INVESTIGATION OF THE FACTOR STRUCTURE OF THE MENTAL, PHYSICAL AND SPIRITUAL WELL-BEING SCALE

Diane L. Green

Abstract: *The importance of mental, physical and spirituality in coping with violence is becoming increasingly recognized. As such, scales measuring these constructs are instrumental in assessment of clients from a holistic and strengths perspective, the foundation of social work. This article examines the factor structure of the Mental, Physical and Spiritual Well-being scale. The MPS is a 30 item, easy to administer, self report measure. The MPS was administered to 175 crime victims to assess whether or not the three factor structure fits the data from the sample. Exploratory statistical procedures were used to reduce data through principle component analysis identified three factors with eigenvalues greater than 1.0 and a cumulative variance of 57%. Recommendations are made for utilizing this brief self-report instrument in assessing victims of crime and training social workers and other practitioners.*

Key words: *Physical Well-Being; Mental Well-Being; Spiritual Well-Being; Crime Victims*

INTRODUCTION

The main focus of conventional coping theories has been on the management of stress (Folkman, 1997). Folkman (1997) has recently modified transaction coping theory to include the occurrence of both distress and positive adaptation. She postulates that stressful encounters eventually result in adaptation and that research needs to consider the variable of positive adaptation.

Positive adaptation and ensuring the quality of life for victims of crime in society today is a major challenge facing victim service providers and policy makers. For this reason, gaining a better understanding of well-being of victims of crime has become a growing concern for researchers. Well-being is a useful and appropriate outcome measure because well-being scales do not force the victim to look solely at the negative effects of the criminal act. Ory, Williams, Lebowitz, Robins, Salloway, Sluss-Radbaught, Wolfe & Zarit (1985)

defined well-being as the impact of changes in cognition and behavior, subsequent need for care, and the ability to cope. This definition recognizes that behavioral and cognitive changes do not have the same impact on all individuals. The term well-being takes into accounts concepts such as life satisfaction, absence of feelings of anger or guilt, physical health, emotional health, happiness, lack of anxiety, lack of depression, spiritual health and control over one's situation (George & Gwyther, 1986; Parkes

Diane L. Green PhD is an associate professor at the School of Social Work, Florida Atlantic University, FL.

& Pillisuk, 1991). Additionally, spiritual well-being has been demonstrated as a significant factor in coping with traumatic events (Baumeister, 1991; McIntosh, Silver & Wortman, 1993). Traumatic events may trigger changes or questioning of one's religious belief and faith. However, there has been little research about the role that spiritual faith plays in the recovery or adaptation of a traumatic event. Kennedy (1998) conducted a study examining the extent that women of sexual assault report a change in the role of faith. The results of the study indicate a significant increase ($p < .0001$) in the role that spirituality played in the aftermath of a sexual assault.

Much of the literature on well-being has been conducted with the chronically and terminally ill population. Well-being is often referred to in this body of literature as quality of life. There are many findings from the well-being literature with other populations that can translate into the victim population. DeHaes and Knippenberg (1985) stated that research on quality of life (well-being) can be meaningful in several ways: "it can provide insight into reactions and it can enhance the methods by which supportive care can be promoted and organized" (p. 809). Most authors include physical, psychosocial and spiritual well-being (Ferrell, 1992). Polinsky (1994) utilized physical, psychological and social functioning as related specifically to treatment concerns of cancer patient's problems and concerns. There are several domains in which well-being or quality of life researchers have developed for studying the impact of the illness on a population however, the study and application with victims of crime has not been conducted.

Well-being is a multidimensional framework with specific domains. The well-being in each domain is readily affected by change within another domain. Examining the well-being framework will enhance the understanding of potentially positive dynamics associate with the recovery process. As such, subjective well-being is often thought of with three indicators: spiritual, physical and mental.

