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Coping Strategies and Hardiness as Predictors of Stress among Rescue Workers

Yousaf Jamal
Govt. College Township, Lahore

Sayyeda T. Zahra, Faiqa Yaseen, and Mehwish Nasreen
University of Gujrat

The present study investigated the relationship of hardiness and coping strategies as predictors of stress. A sample of 100 rescue workers, aged 20-40 years, of Gujrat, Pakistan was recruited by convenient sampling technique. Cross-sectional survey research design was used in this study. Personal Views Survey III-R (Maddi, 2001), Perceived Stress Scale (Cohen, 1994), and Brief Cope Inventory (Carver, 1997) were used to measure the hardiness, stress, and coping strategies; respectively. Findings of Pearson Product Moment Correlation indicated significant negative association between stress and hardiness, stress and problem focused coping, and significant positive association between stress and avoidant coping, hardiness and problem-focused coping. Hierarchal Multiple Regression Analysis revealed that hardiness significantly predicted perceived stress. Findings of the study raised important consequences for rescue education, practice, research and health policy. Addressing both individual and organizational structures and processes would be crucial toward producing a more manageable and long-term solution to stress in the workplace.

Keywords. Hardiness, coping strategies, stress, rescue workers

The workplace stress plays a vital role in the life of rescue workers. The present study was aimed to explore the association of

Yousaf Jamal, Sayyeda T. Zahra, Faiqa Yaseen, and Mehwish Nasreen Department of Psychology, University of Gujrat, Pakistan.

Correspondence concerning this article should be addressed to Sayyeda T. Zahra, Department of Psychology, University of Gujrat, Pakistan. E-mail: zahra_taskeen@ymail.com

hardiness and coping strategies as predictors of stress among rescue workers of district Gujrat.

Stress can be defined as an array of negative physiological states and psychological responses that occur in an individual. When an individual is stressed he/she feels that his well-being is menaced, but is at the same time unable to cope with it (Lazarus & Folkman, 1984). Stress has consequences for organizations as well as people. In individuals, it negatively affects their workplace activities, as a result it causes decline in motivation and consistent fatigue (Armstrong, 2009). While in organizations, it endures an impact on organizations' bottom line as numerous operational days are wiped out as a result of stress related behaviors (Mesko et al., 2013).

Workplace stress is a key spectacle for rescue workers as they have to face emergency situations all the time. Researchers have explored several job stressors that workers usually come across such as conflicts with administrators, inadequate staffing, and work overload (McCranie, Lambert, & Lambert, 1987). Stress at work is also termed as work-stress, occupational stress, and professional life stress. Professional life stress refers to a large number of job-related environmental sites or specific actions intended to determine the strength and happiness of the worker (Hurrell, Nelson, & Simmons, 1998).

Coping behavior can be defined as specific cognitive and behavioral tactics that person uses to deal with stressful situations. It is the perception of demand and coping capacity, which decides stress levels (Lazarus & Folkman, 1984). Stress appraisal needs recruitment of coping struggles. In the work, stress goes up when workers try to manage with the responsibilities, obligations, and other patterns of compression connected with their businesses, but bumps into complications, apprehension, anxiety, and worries in trying to reach them (Stranks, 2005). Work stress is a psychological state that directs a person to behavioral disorders. It is a result of the discrepancy amongst job necessities and the capacity to cope (Mesko et al., 2013).

Coping strategies have frequently been classified into two wide groups, that is, problem and emotion focused strategies (Lazarus & Folkman, 1984). Problem-focused strategies include behavioral actions, such as deed and scheduling; however, emotion-focused strategies employ appearance of sentiment and shifting of expectations. Problem-focused strategies are connected with constructive consequences, such as better health and reduced negative affect (Dunkley, Sanislow, Grilo, & McGlashan, 2006). Whereas, emotion-focused strategies, mainly the usage of avoidance strategies,

are linked with negative conclusions such as poor health and negative affect. However, some emotion-focused strategies such as acceptance and positive reframing have been associated with increased well-being (Scheier, Craver, & Bridges, 1994).

