

## **Hardy personality assessment: Validating the Occupational Hardiness**

### **Questionnaire in police officers**

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#### **Abstract**

The *hardy personality* or *hardiness* concept is defined in scientific papers as a personal resource to lessen the negative effects of stressful events on health and to protect it from job strain. Although it is common to find studies on the assessment of this concept in different occupational samples, research in police officers is scarce (even though officers are exposed to stressful events on a daily basis).

Moreover, the lack of methodological rigour in the assessment of hardiness promotes the accomplishment of studies that establish the proper use of assessment instruments. The objective of this paper is to determine the psychometric characteristics of the Occupational Hardiness Questionnaire – OHQ – in a sample of Spanish police officers.

This is a cross-sectional study with 212 officers from Madrid, Spain. Descriptive analysis, correlations, confirmatory factor analysis and regression analysis were performed. The results showed appropriate validity and reliability, with values for Cronbach's alpha ranging between .81 and .87. As a main conclusion, it can be said that the instrument can be recommended for the assessment of personality hardiness; in addition, its proper application in police officers is confirmed.

**Keywords:** Hardy personality, police officers, questionnaire, assessment.

**Public Significance Statement:**

This study establishes the appropriate psychometric characteristics of the Occupational Hardiness Questionnaire to assess Hardy personality within the police collective. It provides relevant data on these professionals, which is valuable considering the scarce studies on Hardy personality in police officers. Hardy personality is a variable that protects individuals against stress and disease.

The *hardy personality* concept can be considered the pattern of attitudes and strategies of an individual that stimulate the perception of stressful circumstances or conditions at work as an opportunity for professional development (Maddi, 2013). It is a resource mainly used to lessen the negative effects of stressful events on health, especially, to protect the individual from occupational strain (Kobasa, Maddi, & Kahn, 1982). This concept has its roots in the following theoretical-conceptual models: the stress response theory (Selye, 1956); the transactional model of stress and coping (Lazarus & Folkman, 1984); the job demands-resources model (Bakker & Demerouti, 2007) and other authors' contributions, such as Allport's (1955), about the benefits of some personality traits on the stress process.

Of all these theories, the one proposed by Kobasa (1979) has aroused great interest from researchers. Kobasa (1979) presented the *hardiness* concept after noting that exposure to high levels of stress did not lead to health problems in some individuals. The main characteristics of the model are: (1) the conceptualization of humans as constantly building their personality by means of their behaviors, and (2) the conceptualization of life as a constant change linked to stressful situations.

This concept emerges from the idea of "protection" against possible stressors and can be understood as the result of the interaction between the individual and the environment. The *personality hardiness* concept consists of three interrelated but not redundant dimensions (Kobasa, 1979): a) commitment is the tendency to develop behaviors characterized by our personal implication, in every activity of our life; this variable is considered to buffer the effects of stress. This characteristic is not limited to a feeling of personal competence, but it comprises a feeling of community and/or corporation; b) control, the most studied variable in the model. It refers to the certainty the individual has in order to intervene in the course of events. This capacity of control allows the individual to perceive predictable consequences of their own activity in stressful events; thus perceives that he/she can handle the stimuli for

their own benefit, mitigating the effects of stress; c) finally, the challenge dimension refers to the belief that change, versus stability, is the more common characteristic of life. From this point of view, a stressful stimulus can be seen as an opportunity or incentive for personal development, instead of a threat. As a result of their meta-analysis, Eschleman, Bowling and Alarcón (2010) concluded that commitment and control were strongly associated ( $p = .79$ ,  $k = 51$ ,  $N = 10418$ ). The associations between commitment-challenge ( $p = .45$ ,  $k = 49$ ,  $N = 10238$ ) and control-challenge ( $p = .43$ ,  $k = 48$ ,  $N = 10004$ ) were moderate. In this case, the values “ $p$ ” and “ $k$ ” refer to the average weighted correlation coefficient corrected for unreliability in both the predictor and criterion ( $p$ ) and the number of samples in the study ( $k$ ). Hardiness is clearly distinguished from other traits or constructs, such as: neuroticism (Skomorovsky & Sudom, 2011), type A behavioral pattern (Kobasa, Maddi, & Zola, 1983), negative affectivity (Maddi & Khoshaba, 1994) and optimism (Maddi & Hightower, 1999).