Among the traumatic losses that may occur when one is the victims of a crime is a crisis in faith and questioning of spirituality. In the death of a child, parents can become angry and question why an innocent child was taken. A woman who is the victim of rape may question her faith in a higher power as a protector. Victims who have lost a loved one may find it difficult to return to church without reliving the funeral (Johnson, 1997). Another issue for victims may be that their rabbi, priest or other religious leader, in an effort to provide support, tells them about the importance of forgiveness. These types of statements can be very distressing and lead to the development of anger and rage. Janoff-Bulman (1992) stated that people often operate on the basis of the underlying assumptions about the way the world is and why things happen. She further explained that when these assumptions are challenged, as they often are following a crime, the victim is left with no sense of control, often resulting in anger and depression. There is a paucity of research surrounding the spiritual effects on victims of crime. Spiritual beliefs can aid victims in the acceptance of the crime and assist the victims with coping. A sense of spirituality can often help with guilt and blame that the victim imposes on himself or herself (National Organization for Victims Assistance, 1998). Having spiritual beliefs can readily facilitate adapting to possible outcomes of the criminal justice process. As individuals look for the meaning of life, a sense of spirituality can lead to a regrouping of resources, priorities can

change and a renewed personal commitment to living a productive and content life can occur.

Victimization is a stressful event resulting in significant levels of psychological distress (Atkeson, Calhoun, Resick, and Ellis, 1982; Burnam, Stein, Golding, Siegel, Forsythe, and Telles, 1998, Frieze, Hymer, and Greenberg, 1987, Kilpatrick, Best, Veronen, Amick, Villeponteaux, and Ruff, 1995). Exposure to such stress often carries a risk of depression, anxiety, posttraumatic stress. Unique challenges exist for victims of crime due to the uncertain nature of the criminal justice process. Studies have consistently shown that the effects of crime are pervasive and deleterious to the victims' emotional health (Green, Streeter & Pomeroy, 2005; Norris and Kaniasty, 1994). One area of the victim's mental health that is particularly salient in understanding their responses to the crime event is the amount of depression exhibited. As Kilpatrick (1997) pointed out, virtually all victims of violent crime exhibit some level of depression. Norris and Kaniasty (1994) found that symptoms of depression were exhibited initially following the crime as well as three, nine, and fifteen months post crime. The most prevalent classification of psychological injury in crime victims' cases in PTSD (Sabbagh, 1995). Additionally, many crime victims describe experiencing high levels of anxiety, depression, and anger. (Kilpatrick & Falsetti, 1994).

An additional consequence of victimization is physical injury. About 1.5 million women and more than 800,000 men are raped or physically assaulted by an intimate partner in the United States (Tjaden and Thoennes, 2000). The types of injuries range from bruises to deadly gunshot sounds (Campbell, Webster, Koziol-McLain, Block, Campbell, Curry, et al. 2003; Heise and Garcia-Moreno 2002; Plichta 2004; Tjaden and Thoennes 2000). Resnick (1997) found that physical injuries as a result of crime may lead to heart attacks, fractures, sexually transmitted diseases, chronic infection and systemic disorders. Violence can often result in an impairment of physical functioning and may result in an increased use of unhealthy behaviors (e.g. smoking, drinking, and lack of sleep). The medical costs of treatment of victims are 2.5 times greater than that of non-victims (Resnick, 1997).

As the forgoing research indicates, crime victims have been shown to suffer from a variety of psychological, emotional, and physical problems. As such, this study examined the factor structure of the Mental, Physical and Spiritual Well-being scale.

METHOD

Sampling

The subjects for this study were victims of crime. "Crime victims" included individuals encountering the crime event or an individual within the immediate family for crimes resulting in death. Violent crime victims were those adult individuals (18 years or older) who had encountered the following crime(s), as categorized from offense codes recorded by a County Sheriff's office in the incident report: homicide, assault, aggravated assault, sexual assault, aggravated sexual assault, elder abuse, manslaughter, intoxication manslaughter, aggravated robbery, family violence and intoxication assault. Non-violent crime victims were those adult individuals who experienced the following crimes: theft,

robbery, burglary, and domestic disturbance. Participants were part of a victim assistance program and after approval from the IRB were solicited through a Texas county sheriff's office and juvenile court staff. They responded first to questions concerning demographic information. The MPS Scale followed during a personal interview which was part of a research study on the stress and coping process for victim of crime. The set of questionnaires usually took no longer than 20 minutes to complete. Consent was obtained from the participants before they responded to the questionnaire and data collection occurred within four to six weeks of the initial crime event.

