

## **RISK-TAKING AND REASONS FOR LIVING IN NON-CLINICAL ITALIAN UNIVERSITY STUDENTS**

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*The associations between risk-taking, hopelessness, and reasons for living were explored in a sample of 312 Italian students. Respondents completed the Physical Risk Assessment Inventory, the Physical Risk-Taking Behavior Inventory, the Beck Hopelessness Scale, and the Reasons for Living Inventory. Students with lower scores on the Reasons for Living Inventory and higher scores on the Beck Hopelessness Scale rated the risky activities as less risky and engaged in them more often. Women obtained higher scores on risk assessment, lower scores on personal risk-taking and higher scores on the Reasons for Living Inventory and most of its subscales. Men in general and people who take risks and perceive lower risk are more hopeless and relatively weak in reasons for living.*

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Youth suicide, the third leading cause of death among teenagers and young adults, accounts for more deaths in the United States than natural causes for 15- to 24-year-olds, according to Murphy (2000). In Europe, according to the World Health Organization databank, suicidal behavior among young people has increased over the past 30 years, and European rates are on a par with those of the United States. The World Health Organization (2000) recognized suicide as a complex problem for which there is no single cause. Suicide results from a complex interaction of biological, genetic, psychological, social, cultural, and environmental factors.

Adolescence and early adulthood are often a time of risk-taking and experimentation, as young people take on new roles and responsibilities. Healthy risk-taking can be a positive tool for young people for discovering, developing, and consolidating their identity. However, high-risk behavior may indicate the presence of other serious problems (He, Kramer, Houser, Chomitz, & Hacker, 2004; Roberts, Auinger, & Ryan, 2004), such as a propensity for substance abuse, suicidal behavior, and violence. As a result the extent to which adolescents engage in risky behaviors, and the overall impact of these behaviors on personal health and development are of increasing public health concern (Carr-Gregg, Enderby, & Grover, 2003).

In recent years, studies of risk-taking behaviors have often conceptualized them as self-destructive behaviors. Kelley et al. (1985) constructed and validated a measure of self-destructiveness that included questions on behaviors such as gambling, excessive drinking, poor health-care behavior, and thrill-seeking. High scores on self-destructiveness were associated with high scores on external locus of control, substance abuse, and cheating in academic studies.

In South Africa, Flisher, Ziervogel, Chalton, Leger, and Robertson (1996) found that risky behaviors such as using alcohol and cannabis, carrying knives, and not using seat belts were strongly associated with one another in high school youths. These behaviors are also associated with suicidality. For example, Woods et al. (1997) found that youths who engaged in risky behaviors (such as carrying guns and not using seat belts) were more likely to have attempted suicide in the past, and Simon and Crosby (1997) found that youths engaging in risky behaviors were more likely to have made impulsive suicide attempts than those not. Neumark-Sztainer et al. (1996) found a similar association between

engaging in risky behaviors and both suicidal ideation and attempted suicide in Hispanic and Native American youths in Minnesota.

Windle, Miller-Tutzawer, and Domenico (1992) found that suicidal ideation and suicide attempts were more common in junior high school students who engaged in high-risk behaviors, and Clark, Sommerfeldt, Schwarz, Hedeker, and Watel (1990) found that students who scored high on suicide ideation reported more recklessness. However, Stanton, Spirito, Donaldson, and Boergers (2003) found that there were no significant differences in risk-taking behavior in adolescents who had attempted suicide and a matched control sample. Thus, previous research results have not always been consistent.

Frank and Lester (2003) identified gender differences in risk-taking in a large sample of over 16,000 American high school youth surveyed in 1997 by the National Institute for Occupational Safety and Health. They found that the adolescent boys, more than girls, engaged in more driving while drinking, carrying a weapon, and physical fighting, less seat belt use in cars and attempted suicide less often, and had about the same drug and alcohol use or sexual activity. Therefore, it is of interest to explore the association of risk-taking and suicidality in boys and girls separately.

The present research was designed to explore further the association between risk-taking behavior and suicidal risk to examine whether the association between engaging in risky behaviors and suicidality could be replicated in Italian university students, and to examine differences by gender, a variable that has been neglected in previous research on this association.

## **Method**

### *Participants*

The University of Rome “La Sapienza” is the most comprehensive academic institution in Italy and one of the most important and largest in Europe, having some 150,000 students in all the departments. The participants were 312 students (173 women, 139 men), with a mean age of 21.4 years ( $SD = 2.6$ ). They had been university students for an average of 2.7 years ( $SD = 2.0$ ) and belonged to 25 different faculties, especially Literature and Philosophy

( $n = 96$ , 31%). Italy is divided into 21 regions, each with its own social and cultural background. The university receives students mainly from regions located in the center and in the south of Italy. Most participants ( $n = 187$ , 60%) were from the Lazio region (the region that hosts the city of Rome), which is in the center-west of Italy, although 16 other regions were also represented.

