

Intolerance of Uncertainty and Coping Mechanisms in Nonclinical Young Subjects

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ABSTRACT

Introduction: We aimed to explore the relationship between intolerance of uncertainty (IU) and coping mechanisms in a nonclinical sample with the same age and educational level.

Methods: The Coping Orientations to Problems Experienced (COPE) scale was used to evaluate the coping mechanisms. The IU scale was used to evaluate IU situations.

Results: We found that the negative impact of uncertainty on the action in female students was greater than males. While female students used more planning, instrumental support, reinterpretation, religion, emotional

support, venting, and mental disengagement coping styles, male students used more humor, denial, and alcohol/drug abuse coping styles. Subjects with psychological problems had higher IU scores and used some more coping mechanisms (restraint, acceptance, behavioral disengagement, and alcohol/drug abuse) than the others.

Conclusion: Our results suggest that healthy subjects use different coping styles and respond differently to uncertainty in both genders.

Keywords: Coping mechanisms, intolerance of uncertainty, healthy populations, psychological problems, university students

INTRODUCTION

Intolerance of uncertainty (IU) is described as a dispositional characteristic resulting from negative beliefs about uncertainty and its implications (1). IU is generally thought of as a trait characteristic that can be altered following a significant life experience (2). Individuals who show IU have a cognitive bias that affects how a person perceives, interprets, and responds to uncertain situations on a cognitive, emotional, and behavioral level (3). They experience the possibility of negative future events as threatening and unacceptable, regardless of the probability of the events actually occurring (4).

Intolerance of uncertainty has been associated with different anxiety disorders (1,4). For example, it was found to be more strongly related to obsessive compulsive disorder (OCD) symptoms and worry than with health anxiety and hypochondriacal concerns (3). In fact, modern anxiety disorder models implicitly include IU as a critical component for the development and maintenance of these pervasive social and economic concerns. IU primarily represents the fear of the unknown, which is a long-recognized, deep-seated fear identified in normative and pathological samples (5). In addition, a recent meta-analysis revealed that IU was more strongly related to generalized anxiety disorders (GAD) than to OCD when the GAD-specific definition of IU was used (6).

Individual differences for IU have not only been associated with heightened anxiety but also with approach-oriented coping (7). Coping mechanisms are defined as the processes that individuals use to deal with negative events and control internal threats induced by stress. Coping mechanisms have two basic dimensions. First are problem-focused coping strategies, defined as efforts to recognize, modify, or eliminate the impact of a stressor or cognitive activity (e.g., problem solving, cognitive restructuring). Second are emotion- and avoidant-focused coping strategies, defined as efforts to regulate emotional states that are associated with exposure to stress (e.g., distancing, seeking social support) (2,8,9). It has been suggested that emotion-focused coping was significantly related to IU (2).

It is controversial whether or not coping strategies show differences with respect to age, gender, and education level. Some studies did not report any relationship between genders and coping mechanisms, whereas others found gender differences in coping mechanisms (10). While males were more likely to use problem-solving strategies, females preferred emotional distraction strategies (11). Moreover, males were more likely to report physical activity and substance use, whereas females were more likely to engage in a conversation (12,13).



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The Present Study

Although a considerable amount of evidence shows the relationship between IU and stressful events (2-4,14-17), the associations between the coping mechanisms and IU have not been adequately studied in nonclinical samples. Also, the effect of gender on this relationship is controversial. Thus, the main objective of the present study was to explore the relationship between IU and coping mechanisms, particularly with respect to gender in a nonclinical sample with the same age and educational level. The first hypothesis states that IU would be highly related to coping strategies, particularly emotion-focused ones. The second hypothesis shows that subjects with psychological problems would have more IU levels and use different coping mechanisms. The final hypothesis states that there would be gender differences in the prevalence of specific coping mechanisms and IU.

METHODS

Sample

The sample consisted of 323 randomly chosen university students, studying in various departments at the Karabük University in Turkey. Participation in the study was voluntary. They were requested to fill in a socio-demographic data questionnaire and two assessment instruments that are mentioned below.