Instrument

The Mental, Physical and Spiritual Well-being Scale is a 30-item scale that measures overall well-being through the incorporation of mental, physical and spiritual subscales. Each of the subscale scores range from 5 to 50, with higher scores indicating greater well-being. Vella-Brodrick and Allen (1995) found the scale to have good psychometric properties. They found over a one month interval the Mental subscale has a test-retest reliability of .94, the Physical subscale has a test-retest reliability of .81 and the Spiritual subscale has a test- retest reliability of .97. Coefficient alphas are .75, .81, and .85 respectively. The discriminative validity of the Mental, Physical and Spiritual Well-being scale was explored using one hundred and seventy-eight participants from different activity groups (e.g. tennis, bushwalking) with 77.3% of the cases being correctly classified into their actual activity group.

Data Analysis

To extract the initial factors, a principal component analysis was used. Typically dimensions of interest to social science are often not dimensions expected to be uncorrelated, therefore an initial orthogonal rotation was done. The initial Promax solution demonstrated that the variables were indeed uncorrelated. While Promax, oblique rotation, is computationally faster than orthogonal and makes linkages of the variables with the factors clear, it makes the distinction between factors more difficult (Hair, Anderson, Tatham, and Black, 1995). As the goal was to identify the meaning of the different factors, Varimax rotation was used following the oblique rotation. To eliminate error variance that would be included along with common variance at this stage, Kaiser's criterion was applied prior to factor rotation. Therefore, only those factors with eigenvalues of 1.0 or greater were retained. To minimize the number of loadings on a factor, orthogonal rotation using a Varimax procedure was utilized. This procedure simplified the structure thus making it more interpretable and it maintains independence between rotated factors (Stevens, 1996; Hair, et.al., 1995).

RESULTS

Demographics

For this study, 175 victims of crime from a Texas county were sampled. Participants included 60 men and 115 women. Participants had an average age of 35.4 (SD = 10.3)

years and eighty-six were victims of violent crime while 89 were victims of nonviolent crime. They were primarily Caucasian (48%) followed by African Americans (36%) and Hispanics (16%). This study found that only thirty percent of the participants were victims of a prior crime. The majority of victims were married (49%), while thirty-three percent were never married.

Factor Analysis

Using principal-component analysis with varimax rotation, the 30 items were reduced to a three factor solution. Means, standard deviations, and alpha coefficients for scale scores are provided in Table 2. Scale score means are similar to previous estimates. Hudson (1982) recommends a reliability coefficient of .60 from nomothetic research. In this study, scale scores have acceptable internal reliability (.78, .82, .83). Some item scores showed slight degrees of skewness and kurtosis however were not extreme. Even though confirmatory factor analysis is based on assumptions of multivariate normality, it has been shown that the maximum likelihood and generalized least squares estimation procedures are fairly robust with moderate violations (Anderson & Gebring, 1988). Consequently, it was unnecessary to compute data transformation.

Table 1. Demographic Information

Variable		Frequency	Percentage
Gender			
	Male	60	34.3
	Female	115	65.7
Ethnicity			
	Caucasian	84	48.0
	African-American	63	36.0
	Hispanic	28	16.0
Marital Status			
	Married	85	48.6
	Divorced	22	12.6
	Widowed	6	3.4
	Separated	4	2.3
	Never Married	58	33.1
Victims of Crime			
	Yes	52	29.7
	No	123	70.3

Type of Crime			
	Violent	86	49.1
	Non-violent	89	50.9

Table 2. Mental, Physical and Spiritual Well-being Scale: Means, Standard Deviations and Alpha Coefficients

	Mental Subscale	Physical Subscale	Spiritual Subscale
M	30.67	26.02	29.63
SD	2.80	4.02	2.33
α	.83	.82	.78

The results of the present study provide information about the stability of the factor structure of the MPS Well-being Scale (Vella-Brodrick and Allen, 1995). The correlation matrix was factorable due to the Kaiser-Meyer-Olkin measure of sampling adequacy at .85 and the Bartlett test of sphericity at 4158.52 ($p < .000$). A principal component analysis was run as the extraction method. There were three valid factors explaining 57% of the variance (Table 3).