### *Materials*

The 27-item Physical Risk Assessment Inventory (PRAI; Llewellyn, 2003) provides a measure of how individuals assess a range of sporting (e.g., parachute jumping) and health activities (e.g., smoking marijuana) in terms of their level of risk to the average participant. The PRAI is developed from the Franken, Gibson, and Rowland's (1992) Danger Assessment Questionnaire, which also included a number of social activities. The PRAI is scored using a 7-point Likert scale ranging from 0 (*no physical risk*) to 6 (*extreme physical risk*). In the original sample of students and working adults, the scale had good reliability (Cronbach's alpha was .91) and good concurrent validity with related measures. In a former sample of students attending the University of Rome, Cronbach alphas were 0.82 for the total scale, 0.60 for the Sport subscale, and 0.88 for the Health subscale.

The Physical Risk-Taking Inventory (PRTBI) is a 27-item questionnaire based on the PRAI items (Llewellyn, 2003). This instrument lists the risky activity included in the PRAI and assesses the level of personal involvement for each activity (using a 5-point Likert format ranging from 0 [*never*] to 4 [*frequently*]) for each activity. Llewellyn (2003) found a reduced measure with only 22 items to have good reliability (Cronbach alpha was 0.70) and concurrent validity. In a former sample of students attending the University of Rome, Cronbach alphas were 0.89 for the total scale, 0.90 for the Sport subscale, and 0.71 for the Health subscale.

The Beck Hopelessness Scale (BHS; Beck, Weissman, Lester & Trexler, 1974) is a 20-item true-false measure of hopelessness. It measures three major aspects of hopelessness: feelings about the future, loss of motivation, and expectations. Hopelessness is present in many mental disorders and is highly correlated with measures of depression, suicidal intent, and suicidal ideation. In a clinical sample, patients who scored 9 or above on the BHS were

approximately 11 times more likely to commit suicide than patients who scored 8 or below (Beck, Brown, Berchick, Stewart, & Steer, 1989).

The Reasons for Living Inventory (RFL; Linehan, Goodstein, Nielsen, & Chiles, 1983) contains 48 statements scored on a 6-point Likert scale, ranging from 1 (*extremely unimportant*) to 6 (*extremely important*). Factor analysis yielded six distinct subscales: Survival and Coping Beliefs, Responsibility to Family, Child Concerns, Fear of Suicide, Fear of Social Disapproval, and Moral Objections (Cole, 1989; Linehan et al., 1983). The number of items for each scale ranges from 3 to 24. Developed from a survey of college students, workers and senior citizens who were asked about their reasons for not committing suicide should the thought occur to them, the RFL is based on a cognitive behavioral view of suicidal behavior that proposes that cognitive patterns, whether they are beliefs or expectations, are significant mediators of suicidal behaviors (Linehan et al., 1983). An advantage of the RFL is its positive wording: simply completing it may have a suicide-preventive impact (Range & Knott, 1997). The RFL is one of the few scales recommended in a review of suicide prediction scales (Rothberg & Geer-Williams, 1992). Gutierrez, Osman, Kopper, and Barrios (2000) suggested that the RFL may possess better predictive power for suicidality than the BHS.

### *Procedure*

Respondents included in this study were contacted in their departments during the regular academic year. Students voluntarily completed the questionnaire anonymously in class during their breaks.

### **Results**

The means and standard deviations for the PRAI and PRTBI measures are shown in Table 1. There are no norms for the PRAI, but the mean total scores on this Italian sample were significantly lower than those of the English sample of adults reported in Llewellyn (2003) ( $M_s = 99.8$  vs.  $104.9$ ),  $t(717) = 3.37$ ,  $p < .001$ . A mean of 99.8 indicates a moderate perception of risk. On the PRTBI, the mean total score on this Italian sample was 15.4, which indicates engaging only moderately in risky activities. Llewellyn

