity of an instrument. This study was conducted to address this limitation.

Method

Participants. Two hundred and twenty-eight college students from the Northwest of the United States were involved in this study. Nine students failed to report their demographics. The sample was made up of 82 males and 137 females most of whom were European American (90% European American; 2.7% Asian American; 1.4 African American; 4.6% Native American; 1.4% other). Their mean age was 24.6 years (range = 16 to 56).

Procedures. The TNT and three other scales (Non-Violence Test, Pacifism Scale, & Aggression Questionnaire) not of interest to this study were given to groups of participants.

Instrument. The *TNT* is 55-item self-report measure designed to assess non-violent tendencies toward others (Mayton *et al.*, 1998). Each item on the TNT is accompanied by a four-point Likert scale ("definitely true for me" to "definitely

not true for me"). The TNT demonstrates adequate reliability on five of its six scales (Mayton, 1999; Mayton, *et al*, 1999). Alpha coefficients obtained for the five subscales were as follows: physical nonviolence, .90; psychological non-violence, .89, helping and empathy, .80; satyagraha, .77, and tapasya, .78. The final subscale, active value orientation demonstrated an inadequate alpha coefficient of .35. Similar reliability coefficients were obtained when exploring the test-retest reliability for the subscales (coefficients ranged from .88 to .65), with the reliability for the active value orientation subscale once again found to be low (.45) (Mayton *et al*., 1999). Concurrent and discriminant validity also have been demonstrated for the TNT (Konen *et al*., 1999).

Results

A series of four principle components factor analyses with varimax rotation were performed on responses to the TNT items. A varimax rotation was used to reduce the potential correlation in responses to the obtained factors (Gorsuch, 1983). Consistent with the recommendation that multiple criteria should be employed when evaluating the results of exploratory factor analysis (Tinsley & Tinsley, 1987), based on an examination of eigenvalues, factor loadings, and scree tests, it was discovered that a three-factor solution comprised of 37 of the original 55-items best fit the data (see *Table 1*). Factors with eigenvalues greater than one and above the elbow of the scree plot were retained as relying on such criteria was thought to yield the most valid, and at the same time, conservative factor structure (Cattell, 1966). Similarly, to increase the likelihood of selecting the most valid items for the obtained factors, a conservative approach of only retaining items that loaded at .40 or higher on one factor was employed (Gorsuch, 1983; Kahn, 2006). Thus, items that loaded on more than one factor were eliminated from further consideration so that the eventual retained factors were comprised of only items that made an unambiguous contribution to each factor. The final factor solution accounted for 38% of the explained variance. The obtained eigenvalues in the final factor solution were as follows: 8.9 for Factor 1, 3.2 for Factor 2, and 2.0 for Factor 3.

As expected, given that a varimax rotation was employed, responses to the three retained factors were minimally correlated (*r's* ranged from .08 to .30; see *Table 1*). The internal consistency of each factor was investigated as well. Results suggested that the Cronbach alpha coefficient for each factor was acceptable (Factor 1 = .91; Factor 2 = .72; Factor 3 = .69).

Table 1. *Teenage Nonviolence Test: Factor Loadings, Eigenvalues, Cronbach Alphas, & Correlation Matrix*