Table 3. Factor Structure, eigenvalues, and % Variance Mental, Physical and Spiritual Well-being Scale

Factor	Eigenvalue	% of Variance	Cumulative %
I	5.63	25.46	25.46
II	3.30	21.00	46.46
III	2.40	11.04	57.50

Table 4. Factor loadings for 30 item MPS Well being Scale

Item # and abbreviated content	Factor 1 (physical)	Factor 2 (spiritual)	Factor 3 (mental)
Lethargic/tired recently	**.82**	.26	.11
Diet or gain or lose weight	**.78**	.28	.21
Stomach aches and/or indigestion	**.76**	-.24	.19
Constipation past year	**.73**	.18	.08
Suffered nausea/vomiting	**.71**	.17	.21
Suffer diarrhea at least monthly	**.50**	.22	.29
Aches/pains in last month	**.46**	.15	.05
Awaken rested	**.43**	.13	.26
Headaches in past year	**.39**	.27	.22
Feet/hands warm enough generally	**.31**	.05	.26
Use of prayer/meditation for inner peace	.26	**.68**	.13
Enhance spiritual development last year	.28	**.66**	-.04
Meditate, pray, yoga	.24	**.58**	-.07
Discuss matters of spirit	.18	**.56**	.13
Visit places of culture, art, creativity	.21	**.52**	-.10

Reach out for spiritual help	.08	**.52**	.07
Read/study about spirituality	.12	**.45**	.08
Self analysis for moral behavior	.15	**.42**	.20
Believe in life after death	.07	**.38**	.15
Discuss ethical/moral issues	.24	**.32**	.22
Think before acting	.14	-.02	**.67**
Improved home or office environment	.09	.21	**.65**
Read novels	.04	.09	**.62**
Engage in games for mental stimulation	-.01	.21	**.50**
Watch documentaries	-.12	.22	**.44**
Watch, read or listen to news	.03	.18	**.38**
Collect info prior to judging	.09	-.09	**.36**
Write for pleasure	.13	.28	**.34**
Share insights	.18	.24	**.33**
Watch tv/quiz programs	.07	.14	**.31**

In interpreting the items which loaded on each factor, the .30 is a generally accepted minimum factor loading because it indicates that approximately 10% of the variance for the corresponding variable has been explained by a factor (Tinsley and Tinsley, 1987). Using these criteria, three factors collectively explained the items on the MPS Well-being Scale.

Factor 1 was comprised of items related to physical well being. The items which loaded on factor 2 were descriptive of characteristics of spiritual well being. Factor 3 was made up of items which had to do with mental well being. Table 4 provides the factor loadings for the MPS Well being Scale.

CONCLUSIONS

Well-being is a useful and appropriate outcome measure for use with crime victims for several reasons. First, it cam be used when comparing victims of different types of crime, and second, well-being scales do not force the victim to look solely at the negative consequences of crime. The results of this study provide information about and support for the stability of the factor structure of the Mental, Physical and Spiritual Well-being Scale. These factors provide a framework for assessing well-being from a strengths perspective. From this perspective, social worker's can assess crime victims by measuring positive outcomes as well as distress experienced form the crime event. Additionally, this study provides information about the nature of well-being and the underlying common constructs. In sum, the results suggest a wide range of well-being that can be conceptualized as three constructs that consist of spiritual, physical and mental aspects.

Studies demonstrating the effects of coping strategies on well-being are exciting and challenging. Previous empirical research has focused mainly on the relationship between stressor and outcome, with little emphasis on positive outcomes (Eden, 1990). Feelings of shock, depression, isolation, being emotionally overwhelmed, distrust, anger, and anxiety are often the manifestation of the impact of crime on victims. Research studies summarized by Kilpatrick and Resnick (1993) identified a range of problems associated with victimization including: medical complications, financial difficulties, anxiety, depression, posttraumatic stress, and loneliness. These problems can greatly

impact the victim's well-being. By including the positive end of the emotional well-being spectrum in research programs, we not only increase our understanding of the good life and happiness, we also broaden our knowledge of the processes underlying emotions more generally. We must first understand the concept of subjective well-being enabling us to develop effective interventions that can assist in the improvement of the victim's well-being.