**TABLE 1** Means (and *SDs*) for Risk Assessment, Risk Taking, Reasons for Living, and Hopelessness

Variable	Women	Men	Total	<i>t</i> test	<i>p</i> <	Cohen's <i>d</i>
Risk taking	103.3 (19.3)	95.4 (19.7)	99.8 (19.9)	3.54	.001	0.41
Sports	50.2 (13.1)	45.2 (13.4)	47.9 (13.4)	3.28	.01	0.38
Health	53.2 (10.7)	50.1 (10.2)	51.8 (10.5)	2.64	.02	0.30
Risk assessment	13.5 (10.6)	17.8 (9.5)	15.4 (10.3)	3.71	.001	0.43
Sports	4.1 (4.3)	6.5 (6.1)	5.2 (5.3)	4.03	.001	0.45
Health	8.8 (4.7)	11.3 (5.5)	9.9 (5.2)	4.27	.001	0.49
Hopelessness	4.7 (3.6)	5.1 (3.2)	4.9 (3.4)	0.98		
Feelings about future	1.0 (1.1)	1.3 (1.1)	1.0 (1.3)	2.15	.05	0.27
Loss of motivation	0.9 (1.2)	1.1 (1.3)	1.0 (1.3)	1.75		
Expectations for future	2.1 (1.3)	2.1 (1.3)	2.1 (1.4)	0.07		
Reasons for Living	4.2 (0.6)	3.7 (0.8)	4.0 (0.7)	5.27	.001	0.71
Survival and coping	4.9 (0.8)	4.5 (1.0)	4.8 (0.9)	4.01	.001	0.44
Family responsibility	3.8 (1.0)	3.3 (1.0)	3.6 (1.0)	4.49	.001	0.50
Child-related concerns	4.8 (1.3)	4.0 (1.7)	4.5 (1.5)	4.61	.001	0.53
Fear of suicide	3.1 (1.1)	2.6 (1.1)	2.9 (1.1)	4.28	.001	0.45
Fear of social disapproval	2.4 (1.3)	2.3 (1.3)	2.3 (1.3)	0.30		
Moral objections	2.8 (1.4)	2.6 (1.4)	2.7 (1.4)	1.26		

did not give the PRTBI in the form used for the present study, so no comparable scores are available.

There were significant differences by gender. Women saw the activities on the PRAI as more risky than men did, both overall,  $t(310) = 3.54$ , two-tailed  $p < .001$ , and for sporting,  $t(310) = 3.28$ ,  $p < .001$ , and health activities,  $t(310) = 3.15$ ,  $p < .01$ . Women reported fewer risky behaviors than men did, overall  $t(310) = 3.71$ ,  $p < .001$ , and for sporting,  $t(310) = 4.03$ ,  $p < .001$ , and health activities,  $t(310) = 4.27$ ,  $p < .001$ . Thus, women viewed the activities as more risky than men did and engaged in them less often.

On the BHS, the sample obtained a mean score of 4.88 ( $SD = 3.38$ ). The mean scores for each component were 1.10 ( $SD = 1.11$ ) for feelings about the future, 1.00 ( $SD = 1.28$ ) for loss of motivation, and 2.13 ( $SD = 1.36$ ) for future expectations. No significant differences were found between men and women on the total hopelessness score (see Table 1). For the subscales, only one of the three identified significant gender differences, with men obtaining higher scores for feelings about the future,  $t(310) = 2.15$ ,  $p < .05$  (see Table 1).

Table 1 shows the mean scores on the RFL and for its components, both for total sample and for men and women. Women obtained significantly higher total RFL scores than the men did,  $t(310) = 5.27$ ,  $p < .001$ . The women also reported significantly more survival and coping beliefs,  $t(310) = 4.01$ ,  $p < .001$ ; responsibility to family,  $t(310) = 4.49$ ,  $p < .001$ ; child-related concerns,  $t(310) = 4.61$ ,  $p < .001$ ; and fear of suicide,  $t(310) = 4.28$ ,  $p < .001$ . Women and men did not differ significantly on fear of social disapproval or moral objections. The effect sizes (using Cohen's  $d$ ) for the statistically significant gender differences ranged from 0.27 for feelings about the future on the BHS to 0.71 for total RFL scores (see Table 1).

Scores on both the PRAI and PRTBI correlated significantly with scores on the RFL and BHS (Tables 2 and 3). People with higher scores on the RFL perceived the activities on the PRAI as more risky and engaged in the risky health activities on the PRBTI less often. Also people with more hopelessness reported less perception of risk in health activities and more risky health activities. Twelve of the 18 correlations were statistically significant for the RFL as compared with only five of the 18 correlations for the BHS. The pattern of correlations was similar for the women and the men.

**TABLE 2** Correlations between the BHS, RFL, PRAI and PRBTI Scores for the Total Sample

Measure	2	3	4	5	6	7	8
1. BHS	-0.37***	-0.08	0.01	-0.16**	0.09	-0.04	-0.27***
2. RFL		0.26***	0.20***	0.25***	-0.14*	0.01	-0.26***
3. PRAI			0.87***	0.78***	-0.28***	0.20**	0.23***
4. PRAI sports				0.37***	-0.24***	-0.24***	-0.13*
5. PRAI health					-0.22***	-0.07	-0.28***
6. PRBTI						0.68***	0.67***
7. PRBTI sports							0.30***
8. PRBTI health							

*Notes.* BHS = Beck Hopelessness Scale; RFL = Reasons for Living Inventory; PRAI = Physical Risk Assessment Inventory; PRBTI = Physical Risk Taking Inventory.