On the other hand, this construct is proposed as a health protection factor (Kobasa, Maddi, & Kahn, 1982) and is negatively associated with psycho-social stressors at the workplace, such as: conflict with colleagues and supervisors, uncertainty about the task or high workload (Eschleman, Bowling, & Alarcón, 2010). It has also been shown that individuals with high scores on personality hardiness display higher levels of effort at work (Merino, Hontangas, Boada, & Lucas, 2015). Likewise, it has become clear that hardiness can moderate the relationship between perceived safety climate and musculoskeletal disorders (Golubovich, Chang, & Eatough, 2014). Taylor, Pietrobon, Taverniers, Leon and Fern (2013) found that hardy personality was associated with physical health in military personnel and such relationship was mediated by mental health. Eschleman, Bowling and Alarcón (2010) reached similar conclusions, as they also determined that hardiness is associated with physical health, with the mediation of the individuals’ perception about their mental health. Another research with a military sample, has remarked that hardy personality

can predict life satisfaction and perceived health (Skomorovsky & Stevens, 2013). In a longitudinal study conducted by Hystad, Eid and Brevik (2011) with 7,239 civil workers (grouped as: service personnel, teachers, security personnel, construction workers and other) and military personnel, where age, gender and medical leave variables were controlled, they concluded that hardiness was associated with medical leaves (OR = .97). OR refers to the odds ratio. Therefore, even the OR is slightly lower than 1, hardy personality predicts medical leaves. The higher the level of Hardy personality, the lower the probability of a medical leave.

Therefore, many studies have so far established the relationship, in different professional groups, between hardiness and occupational strain, as well as its association with other workplace-related variables. However, hardy personality in professionals of the security forces, such as police officers, has been less studied. The Police profession is at high risk for developing occupational stress, and it can lead to health problems (Gerber et al. 2014; van der Velden et al., 2013). These professionals need to be alert at all times to meet the demands from citizens and perform their assignments (García & Ávila, 2014). In Spain, local police are under the dependence of city halls. The organization is hierarchical and of authority. Police officers should communicate all actions to the relevant State Security Forces and Agencies with regard to road accidents and crime prevention. Their performance is limited to the territory of their respective municipality. In addition, they must carry weapons on a preventive and deterrent basis, and can only be used under exceptional circumstances. Municipal police officers are obliged to provide service in case of emergency, until the need ceases, which implies that they need to active all their available resources to cope with periods of high workload and scarce opportunities to rest. Thus, most of the stimuli that officers perceive as stressful, are originated in the organization and the assigned tasks (Garbarino, Cuomo, Chiorri, & Magnavita, 2013).

The publication of studies on the evaluation of personality hardiness in police officers is scarce; besides, one of the main limitations of the research on this concept is related to lack of methodological rigour of the assessment instruments (Moreno-Jiménez, Rodríguez-Muñoz, Garrosa, & Blanco, 2014). Nevertheless, some of the questionnaires that have been used to assess personality hardiness are: Personal Views Survey (Hardiness Institute, 1985); Cognitive Hardiness Scale (Nowack, 1989); Personal Views Survey II (Maddi, 1991); Personal Views Survey III-R (Maddi et al., 2006); and, more recently, Dispositional Resilience Scale -15 – DRS-15 – (Bartone, 2007). With regard to Spanish population, the Occupational Hardiness Questionnaire (Moreno-Jiménez, Rodríguez-Muñoz, Garrosa & Blanco, 2014) has been used to assess hardiness in health professionals and fire-fighters, with adequate validity and reliability. In spite of this, De la Vega, Ruiz, Gómez and Rivera (2013) point to the need to improve the assessment instruments for this construct. Therefore, the objective of our research is to determine the psychometric properties (validity and reliability) of the Occupational Hardiness Questionnaire (Moreno-Jiménez, Rodríguez-Muñoz, Garrosa & Blanco, 2014) in a sample of police officers.