This study had several limitations. The fact that subjects were self-selected and only consisted of those who had reported that crime to the authorities restricts generalizability of the findings. Financial and practical constraints limited the ability to utilize random selection of victims. The selection process was dependent upon those names provided by the service provider. However, effort was taken to recruit a diverse sample (type of crime, ethnicity, etc.). The selection process did result in a higher number of women participating than men and the sample consisted of ethnic differences that were not similar to the state ratios of crimes reported by these ethnicities. While results should be interpreted with caution due to the limitations, the study provides tentative implications for social work. Social work views individuals within a holistic framework and as such, it is appropriate to conduct research on victims from this perspective. Social workers need to be aware if the effects that a sense of loss of control can have on victims challenging their most fundamental assumptions. Developing and understanding of the mental, physical and spiritual well-being of victims will assist practitioners with the recovery process and is paramount to the development of effective interventions. Social work practitioners are likely to encounter victims of crime, as research has shown "individuals with mental health problems are more likely to have been victims of violence and victims of violence are at a greater risk of developing major mental health care problems" (Kilpatrick, 1997, p.7).

Contributing to the growth in victim services is a new public concern for the well-being of survivors in the aftermath of crime. Constitutional amendments for victim rights, new crime victim legislation, court decisions and case law, together with a new body of academic knowledge, demonstrate the changing response to victimization. *Funds are available to cover moving and relocation or home security expenses if law enforcement or a mental health provider certifies that the expenses are necessary for the security or mental well being of the victim. This is one reason providers must be able to assess the well-being of victims to enhance their recovery process.* More research needs to be conducted on issues confronting victims of crime and how to enhance effective positive coping strategies and how to optimize well-being. Research needs to address the effect of the criminal justice system on the victims' recovery process and factors that contribute to victims' mental, spiritual and physical well-being. Additional research is needed to determine if the three underlying constructs are stable across sample and populations. Future research should also test the applicability of the MPS Scale with racial-ethnic victims. Preliminary steps have been taken to validate the well-being construct, however, multiple studies are needed regarding the applicability of measures and findings. Scholars have focused primarily on human weakness in producing psychological and measurement strategies of individual human differences. Thus the plethora of measurement on depression, anxiety, anger, etc. With using these same

techniques to develop and test tools to measure human strength, clinicians can begin to construct a positive psychological framework facilitated by the client's preexisting strengths.

Author's Note:

Address correspondence to: Diane L Green, Ph.D, associate professor, School of Social Work, Florida Atlantic University, 5353 Parkside Drive, Jupiter, FL 33458. E-Mail: dgreen@fau.edu

References

Anderson, JC. & Gebring, D. (1988). Structural equation modeling in practices: a review recommended two step approach. *Psychological Bulletin, 103*, 411-423.

Atkeson, B., Calhoun, K., Resick, P. & Ellis, E. (1982). Victims of rape: Repeated assessment of depressive symptoms. *Journal of Consulting and Clinical Psychology, 90,* 1-13.

Baumeister, R.F. (1991). *Meaning of Life.* New York: Gilford Press.

Burnam, M., Stein, J., Golding, J., Siegel, J., Forsythe, A. & Telles, C. (1998). Sexual assault and mental disorders in a community population. *Journal of Consulting and Clinical Psychology*

Campbell JC, Webster D, Koziol-McLain J, Block C, Campbell D, Curry MA, et al. (2003). Risk factors for females in abusive relationships: results from a multi-site case control study. *American Journal of Public Health, 93*, 1089–97.

DeHaes and Knippenberg (1985). Spirituality and Quality of Life in Gynecologic Oncology Patients. *Cancer Practice,* 6 (6) 333 -345.

Eden, D. (1990). Acute and chronic job stress, strain and vacation relief. *Organizational Behavior rand human decision processes, 45,* 175-193.

Frieze, I.H., Hymer, S., & Greenberg, M.S. (1987). Describing the crime victim: psychological reactions to victimization., *professional psychology: research and practice, 18*(4),

Folkman, S. (1997). Positive psychological states and coping with severe stress. *Social Science Medicine,45,* (8), 1207-1221

George, L.K. & Gwyther, L.P. (1986). Caregiver well-being: A multidimensional examination of family caregivers of demented adults. *The Gerontologist, 26,* (3), 252-259.