Measurements

Coping Orientations to Problems Experienced (COPE) Scale:

Coping styles were measured using the COPE scale (18), a 60-item self-report designed to examine various coping styles used in response to stressful events. The scale consists of 15 subscales, each divided into clusters of four items, with scores from 1 (not at all) to 4 (a lot). Five of the subscales measured problem-focused coping strategies (active coping, planning, suppression of competing activities, restraint coping, and seeking social support for instrumental reasons), five measured emotion-focused coping (seeking social support for emotional reasons, focus on and venting of emotions, positive reinterpretation, acceptance, and turning to religion), and five measured dysfunctional coping (focusing on problem-revealing emotions, denial, behavioral disengagement, mental disengagement, and alcohol/drug disengagement). A sum score was calculated for each subscale; a high sum score indicates more use of that particular coping style. It was adapted for use with the Turkish population and found a reliable instrument for assessing coping strategies (19).

Intolerance of uncertainty (IU) Scale: IU is a 27-item scale. It has been developed to evaluate the uncertain status given to the cognitive, emotional, and behavioral reactions by Freestone (20). It is a 5-point Likert scale ranging from 1 (not at all characteristic of me) to 5 (entirely characteristic of me). The reliability and validity of the Turkish versions of the IU scale were examined by Sari (21,22) in 2007. The subjects of the preliminary and main studies included university students for reliability and validity analyses. The internal consistency was satisfactory. The factor analysis revealed a four-factor solution: "uncertainty is stressful and upsetting," "negative self-assessment about uncertainty," "disturbing thoughts about the uncertainty of future," and "uncertainty keeps me from acting" (21,22).

Statistical Analysis

Statistical analysis was performed using the Statistical Package for the Social Sciences 15.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were given as mean, standard deviation, minimum and maximum value, frequency, and percentage. The chi-square test was used to compare discrete variables between groups. Student's t-test was used to compare continuous variables. Partial Pearson's correlation analysis was performed

to determine the correlation between the COPE and IU scales. A statistical significance level was accepted as $p < .05$.

RESULTS

The sample consisted of 323 randomly chosen university students. There were 152 (47.1%) female and 171 (52.9%) male students. The mean age of the students was 20.8 ± 1.8 years (range: 18–30 years). The mean number of siblings was 2.6 ± 1.7 (range: 0–11). The economic status of 29 (9.0%) participants was low, 250 (77.4%) was medium, and 44 (13.6%) was high. Seven (2.2%) participants were married, whereas 316 (97.8%) were single. Of the total participants, 83 (25.7%) used alcohol beverages (14 subjects used alcohol at least once a week) and seven (2.2%) used non-legal substances (two used them at least every other day). Of the participants, 66 (20.4%) reported that they suffer from psychological problems, but only seven (10.6%) of those were undergoing treatment. The 28 students who reported psychological problems used alcohol or non-legal substance (9 students used alcohol at least once a week, 19 used alcohol less than once a week, and 2 also used non-legal substances once in a while).

The socio-demographic characteristics, including age, economic status, number of siblings, and presence of psychological problems, were similar when compared in terms of gender. Alcohol and substance use in males were at a higher rate than in females ($p < .05$) (Table 1).

"Uncertainty keeps someone from acting" subscale scores of IU in female students were higher than those in males ($p < .05$). Female students used more planning, instrumental support, reinterpretation, religion emotional support, venting, and mental disengagement coping styles than males when we considered the COPE scale. In contrast, male students reported that they used more humor, denial, and alcohol/drug abuse coping styles than female students ($p < .05$) (Table 2).

With respect to the presence of psychological problems, there were no differences between both genders ($\chi^2 = 2.806$, $p = .062$) and the ages ($F = 2.148$; $t = .753$; $p = .452$). Students with psychological problems had a higher total IU and some of its subtest scores than the others ($p < .05$). They also used some more coping mechanisms (restraint; acceptance; dysfunctional cluster; including behavioral disengagement; and alcohol/drug abuse) than students without psychological problems ($p < .05$) (Table 3).