Researchers explored the negative connection between stress and coping strategies (Asghari, Sadeghi, Aslani, Saadat, & Khodayari, 2013; Chai & Low, 2015; Chou, Chao, Yang, Yeh, & Lee, 2011; Shiferaw, Anand, & Nemera, 2015; Skaalvik & Skaalvik 2015). Tshabalala (2014) conducted a research on occupational stress and coping resource in air traffic control and found that air traffic controllers who used problem-focused coping resources experienced low levels of stress. Whereas, significant positive association between avoidant coping and stress was also found in this study. Similarly, Sprenger (2005) conducted a research on stress and coping strategies among primary school teachers and investigated that there was negative association between coping strategies and perceived stress.

Formerly developed by Kobasa (1979) and later defined by Maddi and Kobasa (1984), hardiness is frequently perceived as a mediating factor in the stress-coping framework (as cited in Judkins, 2001). Hardiness can be viewed as a collection of personality features that act as a resistance source in the happenstance with stressful situations (Kobasa, 1979).Hardiness is consisted of three basic dimensions that is, commitment, control, and challenge. Moreover, rational coping strategies can transform a stressor into a challenge, or reinterpret stressful event in such a way that stress is fundamentally weakened (Judkins, 2001). So, hardiness can alter the stressful situations into positive reconsideration and lessen negative emotions such as annoyance and sadness (Gentry & Kobasa, 1984).People with high degrees of hardiness are more likely to engross in adaptive coping approaches and fewer maladaptive coping than do low-hardy individuals (Blaney & Ganellen, 1990; Jalali & Amarqan, 2015). When defining levels of stress and coping, individual characteristics such as personality style, backup systems, coping mechanisms, and exercise habits affect the individual's response to occupational stress (Cooper & Marshall, 1978). Moreover, personality variables, for example, hardiness are significant aspects in facilitating the effects of stress and coping strategies. Studies on hardiness and stress inferred that hardy individuals tended to experience lower levels of stress. They have the capacity to move in an adaptive way when stress is experienced (Ebrahim, 2011; Judkins, 2001; Kobasa, Maddi, & Kahn, 1982; Shepperd & Kashani 1991).

Lazarus and Folkmans (1984) model of stress support the current study. They argue that stress involves transactional relationships

between individuals and their environment, which exceed their resources and threaten their well-being. This theoretical position defined stress-coping resources as the personal factors, characteristics, or assets that one draws upon in order to cope. When the resources are within the individual, they are considered internal resources such as hardiness; while, environmental resources are called external resources. This theory emphasizes cognitive appraisal, not only of the demands of situations, but also of the person's ability and resources for coping.

The current research is important for several reasons. First, there is scarcity of research about occupational stress and related outcomes among rescue workers in Pakistan. The current study will add significant findings in the body of knowledge about occupational stress. Second, the significance of the study becomes enhanced when the phenomenon of hardiness and coping can be learned and improved among rescue workers to reduce their stress at work-place (Gmelch, Lovrich, & Wilkie, 1984; Kassinove & Sukhodolsky, 1995; Lambert et al., 2003).

The current study aimed to explore the association of hardiness and coping as predictors of stress among rescue workers.

Hypotheses

1. Increase in hardiness would decrease stress among rescue workers.
2. Increased use of problem - focused coping would decrease stress among rescue workers.
3. Increased use of avoidant coping would increase stress among rescue workers.

Method

Participants

A sample of 100 rescue workers recruited through convenient sampling technique took part in the current research. Sample was drawn from Rescue 1122 Gujrat. Rescue 1122 was newly established in Gujrat and workers have to deal with emergency situations. They did not have adequate time to be available for the present study; therefore, a small sample of male workers participated in the current study. Age of the respondents ranged from 20-40years (M = 26.77, SD = 4.69). An inclusion criterion was based on the minimum age of the participants that was 18 years. Monthly income of the workers ranged from PKR 20,000 to 40,000 (M = 22750.00,

SD = 6087.53). Their job experience ranged from 1 to 8 years (*M* = 3.27, *SD* = 2.04) and duration of duty timings ranged from 6 to 12 hours (*M* = 6.80, *SD* = 1.29).