Green, D.L., Streeter, C., & Pomeroy, E. (2005) A Multivariate Model of the Stress and Coping Process. *Stress, Trauma and Crisis. 8(1), 61-73.*

Hair, J.F., Jr., Anderson, R.E., Tatham, R.L., & Black, W.C. (1995). *Multivariate Data Analysis: With Readings.* New York: Macmillan.

Heise L, Garcia-Moreno C. (2002).Violence by intimate partners. In: Krug E, Dahlberg LL, Mercy JA, et al., editors. *World report on violence and health.* P. 87-121. Geneva (Switzerland): World Health Organization.

Hudson, W.W. (1982). Simplified multiple regression for applied behavioral science. *Journal of Applied Behavioral Science, 18,* (4), 505-513.

Janoff-Bulman, R. (1992). *Shattered Assumptions.* New York: Free Press

Johnson, K. (1997). Professional help and crime victims. *Social Service Review, 71,*(1), 89-110.

Kennedy, J.E. (1998). Changes in spirituality and well-being among victims of sexual assault. *Journal for the Scientific Study of Religion, 37,* (2), 322-329.

Kilpatrick, D., Best, C., Veronen, L., Amick, A., Villeponteaux, L. & Ruff, G.(1995). Mental health correlates of victimization, A random community survey. *Journal of Consulting and Clinical Psychology, 53,* 866-873.

Kilpatrick, D. (1997). Implications for clinical practice and public policy. *Health Impact of Interpersonal Violence, 23,* (2), 79-85.

Kilpatrick, D. & Falsetti, S. (1994). The psychological adjustment of recent crime victims in the criminal justice system. *Journal of Interpersonal Violence, 9,* (4), 450-461.

Kilpatrick, D.G. & Resnick, H.S. (1993). PTSD associated with exposure to criminal victimization in clinical and community populations. In Davidson, J.R.T. & Foa, E.B. (Eds.) *Post rTaumatic Stress Disorder: DSM IV and Beyond.* (114-143). Washington D.C.: American Psychiatric Press

McIntosh, D.N., Silver, R.C., & Wortman, C.B. (1993). Religion's role in adjustment to a negative life event: Coping with the loss of a child. *Journal of Personality and Social Psychology, 64,* 812-821.

Norris, F. & Kaniasty, K. (1994). The psychological experience of crime: A test of the mediating role of beliefs in explaining the distress of victims. *Journal of Social and Clinical Psychology, 10,* 239-261.

Ory, M.G., Williams, T.F., Lebowitz, B., Robins, P., Salloway, J., Sluss-Radbaught, T., Wolfe, E. & Zarit, S. (1985). Families, informal support & Alzheimer's disease: Current research and future agendas. *Research on Aging, 7,* (4), 623-643.

Parkes, S.H. & Pillisuk, M. (1991). Coping in stressful episode: The role of individual differences, environmental factors, and situational characteristics. *American Journal of Orthopsychiatry, 61,*(4), 501-509.

Plichta SB. (2004). Intimate partner violence and physical health consequences: policy and practice implications. *Journal of Interpersonal Violence,19,* (11), 1296–323.

Polinsky, M.L. (1994). Functional status of long term breast cancer survivors: Demonstrating chronicity. *Health and Social Work, 19,* (3), 165-174.

Resnick, H. (1997). Medical and mental health outcomes. *Behavioral Medicine, 23,* 63-79.

Sabbagh, L. (1995). Stress sign often missed in victims of violent crime. *The Medical Post.* www.mentalhealth.com/mag1/p51-ptsd.htm.

Stevens, J. (1996). *Applied Multivariate Statistics for the Social Sciences.* Mahwah, NJ: Lawrence Erlbaum Publishers.

Tinsley, H.E. & Tinsley, D.J. (1987). Uses of factor analysis in counseling psychology research, *Journal of counseling psychology, 34*(4), 414-424.

Tjaden, P & Thoennes, N. (2000). Extent, nature, and consequences of intimate partner violence: findings from the National Violence Against Women Survey. Publication No. NCJ 181867. [cited 2006, Jan 27]. Available from: URL: www.ojp.usdoj.gov/nij/pubs-sum/181867.htm. Washington (DC): Department of Justice (US).

Vella-Brodrick, D.A. & Allen, F.C. (1995). Development of psychometric validation of the MPS scale. *Psychological Reports, 77,* 659-674.