## **Method**

### *Participants*

In this cross-sectional study the total sample comprises 212 local police officers from Madrid (Spain), 191 men (90.1%) and 21 women (9.9%). The mean age is 41 ( $SD = 7.52$ ). The average seniority in their current position is 9 years ( $SD = 17.01$ ). Regarding educational status, the larger group of these police officers are the ones that graduated from high school (49.7%), followed by those with a bachelor's degree (23.8%), the group that graduated from technical schools/colleges (18.4%), and those who graduated from middle or junior schools (8.1%). Regarding workshifts, 38.1% of these officers work on the morning shift, 27.4% are

on the afternoon/evening shift, 23.8% work on the night shift, 4.9% of the policemen work on a rotative shift, combining afternoon/evening and night shifts, 3.1% work on a morning-night rotating schedule, some work on 3-shift rotating schedule (1.8%), and just a few work on a morning-afternoon/evening rotating schedule (0.9%). A convenience sampling was used, and included those officers with more than a year in their current position and police station.

### *Instruments*

*Hardiness.* To assess this construct, the Occupational Hardiness Questionnaire was used (Moreno-Jiménez, Rodríguez-Muñoz, Garrosa, & Blanco, 2014); it consists of 15 items and 3 factors: Control (5 items), refers to the belief that one can influence the course of events and, therefore, it refers to the perception of what it is happening is caused by one's actions. When the individual perceives control over a stressful situation, will handle the stimuli from the environment in their own benefit, minimizing the negative effects of stress. An example of item is: "The control of situations is the only thing that ensures success"; second, the Challenge factor (5 items) refers to the belief that change is common in our daily life. The individual that scores high in this dimension perceives the stressors from the environment as challenges instead of threats. An example of item is: "Even when it supposes greater effort, I choose jobs that suppose a new experience for me"; finally, the Commitment dimension (5 items) refers to the tendency to develop behaviors with a high degree of personal involvement. An example of item in this scale is: "I involve myself seriously in what I do, because it is the best way to reach my own goals". The questionnaire is completed using a Likert scale, with options ranging from 1 to 4, from "I totally disagree" to "I fully agree". The higher the score in each factor, the higher the level of hardy personality. The total score is obtained from the mean of the three dimensions in the global construct, and ranges from 1 to 4. This assessment instrument has been validated in samples of health workers and fire-fighters, with reliability values between .74 and .81 and adequate validity, confirming the

three dimensions (Moreno-Jiménez, Rodríguez-Muñoz, Garrosa, & Blanco, 2014).

Nevertheless, in the present study, the corresponding analysis will be performed, in order to confirm its adequate use and psychometric properties in this sample of police officers.

*Perceived general health.* The Spanish adaptation of the General Health Questionnaire (GHQ-28; Lobo, Pérez-Echeverría, & Artal, 1986) was used to assess the perception of the participants on their general health status. This instrument was created to specifically assess perception about the inability to carry on with daily functioning and detect the appearance of psychological disease in general population with recent symptoms (less than two weeks). The 28-item version was applied, consisting of four scales: a) Somatic symptoms (i.e.: headache, hot flashes, feeling tired, chills or ill feeling). An example of item of this scale is: “Have you recently been getting any pains in your head?”; b) Anxiety and insomnia scale: assesses several symptoms related to these two health problems. Example of item: “Have you recently had difficulty to stay asleep once you are off?”; c) Social dysfunction: the items in this scale are meant to assess the capability to deal with life issues. Example of item: “Has it recently been taking longer over the things you do?”; d) Severe depression. An example of item in this scale is: “Have you recently found yourself wishing you were dead and away from it all?”. The response format has four options ranging from: “Better than usual” or “No, not at all” to “Much worse than usual” or “Much more than usual”. The correction format used in this research was the Likert scale that reflects the frequency, from lower to higher, of the experimented symptomatology. This version of the questionnaire has appropriate validity and reliability (Cronbach’s alpha = .90).