Measures

As the target population of current study was rescue workers, and all the workers were not able to understand English. Therefore, scales were translated in Urdu with the permission of authors. Back-translation method was used to translate the scales.

Personal View Survey III-R. Hardiness was measured with Personal Views Survey III-R developed by Maddi (2001). It was 18 items self-reported scale in which items were answered on 4-point scale ranging from *not at all* (0) to *very true* (3). Nine items of this scale were negatively worded, therefore, these items were reverse scored. Scores were obtained by calculating sum of scores on each item of the scale with high scores reflecting high hardiness and low scores indicated low hardiness. It comprised of three Components which were Commitment, Control, and Challenge. Each component comprised of 6 items. Commitment calculated the extent to which individuals believe their active engagement would give them the chance to explore what is significant to them. Control measured the extent to which individuals believe that through struggle they can change the world around them. Challenge assessed an individual's belief that values insight is gained through both positive and negative practices (Maddi, 2002). The reliability coefficient for Personal View Survey III-R in current research was found to be .75.

Brief Cope Inventory. Carver (1997) developed this scale. Urdu version was used to measure the coping strategies. It contained 28 items on 4-point rating scale ranging from *I usually don't do this at all* (1) to *I usually do this a lot* (4). The scale consisted of 14 subscales which were: Self-Distraction, Active Coping, Denial, Substance Use, Use of Emotional Support, Use of Instrumental Support, Behavioral Disengagement, Venting, Positive Reframing, Planning, Humor, Acceptance, Religion, and Self-Blame. Moreover, scale was also categorized in to three main coping strategies named as: Problem-focused Coping, Emotion-focused Coping, and Avoidance Coping. Problem - focused Coping comprised of active, planning, and suppression. Emotion - focused Coping included positive reinterpretation, restraint, acceptance, and religion. Avoidant Coping comprised of behavioral disengagement, denial, and mental disengagement. In the present study, reliability coefficient of .76 was acquired for Brief Cope Inventory.

Perceived Stress Scale. Developed by Cohen (1994), it was used to measure perceived stress of rescue employees. Perceived Stress Scale consisted of 10 items to be rated on 5-point rating scale ranging from *never* (0) to *very often* (4). Four items were reverse coded. Scores were obtained by summing across all scale items. The higher the score, the higher would be the level of stress. The reliability coefficient for Perceived Stress Scale in current research was achieved as .80.

Demographics Sheet. Besides scales, demographic information about age, education, working hours, job experience, job duration, rank, residential area, and monthly income was also obtained on a data sheet.

Procedure

The consent to participate in research was obtained from every participant and permission for data collection was obtained from competent authority of the institution. Rights of confidentiality and privacy of the information were briefed to the participants. They were assured that information taken from them would be kept confidential and would not be used for any other purpose except research. All of the participants were also assured that they have a choice to quit from the study at any time. Those who agreed to participate in the study were provided with the booklet of questionnaire which contained instructions, and these instructions were read to the participants and they were encouraged to ask any question about the questionnaires. Approximately 15 minutes were required to complete all the questionnaires.

Significant research ethics were followed during data collection. Firstly, written permission to use the scales was obtained from corresponding authors of the scales. Secondly, a written agreement to participate in the research was filled out by the participants. Thirdly, participants were also briefed that their participation in the research was voluntary. Fourthly, participants were fully allowed to quit from the research at any point of time.

Results

Frequencies and percentages of demographic variables were explored through descriptive analysis. Relationship among stress, hardiness, and coping strategies was determined by using Pearson Product Moment Correlation. Hierarchal Multiple Regression analysis was employed to find out predictors of perceived stress.