Item	Physical and Psychological Violence	Empathy	Satyagraha
	Factor name		
I can scare people into doing things for me	.72		
If someone pushes me, I push them back	.71		
I humiliate people who make me feel bad	.67		
If someone spit on me, I would hit them	.66		
Some people respect me because they fear me	.64		
Everyone has the right to injure another to protect their property	.63		
If someone insulted me in front of my friends I would smack them	.62		
I don't get mad, I get even	.60		
Starting a nasty rumor is a good way to get back at someone	.59		
If someone gets in my face, I push them away	.58		
I have been known to pick fights	.57		
If someone cuts in front of me in the cafeteria, I shove them out of line	.56		
Yelling at someone makes them understand me	.56		
I tease people I don't like	.55		
If someone disagrees with me, I tell them they are stupid	.53		
I enjoy saying things that upset teachers	.53		
Sometimes I make fun of others to their face	.52		
It is often necessary to use violence to prevent violence	.51		
I often call people names when they make me angry	.48		
If someone shoves me in the hall, I would just keep walking	.47		
When someone calls me a name, I ignore it	.46		
I sometimes bring weapons to school	.46		
When someone is rude to me, I am rude back	.46		
It is okay to carry weapons on the street	.44		
I like helping new students find their classes		.67	
If someone dropped their books, I'd help them pick them up		.63	
I'd give the person in front of me my extra change, if they didn't have enough for lunch		.63	
I try to tell people when they do a good job		.56	
I would give up my seat on the bus to someone else		.52	
Violence on television bothers me		.48	
I don't like to make fun of people		.45	
If I can find out why people are arguing I can help them solve their problems		.47	

| | Factor name | | |
Item	Physical and Psychological Violence	Empathy	Satyagraha
I try to do what I say I am going to do			.69
I attempt to learn from all my experiences			.65
I try to make decisions by looking at all the available information			.65
I often think about developing the best plan for the future			.60
My actions can influence others			.49
Eigenvalue	8.9	3.2	2.0
Cronbach Alpha	.91	.72	.69
Correlation Matrix			
Physical & Psychological Violence		.39*	.08
Empathy			.24*

Note. p < .05

Although the results of the current study failed to support the six TNT factors reported earlier by Mayton *et al*. (1998), the obtained three-factor solution appeared to integrate these six constructs, and at the same time, maintain a unique factor structure. Factor 1 was comprised of 24-items (e.g., Sometimes I make fun of others to their face; If someone spit on me, I would hit them) that seemed to represent acting violently toward others. Thus, this factor was labeled, "Physical and Psychological Violence." The 8-items (e.g., I would give up my seat on the bus for someone else; If I can find out why people are arguing, I can help them solve their problem) loading on Factor 2 tapped an empathic response toward persons in need, and as such, it was named, "Empathy." The final factor was labeled, "Satyagraha," as the 5-items (e.g., I attempt to learn from all my experiences; I try to make decisions by looking at all the available information) tied to this factor appeared to assess the discovery of truth.

Discussion

There are many implications of these results in terms of potential social justice strategies mental health professionals might employ to encourage youth to practice nonviolence when faced with conflicts. First, as mentioned, the "Physical and Psychological Violence" construct contained items that involved negative strategies for dealing with difficult emotions such as anger or hurt. In small groups of young people, mental health professionals could focus on this construct as an excellent starting point for dialogue on nonviolence. Young persons are often presented with scenarios in the media, entertainment industry, video games, and

in their daily lives that extol violent solutions. Therefore, a focus on this construct by mental health professionals has the potential to lead to a natural inroad of discussing the issue of violence and what reinforces its acceptability in society. This discussion may also lead to the perceived necessity of violence, both physical and psychological, in dealing with problematic situations, including the negative outcomes of such violence.

The second construct that we discovered, "Empathy," may be a key component in combating indifference toward violence in today's youth regardless of where they reside. An empathetic response may begin with the process of communication with others as illustrated by some of the specific items tied to this construct. In fact, communication skills by themself could become the focus of teaching non-violent strategies to young people worldwide. The need for direct communication and encouraging an ongoing dialogue between potential combatants seems basic to the pursuance of nonviolence wherever one lives. Teaching communication skills to youth could help them to develop respect and understanding for each other, and more important, could go a long way toward breaking the cycle of violence.

Social justice strategies to be used by mental health professionals also can be derived from the final TNT factor we discovered, "Satyagraha." This construct contained items that demonstrate an effort to seek truth. Satyagraha represents pursuit of the truth with "insistent will," but without physical violence. Satyagraha is at the heart of the Gandhian concept of nonviolence. Although the concept of insistence on the truth may viewed as being susceptible to hostility, the Gandhian use of the term is more akin to a gentle assertion that includes humility and patience. In terms of teaching nonviolence, it is conceivable Satyagraha can be used as a tool when helping individuals determine right from wrong. Youth can be taught to address difficult situations by employing such nonviolent strategies as gathering information regarding the truth, searching out alternative strategies to violence, and acting in a way that confronts wrongs but does not harm others.