### *Procedure*

The present research was approved by the Ethics Committee from the Faculty of Psychology of the Complutense University of Madrid (Ref. 2016/17-012). Police

representatives and local police stations were informed, and a cooperation agreement between the Police and the University was signed. Police officers were informed that their participation was anonymous and that the collected data would be used exclusively for research purposes. The participants first signed the informed consent and then completed the questionnaires in paper format. The questionnaires were returned in a closed envelope to the researchers, who supervised the process. The organization received in exchange a general and anonymous results report.

### *Data analysis*

The analysis were carried out using the R statistical software (Interface R Studio 3.1.3.) and SPSS Statistics for Windows version 21.0. Descriptive analysis, correlations, validity (construct, convergent, predictive) and reliability analyses were performed. Considering that the dimensions of the questionnaire were determined by the theoretical model especified (Lloret, Ferreres, Hernández-Baeza, & Tomás, 2014), Confirmatory Factor Analysis (CFA) was also carried out. The fit indices used were: CFI (Comparative Fit Index), TLI (Tucker-Lewis Index), RMSEA (Root Mean Square Error of Approximation) and SRMR (Standardized Root Mean Square Residual). The estimation method was the robust WLSMV (Weighted Least Squares Mean and Variance Adjusted). Some reliability coefficients were also calculated, such as Cronbach's alpha and coefficient omega (Revelle & Zinbarg, 2009).

## **Results**

### *Descriptive analysis and correlations*

For each factor, the mean and standard deviation were calculated (Table 1).

INSERT TABLE 1

As shown in Table 1, participants obtained moderate scores in the Control (hardy personality) and Anxiety and Insomnia dimensions as well as in the overall GHQ. Thus, these police officers perceive a moderate level of control over their actions or assigned tasks, as well as a slightly high frequency of symptoms related to anxiety and insomnia.

On the other hand, the positive and significant correlations between the anxiety and insomnia scale and both challenge ( $r = -.28, p < .01$ ) and commitment ( $r = .25, p < .01$ ) should be highlighted, although associations are moderate.

### *Validity*

#### *Construct validity*

The CFI, TLI, RMSEA and SRMR indices were examined to determine the fit for the 15-item original model (Table 2).

#### INSERT TABLE 2

As shown in Table 2, the CFI, TLI, RMSEA and SRMR fit indices for the 15-item original model grouped in each one of the three dimensions (control, challenge and commitment) showed appropriate values (.93, .92, .08 and .08, respectively). The factor loadings values were also adequate, confirming the three-factor structure consisting of five items each (see Figure 1).

#### INSERT FIGURE 1

#### *Convergent and discriminant validity between the hardy personality factors and perception of psychological health*

The correlation coefficients of the three factors of the Occupational Hardiness Questionnaire with the variables of perceived general health are shown in Table 1. It is worth noting the significant correlations between the challenge factor and somatic symptoms ( $r = -$

.16,  $p < .05$ ), anxiety and insomnia ( $r = -.28$ ,  $p < .01$ ), severe depression ( $r = -.18$ ,  $p < .01$ ) and overall score in perceived general health ( $r = -.21$ ,  $p < .01$ ).

The significant correlations between the commitment factor of hardy personality and, again, somatic symptoms ( $r = -.14$ ,  $p < .05$ ), anxiety and insomnia ( $r = -.25$ ,  $p < .01$ ), severe depression ( $r = -.16$ ,  $p < .05$ ) and overall score in perceived general health ( $r = -.18$ ,  $p < .01$ ) are also highlighted. Finally, it is necessary to emphasize the correlations between the overall score in hardy personality and anxiety and insomnia ( $r = -.23$ ,  $p < .01$ ), severe depression ( $r = -.14$ ,  $p < .05$ ) and overall score in perceived general health ( $r = -.14$ ,  $p < .05$ ).

#### *Predictive validity*

A stepwise multiple regression analysis was conducted in order to determine the predictive validity of hardy personality. The objective was to determine whether the hardy personality factors (control, commitment and challenge) could predict the participants' perception about their general health. In the first model the challenge factor was included in the equation. In the second model, both challenge and control factors were included, with an increase in the  $R^2$  value of .02 (See Table 3).