\*Two-tailed  $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .



**TABLE 3** Correlations between Scores on the Scales by Gender

Scale	BHS			RFL		
	Total ( <i>N</i> = 312)	Women ( <i>n</i> = 173)	Men ( <i>n</i> = 139)	Total ( <i>N</i> = 312)	Women ( <i>n</i> = 173)	Men ( <i>n</i> = 139)
<b>PRAI</b>						
Total score	-0.08	-0.08	-0.05	0.26***	0.26***	0.19*
Sport	0.01	-0.03	0.10	0.20***	0.19*	0.12
Health	-0.16**	-0.12	-0.21*	0.25***	0.24**	0.21*
<b>PRBTI</b>						
Total score	0.09	-0.03	0.24**	-0.14*	-0.04	-0.16
Sport	-0.04	-0.10	-0.02	0.01	0.18*	-0.01
Health	0.27***	0.12	0.43**	-0.26**	-0.14	-0.26*

*Notes.* PRAI = Physical Risk Assessment Inventory; PRBTI = Physical Risk Taking Inventory; BHS = Beck Hopelessness Scale; RFL = Reasons for Living Inventory.

\*Two-tailed  $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

## Discussion

The present results indicated that participants with higher reasons for living took fewer risks than those with lower reasons for living. There was a similar trend for scores on the Hopelessness Scale with those with higher hopelessness scores taking more risks, but only in health activities. The correlations were more consistently significant for risky activities associated with health issues than risky behaviors associated with sports. The pattern of correlations was similar for the women and the men, despite the differences in the mean scores on the PRAI and the PRBTI obtained by women and men. These results confirm those of earlier similar studies by Kelley et al. (1985) and others, and indicate that chronic self-destructiveness appears to be a personality dimension that affects behavior across a wide range of ages and situations. Our results add further knowledge on the “suicide spectrum” that is a range of behaviors that may be grouped having in common self-destructiveness. Our findings are consistent with the notion that reasons for living appear to decrease in individuals who engage in risk-taking activities. Risk-taking activities might represent warning signs for individuals who experience distress and psychological pain

and who ultimately may abandon health risk-taking lifestyle and commit suicide as a final solution for their crisis.

The fact that the associations occurred for risky health activities and not for risky sports activities suggests that the motivations for risk-taking in these two areas may be different. For example, perhaps risk-taking in sporting activities reflects a non-pathological sensation seeking life-style, whereas risk-taking in health activities reflects a more pathological, self-destructive tendency. This is an issue for future research.

Present results indicated that Italian women university students perceived the activities listed in the PRAI to be riskier, and they engaged in them less than the men students; this finding is also consistent with previous research (Spigner, Hawkins, & Loren, 1993; Ronay & Kim, 2006). Men students had lower scores on the RFL total score and on four of the six subscales, including the Survival and Coping Belief subscale, suggesting that they were at higher suicide risk. Our findings are consistent with previous results; for example, Osman, Gifford, Jones, Lickiss, Osman, and Wenzel (1993) reported that women scored significantly higher than did men but only on fear of suicide, and Innamorati et al. (2006) reported differences on three subscales, including survival and coping beliefs. On the other hand, men and women did not differ significantly in their scores on the BHS; this is consistent with the study performed by Steed (2001) who did not find gender difference for such scale among undergraduates.

Suicide prevention among children and adolescents is a high priority due to the fact that suicide ranks first or second as a cause of death among both boys and girls in the 15- to 19-year-old age group in many countries. In that most people in this age group attend school, school is an ideal place to develop appropriate prevention action. The present results suggest that monitoring the risk-taking attitudes and behaviors of students may be a useful adjunct to direct measures of suicidality, depression and hopelessness, especially because the administration of the latter measures may raise problems of parental consent.

The present study has several important limitations. First, it used a non-clinical sample. Second, the measures used to ascertain the attitudes of the respondents toward risky sport activities had poor reliability. Third, there may have been factors decreasing the validity of the scales, such as social desirability (Banister, Burman, Parker,

Taylor, & Tindall, 1994). It would be of interest to explore the results of this study in a clinical sample of persons with prior suicidal behavior (both suicidal ideation and suicide attempts) and in groups that take risks (such as sky divers or those who race cars). It is also important to identify which “risky” behaviors are associated with suicidality and which are not. However, the present study suggests that exploring the association between risk-taking behaviors and suicidal behavior may be a fruitful avenue for future research.

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