There is a need for research to support the validity of the implications just outlined, especially outside of the United States. There is also a need for further research on the construct validity and reliability validity of the TNT factors discovered in this study. For instance, there is a need to conduct additional factor analytic studies and confirmatory factor analytic projects to verify whether the three-factor solution obtained in the current study is valid in the U.S. and else-where. In fact, it is critical that research be performed to determine whether the items and constructs linked with the TNT are even cross-culturally valid in different countries.

It is also important to explore the relevance of the TNT factors to older and much younger individuals. Through the accumulation of future research on non-violence in general, and the TNT in specific, including gathering data on responses

to this measure outside the U.S., it may be possible to better understand the etiology of nonviolence and to obtain a framework to design and implement possible effective social justice strategies to peacefully resolve conflict, and potentially reduce structural and direct forms of violence around the globe.

References

Bonta, B. (1993). *Peaceful peoples: An annotated bibliography*. Metuchen, N.J. : Scarecrow Press.

Bosworth, K., & Espelage, D. (1995). *Teen Conflict Survey*. Bloomington, IN: Center for Adolescent Studies, Indiana University. (Unpublished).

Boulding, E. (2000). *Cultures of Peace: The Hidden Side of History*. Syracuse, NY: Syracuse University Press.

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, *1*, 245-276.

da Silva, A. (2001). Through nonviolence to truth: Gandhi's vision of reconciliation. In *Forgiveness and reconciliation: Religion, public policy, & conflict transformation*, ed. Raymond G. Helmick, S.J., and Rodney L. Petersen, 295-317.

Eckstein, D., & La Grassa, L. (2005). The Nonviolent Relationship Questionnaire (NVRQ). *The Family Journal, 13*, 205-211.

Elliot, G. C. (1980). Components of pacifism. *Journal of Conflict Resolution, 24*, 27-54.

Erikson, E. H. (1969). *Gandhi's truth on the origins of militant nonviolence.* New York: Norton.

Feeney, M.C., & Davidson, J.A. (1996). Briding the gap between the practical and the theoretical: An evaluation of a conflict resolution model. *Journal of Peace and Conflict, 2*, 255-269.

Gandhi, M. K. (1983). *The story of my experiments with truth. New York: Dover Publications, Inc.*

Gandhi, M. (1951). *Selected writings*. London : Faber and Faber.

Gerstein, L.H. (2005). Counseling psychologists as international social architects*.* In R.L. Toporek, L.H. Gerstein, N.A. Fouad, G. Roysircar-Sodowsky, & T. Israel (Eds.), *Handbook for Social Justice in Counseling Psychology: Leadership, Vision, and Action* (pp. 377-387). CA: Sage Publications.

Gerstein, L.H., & Kirkpatrick, D. (2005). Counseling Psychology and Nonviolent Activism: Independence for Tibet! In R.L. Toporek, L.H. Gerstein, N.A. Fouad, G. Roysircar-Sodowsky, & T. Israel (Eds.), *Handbook for Social Justice in Counseling Psychology: Leadership, Vision, and Action* (pp. 442-471). CA: Sage Publications.

Gerstein, L. H., & Moeschberger, S. (2003). Building cultures of peace: An urgent task for counseling professionals. *Journal of Counseling & Development, 81*, 115-120.

Gorsuch, R. L. (1983) *Factor Analysis*. Hillsdale, NJ: Lawrence Erlbaum.

Hallak, M., Quina, K., & Collyer, C. (2005). Preventing violence in school. In F. Denmark, H.H. Krauss, R.W. Wesner, E. Midlarsky, & U.P. Gielen (Eds.). *Violence in schools: Cross-national and cross-cultural perspectives* (pp. 275-292)*.* New York, NY: Springer U.S.