INSERT TABLE 3

#### *Reliability*

Reliability coefficients (Cronbach's alpha and Omega) are presented in Table 4.

INSERT TABLE 4

Using Cronbach's alpha, reliability ranges between .81 and .87 (see Table 4) for all the dimensions of the questionnaire and can be considered high values (above .80). In addition, using coefficient omega, reliability values are even slightly higher (between .83 and .87).

## **Discussion**

This research approaches the analysis of the psychometric properties (validity and reliability) of the Occupational Hardiness Questionnaire in a sample of Spanish police officers. The results show that the validity indices from the confirmatory factor analysis are adequate. At the same time, high reliability indices have been obtained, and therefore, it can be considered an appropriate instrument to assess hardy personality in police officers, just as it had been previously noted in samples of fire-fighters and sanitary personnel (Moreno-Jiménez et al., 2014). These results also suggest that the policemen perceive high control over their actions and a moderate frequency of anxiety and insomnia related symptoms. On the other hand, the association between the perception of problems as a challenge and high commitment with some symptoms (anxiety, insomnia) is outlined.

The main reasons to carry out the present study can be summarized as follows. In the first place, several organizations, such as the American Educational Research Association, the American Psychological Association and the National Council on Measurement in Education recommend examining the psychometric properties of assessment instruments in different samples over time (AERA, APA, & NCME, 2014). In the second place, no previous literature on questionnaires to assess hardy personality in Spain has been found, except for the reference on the questionnaire used in our study. On the other hand, as mentioned before, lack of methodological rigour of the instruments that attempt to measure this construct, along with the scarce scientific literature on stress associated with hardy personality in security forces, have also inspired the present research. As we previously mentioned, these professionals are exposed to stressful circumstances at work on a daily basis, and thus they were chosen for research participation.

Hardy personality can mitigate the adverse effects of stress, and there is a general consensus on the protective effects of resilience on health (Hystad et al., 2011). Many studies that assess the hardy personality construct show its relevance as mediating variable in the stress-health process (Funk, 1992; Ríos, Godoy, & Sánchez-Meca, 2011). In a research with 1157 nurses of four Portuguese hospitals, using multiple linear regression, results revealed that hardy personality was a predictor variable of burnout, together with some other variables such as age, sex, seniority, work satisfaction or work-family interaction (Queirós, Carlotto, Kaiseler, Dias, & Pereira, 2013). Likewise, in a sample of 234 Brazilian nurses, high levels of hardy personality were associated with lower levels of emotional exhaustion and depersonalization and higher levels of personal fulfillment (Ebling & Carlotto, 2012). With regard to perceived health, in a research with 97 nurses from Murcia (Spain), the overall score in perceived psychological health (measured by means of the General Health Questionnaire, GHQ-total score) was explained by the predictor variables: emotional exhaustion of burnout and the three dimensions of hardy personality. These factors significantly predicted the global presence of psychological distress, suggesting that low levels of hardy personality together with high levels of emotional exhaustion were associated with a worse perceived health (Ríos Ríquez et al., 2011).

Some studies in other countries show the role of this variable as protection against stress in police officers. In all these published works, the Dispositional Resilience Scale 15 (DSR-15; Bartone, 2007) and its posterior version, DSR-15-R (Hystad, Johnsen, Laberg, & Bartone, 2010) were used to assess the hardy personality. More specifically, in a study with 183 policemen, the results showed that in those with high levels of hardy personality, perceived self-efficacy was positively related to work satisfaction, not so with participants with low levels of hardy personality. However, in this study hardiness was not found to be a moderating variable in the relationship between self-efficacy and stress (Johnsen et al., 2017).