When considering age, gender, and presence of psychological problems, some coping styles were mild to moderately associated with IU ($r > .25$ and $p < .05$) (Table 4).

DISCUSSION

In this cross-sectional nonclinical study, we investigated whether or not coping styles and IU are different and associated with gender in healthy university students. We found that the negative impact of uncertainty on the action in female students was greater than that in males. While female students used more planning, instrumental support, reinterpretation, religion emotional support, venting, and mental disengagement coping styles, male students used more humor, denial, and alcohol/drug abuse coping styles. Subjects with psychological problems had higher IU scores and used some more coping mechanisms (restraint; acceptance; dysfunctional cluster; including behavioral disengagement, and alcohol/drug abuse) than the others. In addition, some coping styles were from mild to moderately associated with IU.

Almost 20% of all participants reported having psychological problems, but only 10.6% of those were undergoing treatment. Similarly, Gultekin 401

Table 1. General demographic and clinical characteristics

	Female (n=152)	Male (n=171)	Statistics	
Age (years)	20.6±1.8 ^a	20.9±1.8	t=1.474	p=.14
Number of siblings	2.6±1.6	2.7±1.8	t=0.420	p=.64
Economic status				
Low	9 (5.9%)	20 (11.7%)	$\chi^2=4.008$	p=.14
Medium	119 (78.3%)	131 (76.6%)		
High	24 (15.8%)	20 (11.7%)		
Alcohol use				
Yes	25 (16.7%)	41 (24.0%)	$\chi^2=13.536$	p=.001 ^b
No	125 (83.3%)	130 (76.0%)		
Non-legal substance use				
Yes	1 (0.7%)	6 (3.5%)	$\chi^2=3.082$	p=.08 ^c
No	150 (99.3%)	164 (96.5%)		
Psychological problem				
Yes	25 (16.4%)	41 (24.0%)	$\chi^2=2.806$	p=.62
No	127 (83.6%)	130 (76.0%)		

t: Student's t-test; χ^2 : chi-square test; ^aMean±standard deviation; ^bp<.01; ^cp<.05

and Dereboy (23) described that approximately 15% of university students have psychological problems and expressed that very few of them take the treatment. In another study, 36% of subjects showed psychological problems (22). Our rate is thought to be similar to that found in the literature. An important point in these results is the low rate of treatment and this should be focused on.

In our study, we found the rates of alcohol and substance use were 25.7% and 2.2%, respectively. Similar studies have suggested similar results. For example, Gultekin and Dereboy (23) suggested that the rates of alcohol and non-legal substance use were 28% and 1.1%, respectively. The content and amount of alcohol and substances have not been investigated. Therefore, it is difficult to form a general conclusion in these matters.

"Uncertainty keeps someone from acting" subscale scores in females were higher than those in males in our study. This result indicates that IU shows different results according to gender. The role of gender has not been studied in several clinical studies (1,3,16,17,24). In a study conducted in Turkey (22), "uncertainty is stressful and upsetting" subscale scores in females were higher than those in males. The reason for the differences of IU could be studied in samples of different universities and education levels and whose socio-demographic data differs from each other. However, these two studies support the gender differences.

We found that male and female students had different coping mechanisms from each other. For example, male students used more humor, denial,

Table 2. Comparison of intolerance of uncertainty and coping mechanisms in terms of gender