Table 1

Correlation of Study Variables among Rescue Workers (N = 100)

	Variables	*M*	*SD*	1	2	3	4	5
1.	Hardiness	35.06	8.30	-	-.64**	.29**	-.00	-.52**
2.	Stress	14.09	6.68		-	-.29**	-.08	.40**
3.	PFC	17.96	2.92			-	.71**	.02
4.	EFC	27.88	4.18				-	.19
5.	AC	9.62	2.42					-

Note. PFC = Problem - Focused Coping; EFC = Emotion - Focused Coping; AC = Avoidant Coping.
** $p < .01$.

Correlation between study variables are shown in Table 1. All variables correlate in the expected directions, increasing confidence in the validity of the current research. Table 1 shows that hardiness has significant negative association with stress and avoidant coping. Furthermore, significant positive association between hardiness and problem - focused coping is also found. Moreover, Table 1 also shows significant negative association between stress and problem - focused coping. Additionally, it is also found that stress is significantly positively of associated with avoidant coping. Finally, non-significant association of emotion-focused coping with stress and hardiness is also found. Similarly, there is non-significant association of avoidant coping is found with emotion focused and problem focused coping.

Regression analysis described in Table 2 show that at first interaction demographics (age, rank, job experience, and pay) are entered as predictors and stress is entered as outcome variable. At this, step demographics account 11% variance in stress. Secondly, hardiness (commitment, control, and challenge) is entered as predictor of stress. At this step, hardiness (control and challenge) emerged as significant predictors of stress and accounted 36% variance in stress. Thirdly, coping strategies (problem - focused coping, emotion - focused coping, and avoidant coping) were entered as predictors and stress as outcome variable. At this step coping strategies accounted only 5% variance in stress. Coping strategies do not significantly predict stress. Only hardiness emerge as significant predictor of stress among rescue workers. Overall, demographics, hardiness, and coping strategies explain 52% variance in perceived stress.

Table 2

Hierarchal Regression Analysis for Variables Predicting Perceived Stress (N = 100)

Predictors	β	*B*	*SE*	ΔR^2
Block 1				.11
Age	.32*	6.28	2.30	
Rank	-.18	-2.68	1.82	
Job experience	-.10	-.51	.62	
Pay	-.02	-.29	1.56	
Block 2				.36
Hardiness				
Commitment	-.12	-.22	.27	
Control	-.29*	-.58	.24	
Challenge	-.37**	-.67	.21	
Block 3				.05
Problem - focused Coping	-.13	-.36	.37	
Emotion - focused Coping	-.12	.24	.25	
Avoidant Coping	.17	.48	.32	
Total R^2				.52

*$p < .05$, **$p < .01$.

Discussion

The current study was conducted to investigate the relationship of hardiness, stress, and coping strategies among rescue workers of Gujrat.

The findings of the current research supported the first hypothesis stating a negative relationship between hardiness and stress. This shows that hardier rescue workers experienced low levels of stress. This negative relationship between hardiness and stress has been reported in previous studies also (Ebrahim, 2011; Garrosaa, Rainhob, Jimeneza, & Monteirob, 2010; Judkins, 2001; Soderstrom, Dolbier, Leiferman, & Steinhardt, 2000).Thus, the findings of the present study would be useful for training of rescue workers. By including hardiness training for the rescue workers as part of their training program, hardiness level of these workers may be increased, and thereby, enable them to cope with their stress. So, it may be concluded that more the level of hardiness, lesser the level of stress experienced by the rescue workers.

The other chief finding of the study is that there is negative association between stress and problem - focused coping, thereby, supporting the second hypothesis of the study. This means that the

rescue workers who use problem-focused coping strategy experienced lower level of professional life stress. The research findings are in line with the previous research findings also (Asghari et al., 2013; Chou et al., 2011; Shirey, 2009; Soderstrom et al., 2000; Yuanyuan, Fang, Xinchun, Chongde, & Zhang, 2012). The negative relationship between problem-focused coping strategy and stress can be explained by focusing on the dimensions of problem-focused coping strategies which involves reinterpretation and growth, use of instrumental social support, active coping, turning to religion, restraint, suppression of competing activities, and planning. The use of these dimensions leads to practical approach to life which ultimately helps in coping with stress. Thus, the rescue workers scoring high on measures of problem-focused coping strategy reported lower level of stress.