In this research, a revised version of the DSR-15-R Questionnaire was used, although in this case a lower reliability index was obtained ( $\alpha = .46$ ) when compared to the value of Cronbach's alpha for the overall score in hardy personality. Likewise, another longitudinal research used the same DRS-15 questionnaire to measure hardy personality associated with depressive symptoms in policemen (Bartone, 2007) and showed a reliability index of  $\alpha = .78$  (Jenkins, Allison, Innes, Violanti, & Andrew, 2019). Of the dimensions of the hardy personality construct, it is the commitment variable that specially appears as predictor of stress in police officers. These results were made evident in a study that, just the aforementioned ones, used the Dispositional Resilience Scale 15-R (Hystad, Johnsen, Laberg, & Bartone, 2010), with the following Cronbach's alpha values: overall scale ( $\alpha = 0.79$ ), commitment ( $\alpha = .70$ ), challenge ( $\alpha = .71$ ) and control ( $\alpha = .75$ ) (Fyhn, Fjell, & Johnsen, 2016).

Among the strengths of the present study, it is worth noting that reliability values are higher for this sample of police officers, compared to the work of Moreno-Jiménez et al. (2014) where an exploratory and confirmatory analysis of the questionnaire are conducted, although validity values are similar in both studies. Besides, we provide new evidence on the adequate psychometric properties of the questionnaire in a different sample, what is very relevant for the use of the instrument in the near future. It is also necessary to mention the limitations of this research. In the first place, the sample of police officers should be larger for future studies. The lack of scientific references on the assessment of this construct in similar samples has delimited the search and it was necessary to consider some studies on assessment instruments of hardy personality in policemen of other countries, what made difficult to compare these instruments. The organization and hierarchy of the police may differ between countries, even if they share certain similarities. Their working procedures can be different, and they also deal with different laws. For example, in Spain, the rate of firearm

ownership is lower, as is the crime rate. This might imply that the level of stress experienced by police officers can vary between cities or countries; therefore, new studies that take these differences into account are very necessary. The hardy personality concept has achieved such a degree of specialization that we can also find literature on this variable in other environments, such as the family, and specific measure instruments have been developed for each context. For instance, the concept *family hardiness* refers to the capacity of a family to adapt to stressful events in a healthy way (Persson, Benzein, & Arestedt, 2016).

In addition to the aforementioned, it should be pointed out that this construct is not clearly defined as a personality trait (although labelled as hardy “personality”). In a meta-analysis controlling other personality variables such as neuroticism, extroversion or agreeableness, the conclusion was that hardy personality is an important resource to cope with stress, becoming the only source of protection (unlike the other personality variables; Eschleman et al., 2010). All this evidence is making research on this concept grow quickly, including research on the best ways to measure it.

For future studies, it would be interesting to conduct a comparative analysis between the DSR-15 and the Occupational Hardiness Questionnaire, as well as to apply the OHQ in different occupational groups, in order to foster customized interventions to minimize occupational stress.

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**Table 1.** Correlations between factors, mean and standard deviation (*SD*) of each questionnaire.

<b>Factor</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
1. Control (PR)	-	.37**	.44**	.75**	.01	-.01	.12	.02	.05
2. Challenge (PR)		-	.57**	.81**	-.16*	-.28**	-.11	-.18**	-.21**
3. Commitment (PR)			-	.84**	-.14*	-.25**	-.09	-.16*	-.18**
4. Overall score (PR)				-	-.12	-.23**	-.03	-.14*	-.14*
5. Somatic symptoms					-	.48**	.71**	.45**	.87**
6. Anxiety and insomnia						-	.46**	.55**	.70**
7. Social dysfunction							-	.49**	.88**
8. Severe depression								-	.72**
9. GHQ Overall score									-
Mean	3.07	2.87	3.06	3.01	4.32	7.10	4.01	.90	16.32
<i>SD</i>	.49	.50	.49	.40	3.56	1.90	3.77	2.35	9.46

Note. GHQ = General Health Questionnaire; HP = Hardy Personality.