Hasan, Q., & Khan, S. R. (1983). Dimension of Gandhian (nonviolent) personality. *Journal of Psychological Researches, 2*, 100-106.

Johnson, P., Adair, E., Bommersbach, M., Callandra, J., Huey, M., Kelly, A., *et al*. (1998). *Nonviolence: Constructing a multidimensional attitude measure*. Paper Presented at the annual meeting of the American Psychological Association, San Francisco.

Johnson, D.W., & Johnson, R.T. (1996). Conflict resolution and peer mediation programs in elementary and secondary schools: A review of the research. *Review of Educational Research, 66*, 459-506.

Kahn, J. H. (2006). Factor analysis in counseling psychology research, training, and practice: Principles, advances, and applications. *The Counseling Psychologist, 34*, 684-718.

Konen, K., Mayton, D.M., Delva, Z., Sonnen, M., Dahl. W., & Montgomery, R. (1999, August). *The Teenage Nonviolence Test: Concurrent and Discriminant Validity.* Paper presented at the annual meeting of the American Psychological Association, Boston, MA.

Kool, V. K., & Keyes, C. L. M. (1990). Explorations in the nonviolent personality. In V. K. Kool (Ed.). *Perspectives on nonviolence* (pp. 17-38). New York: Springer-Verlag.

Kool, V. K., & Sen, M. (1984). The nonviolence test. In D. M. Pestonjee (Ed.), *Second handbook of psychological and social instruments* (pp. 18-54). Ahemedebad: Indian Institute of Management.

Krug, E.G., Dahlberg, L.L., Mercy, J.A., Zwi, A.B., & Lozano, R. (Eds.). (2002). *World report on violence and health*. Geneva, Switzerland: World Health Organization.

Mayton, D. M. (1999, July). *Teenage nonviolence: How do we define and measure it*. Paper Presented at the 6th International Symposium for Contributions of Psychology to Peace, San Jose, Costa Rica.

Mayton, D. M., Nogle, K. S., Mack, J. L., Maxcy, R.T., Weeks, R. G., Hamilton, D. L., Morton, C.M., Mineshita, T. & Nawata, A. (1998, August). *Teenage Nonviolence Test: A new measure of nonviolence.* Paper presented at the annual meeting of the American Psychological Association, San Francisco, CA.

Mayton, D. M., Richel, T. W., Susnjic, S., & Majdanac, M. (2002, August). *Measuring the nonviolent tendencies of college students*. Paper presented at the annual meeting of the American Psychological Association, Chicago, IL.

Mayton, D. M., Weedman, J., Sonnen, J., Grubb, C., & Hirose, M. (1999, August). *The Teenage Nonviolence Test: Internal structure and reliability*. Paper presented at the annual meeting of the American Psychological Association, Boston, MA.

Norsworthy, K. L., & Gerstein, L. H. (2003). Counseling and communities of peace. Guest editors for a special issue of the *International Journal for the Advancement of Counseling*, *25* (4), 197-324.

Pelton, L. H. (1974). *The psychology of nonviolence*. New York: Pergamon.

Shankar, J., & Gerstein, L.H. (2007). The Hindu-Muslim conflict: A pilot study of peacebuilding in Gujarat, India. *Peace and Conflict: Journal of Peace Psychology, 13,* 365-379.

Sharp, G. (1973). *The politics of nonviolent action.* Boston : Porter Sargent Publishers.

Slaby, R.G.. (1989). An evaluation of a violence prevention program. Health program for urban youth. Newton, MA: Education Development Center, Inc. (Unpublished).

Tinsley, H. E. A., & Tinsley, D. J. (1987). Use of factor analysis in counseling psychology research. *Journal of Counseling Psychology*, *34*, 414-424.

Tolan P.H., & Guerra, N.G. (1994). *What works in reducing adolescent violence: An empirical review of the field*. Boulder, CO, University of Colorado, Center for the Study and Prevention of Violence.