Results also supported the third hypothesis of the current study that there would be positive association between stress and avoidant coping. Therefore, it can be concluded that increase in the degree of avoidant coping would also increase in the level of stress reported by rescue workers. These results are consistent with the previous research findings (Cummings & Dwyer, 2001; Snow, Swan, Raghavan, Conell, & Klein, 2003). According to Lazarus and Folkman (1984), individuals who use avoidant coping strategy may find a brief relief from stressful circumstances. They additionally described that continued use of avoidant strategy is related with distress. Thus, it is inferred that unresolved stress among rescue workers may become a serious concern because past findings revealed anxiety, burnout, and job dissatisfaction as outcomes of unresolved stress (Collins, 1996).

Results also show that there is non-significant relationship between emotion-focused coping and stress. These results are quite expected because at workplace, dealing with emergency situations, rescue workers become aware of this phenomenon that they have to use emotion-focused coping quite rarely. Instead of this, they are trained to use effective problem - focused coping in stressful circumstances to reduce the stress level.

Furthermore, another aim of the current study was to explore the prediction of stress by hardiness and coping. Hardiness significantly predicted the stress among rescue workers. Findings of the current study indicated that hardiness (control and challenge) significantly predicted stress among rescue workers. These results of the present study are consistent with past research findings indicating hardiness as significant predictor of perceived stress (Kyriacou & Constanti, 2008; Sezgin, 2009). Hardiness could decrease the adverse effects of stress. Stress decreasing effects of hardiness have been reported by numerous investigators (Monat, Lazarus, & Reevy, 2007; Polman & Nicholls,

2009; Rao, 2009; Shimazu & Schaufeli, 2007). Being hardy aids the individuals to cope with their stress. More hardy persons experience low level of stress. Thus, as an implication, increasing the hardiness of rescue workers would help them in reducing their stress level.

Limitations and Recommendations

The major limitation of the current study was small sample size which may affect the generalizability of the findings. Another limitation was forced-choice questions which may leave insufficient possibility for discrepancy in response. Additionally, current research used cross-sectional design, which prevents from drawing causal inferences. To find out cause and affect relationships, particularly the direction of relationships, longitudinal and experimental designs are suggested. As rescue workers were not randomly selected therefore, no claim can be made about the sample being representative of general population. Finally, there is another probability that participants' self-presentational apprehensions may affect their answers.

Implications

The present research highlighted the role of coping and hardiness as predictors of stress among rescue workers. On the whole, the current research has several implications. First, it added to the literature on hardiness, coping, and stress pertaining to rescue workers. Second, current study further highlighted the importance of concepts of stress, coping, and hardiness in the work environment of rescue workers, because they have to work in emergency situations almost all the time. The work-place stress plays an important role in the life of rescue workers. Stress can be reduced by adopting coping strategies and increasing the level of hardiness (Judkins, 2001). Therefore, in this way present research provides strong source for tumbling professional life stress. Third, findings of this study have theoretical implications as this provided scientific body of knowledge relating to the rescue workers in Pakistan. Fourth, findings of the present research increase significant implications for rescue education, practice, research, and health policy. Workshops could be organized to improve coping strategies and hardiness of rescue workers. Additionally, administration department of rescue can find this research significant by conducting different training workshops to enhance hardiness and coping strategies of workers. Finally, in Pakistan, working conditions for rescue workers are unprivileged, hence, they are more prone to develop stress. Evaluating stress and

hardiness may enable rescue workers to use effective stress reducing coping strategies.

Conclusion

The basic conclusion of the current study was that hardiness is the major predictor of stress among rescue workers.

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