\* $p < .05$ ; \*\* $p < .01$

**Table 2.** Fit indices from the confirmatory factor analysis for the dimensions of OHQ.

<b>Fit Indexes</b>	<b>COR (15 items)</b>	<b>Accepted values</b>
CFI	.93	$\geq .90$
TLI	.92	$\geq .90$
RMSEA	.08	$\leq .05-.08$
SRMR	.08	$\leq .08$

Note: OHQ = Occupational Hardiness Questionnaire; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual

**Table 3.** Prediction of scores on perceived general health (GHQ-Overall) with the factors of OHQ, by means of stepwise linear regression

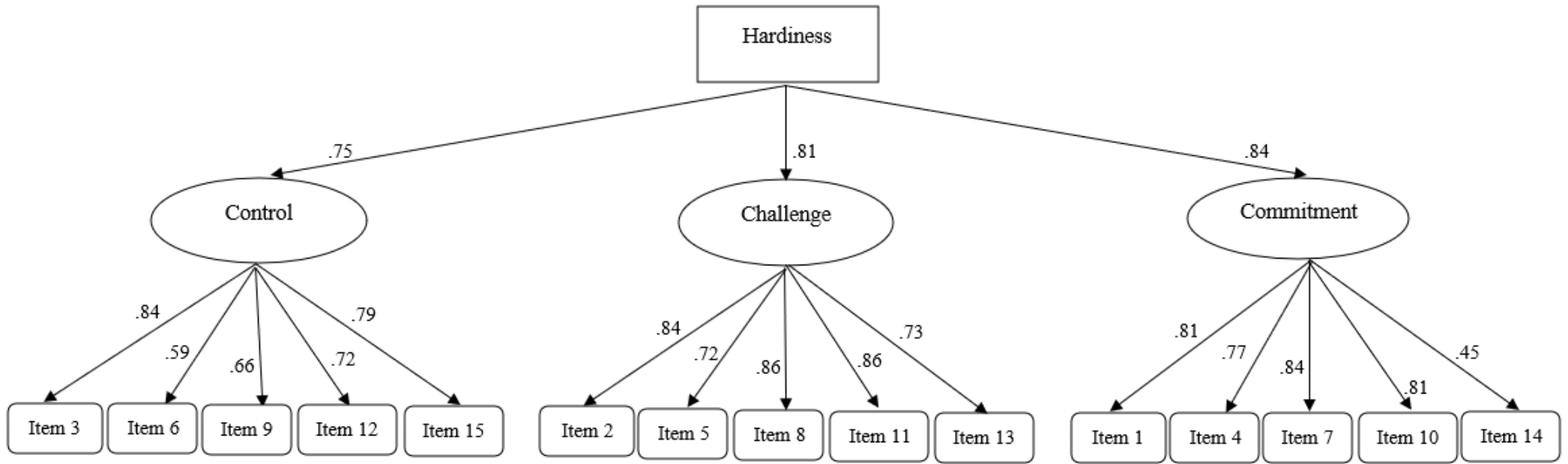
<b>Factor</b>	<b>B</b>	<b>ET.B</b>	<b><math>\beta</math></b>	<b>R<sup>2</sup></b>	<b><math>\Delta R^2</math></b>
Model 1					
Constant	27.43	3.72			
Challenge	-3.83	1.27	-.20	.04*	.04*
Model 2					
Constant	21.64	4.66			
Challenge	-4.88	1.36	-.26		
Control	2.84	1.40	.15	.05	.02*

Note: GHQ = General Health Questionnaire; OHQ = Occupational Hardiness Questionnaire.

\*p < .05.

**Table 4.** Reliability of total scales and reability of the scale when items are removed for the items of Ocupational Hardiness Questionnaire

<b>Dimensions and items</b>	<b>Cronbach's alpha (<math>\alpha</math>) of the scale after item discard</b>
Control	
Cronbach's alpha ( $\alpha$ )=.81	
Omega ( $\Omega$ )=.81	
Item 3	.76
Item 6	.73
Item 9	.70
Item12	.68
Item 15	.66
Challenge	
Cronbach's alpha ( $\alpha$ ) =.87	
Omega ( $\Omega$ ) =.87	
Item 2	.81
Item 5	.83
Item 8	.80
Item 11	.80
Item 13	.82
Commitment	
Cronbach's alpha ( $\alpha$ ) =.81	
Omega ( $\Omega$ ) =.83	
Item 1	.72
Item 4	.71
Item 7	.68
Item 10	.69
Item 14	.82



**Figure 1.** Items of the Occupational Hardiness Questionnaire and the factors obtained in the confirmatory factor analysis.