Intolerance of uncertainty scale	Female (n=152)	Male (n=171)	F^b	t^c	p
Uncertainty is stressful and upsetting	27.2±7.6 ^a	26.8±6.8	3.703	.564	.573
Negative self-assessment about uncertainty	20.2±6.7	20.8±6.1	2.140	-.882	.379
Disturbing thoughts about the uncertainty of future	12.1±3.9	12.0±3.5	2.232	.201	.841
Uncertainty keeps someone from acting	13.0±3.6	11.8±3.2	3.562	3.162	.002 ^d
Total	72.5±19.2	71.4±16.5	5.246	.553	.581
COPE					
Active coping	11.9±2.4	11.3±2.5	1.259	2.221	.027
Planning	12.3±2.4	11.4±2.8	1.097	2.724	.007 ^d
Restraint	9.2±2.4	9.4±2.5	.736	-.738	.461
Instrumental support	11.9±2.9	11.1±3.2	3.047	2.101	.036 ^e
Suppression	10.1±2.2	10.2±2.3	.042	-.234	.815
Problem focused cluster	55.2±8.1	53.3±9.3	2.449	1.897	.059
Reinterpretation	13.0±2.3	12.4±2.4	.313	2.164	.031 ^e
Religion	13.3±3.1	12.6±3.2	.085	2.091	.037 ^e
Humor	8.5±3.3	9.4±3.3	.066	-2.470	.014 ^e
Acceptance	9.2±2.6	9.3±2.6	.398	-.201	.841
Emotional support	11.6±3.0	10.3±2.9	.121	3.745	.000 ^d
Emotional focused cluster	55.5±7.5	54.0±8.5	2.492	1.757	.080
Mental disengagement	10.3±2.4	9.7±2.7	3.750	2.059	.040 ^e
Venting	11.9±2.7	10.2±2.7	.267	5.658	.000 ^d
Denial	6.9±2.7	7.7±2.7	.230	-2.529	.012 ^e
Behavioral disengagement	6.6±2.5	7.0±2.9	2.315	-1.502	.134
Alcohol/drug abuse	5.3±2.6	6.4±3.3	17.954	-3.491	.001 ^d
Dysfunctional cluster	41.0±7.8	41.1±9.5	5.344	-.110	.912

^aMean±Standard Deviation; ^bF value of Student's t-test; ^ct value of Student's t-test; ^dp<.01; ^ep<.05. COPE: coping orientations to problems experienced

Table 3. Comparison of intolerance of uncertainty and coping mechanisms in terms of psychological problems

	Psychological problems		Statistics		
	Yes (n=66)	No (n=257)	F ^b	t ^c	p
Intolerance of uncertainty scale					
Uncertainty is stressful and upsetting	29.8±7.3 ^a	26.3±7.0	.646	3.622	.000 ^d
Negative self-assessment about uncertainty	22.9±6.3	19.8±6.3	.620	3.480	.001 ^d
Disturbing thoughts about the uncertainty of future	12.4±4.0	12.0±3.6	1.680	.882	.378
Uncertainty keeps someone from acting	12.8±3.7	12.3±3.4	2.298	1.086	.278
Total	77.9±18.2	70.4±17.4	.250	3.099	.002 ^d
COPE					
Active coping	11.4±2.6	11.7±2.4	.419	-.877	.381
Planning	11.5±2.8	11.8±2.5	1.568	-.605	.545
Restraint	10.1±2.7	9.1±2.4	2.910	2.978	.003 ^d
Instrumental support	10.8±3.1	11.6±3.1	.033	-1.868	.063
Suppression	10.4±2.1	10.1±2.3	.807	1.050	.295
Problem focused cluster	54.2±8.7	54.2±8.8	.000	.008	.994
Reinterpretation	12.3±2.5	12.8±2.3	.587	-1.379	.169
Religion	12.7±3.2	13.0±3.2	.209	-.546	.586
Humor	9.7±3.5	8.8±3.3	.497	1.934	.054
Acceptance	9.9±2.4	9.1±2.6	1.150	2.293	.022 ^e
Emotional support	10.8±2.9	10.9±3.0	.083	-.250	.803
Emotional focused cluster	55.4±8.2	54.5±8.0	.903	.818	.414
Mental disengagement	10.3±2.4	9.9±2.6	1.757	1.217	.224
Venting	11.2±2.5	10.9±2.9	1.116	.770	.442
Denial	7.9±3.2	7.2±2.6	4.935	1.900	.058
Behavioral disengagement	7.6±2.9	6.6±2.6	.774	2.560	.011 ^e
Alcohol/drug abuse	6.9±3.6	5.6±2.9	13.332	3.146	.002 ^d
Dysfunctional cluster	44.0±8.7	40.3±8.6	.224	3.110	.002 ^d

^aMean±Standard Deviation; ^bF value of Student's t-test; ^ct value of Student's t-test; ^dp<.01; ^ep<.05. COPE: coping orientations to problems experienced

and alcohol/drug coping styles. Coping mechanisms has been defined as the process that individuals use to modify the adverse aspects of their environment as well as to minimize the internal threat induced by stress. There is no single and universally accepted definition of coping. Coping styles constitute an important component of the individual's adaptation to the impact of different stressors, including extreme psychological trauma. It seems that it is not the stressor alone that leads to a serious outcome, but the manner in which a person perceives and responds to it (8).

With respect to gender, it is controversial whether or not coping strategies are distinct from each other. Although Gurkan and Dirik (10) suggested that there was no relationship between gender and coping strategies in university students, some studies have shown that there are gender differences in coping strategies (18,25,26). Austenfeld and Stanton (25) suggested that young women who cope through emotional processing evidence more adaptive personality resources, whereas emotional processing is less related to personality dispositions in young men. Schiltz et al. (26) also pointed to gender differences. Carver et al. (18) also suggested that there were several significant gender differences with respect to the use of various coping strategies. The largest and most reliable of these differences were with respect to the tendencies to focus on and vent emotions and to seek social support, both for instrumental and emotional

reasons. These tendencies were all greater among women than among men, consistent with gender role stereotypes. The only tendency that was stronger among men than women was the use of alcohol or drugs as a coping mechanism (18). In addition, it was reported that venting emotion on others was more prevalent in females than males (13). The results of our study are consistent with those in the literature.

We found that some coping styles were mild to moderately associated with IU. Similarly, it was reported that subjects with high IU scores were likely to rely on maladaptive behaviors and cognitive strategies as a coping mechanism when faced with uncertain and potentially aversive situations (14). Women who could not tolerate uncertainty were more likely to use emotion-focused coping, which was related to greater depressive symptoms (2).

A limitation of the present study was that all assessments were self-reports, which depend on the respondent's ability to correctly understand the question and make accurate self-assessments, which was critical in the current study. However, we found that the measures were completed in a reliable fashion. Other limitations included an almost entirely similar sample population of the same age group and education level, which limits generalizations.

Table 4. Correlations between Intolerance of Uncertainty and COPE scales^a

COPE	Intolerance of uncertainty scales				
	Uncertainty is stressful and upsetting	Negative self-assessment about uncertainty	Disturbing thoughts about the uncertainty of future	Uncertainty keeps someone from acting	Uncertainty total
Restraint	.35 ^b	.40	.25	.28	.39
	.000 ^c	.000	.000	.000	.000
Suppression	.29	.27		.26	.31
	.000	.000		.000	.000
Problem focused cluster	.31	.28	.25	.32	.34
	.000	.000	.000	.000	.000
Acceptance		.28			
		.000			
Emotional focused cluster	.27	.29		.32	.31
	.000	.000		.000	.000
Mental disengagement	.29	.31		.27	.32
	.000	.000		.000	.000
Venting	.28	.28	.29	.26	.32
	.000	.000	.000	.000	.000
Denial		.28			
		.000			
Behavioral disengagement		.36			
		.000			
Dysfunctional cluster	.328	.458	.232	.253	.39
	.000	.000	.000	.000	.000

^aAge, gender, presence of psychological problems, and $r \geq .25$ were taken into consideration; ^br: Partial Pearson Correlation; ^c $p < .01$; COPE: coping orientations to problems experienced

In conclusion, our results suggest that healthy subjects use different coping styles and respond differently to uncertainty in both genders; there is the mild-moderate relationship between coping strategies and IU. Gender should be considered in studies investigating these factors. In addition, IU may be changed while intervening to coping mechanisms.

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