

Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 205 (2015) 516 – 523

Procedia
Social and Behavioral Sciences

6th World conference on Psychology Counseling and Guidance, 14 - 16 May 2015

Social Comparison Orientation, Hardiness and Life Satisfaction in Undergraduate Students

Nazmiye Civitci^{a*}, Asım Civitci^a^a*Department of Counseling and Guidance, Faculty of Education, Pamukkale University, Denizli, Turkey*

Abstract

The first aim of the present study was to examine changes on hardiness and life satisfaction in terms of social comparison orientation in Turkish undergraduate students. Secondly, the moderator effect of social comparison orientation on the relationship between hardiness and life satisfaction was investigated. The study was conducted on a total of 326 undergraduate students. The data of the study were collected through the IOWA-Netherlands Comparison Orientation Measure, Personal View Survey III-R, and Satisfaction with Life Scale. In the study, in order to test differences between levels of hardiness and global life satisfaction among undergraduate students at low and high social comparison orientation, Multivariate Analysis of Covariance (MANCOVA) was used. Hierarchical multiple regression procedures were performed to test moderating effect of social comparison orientation on the relationship between hardiness and life satisfaction. The findings of the study indicated that the students having a low social comparison orientation had more hardiness and life satisfaction than the students having a high social comparison orientation. In addition, social comparison orientation did not moderate the relationship between hardiness and life satisfaction. In conclusion, this study shows that social comparison orientation has a notable role on hardiness and life satisfaction in undergraduate students.

© 2015 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of Academic World Research and Education Center.

Keywords: social comparison orientation, hardiness, life satisfaction, undergraduate students

1. Introduction

The question "Who am I?" is a question most people often ask themselves. How people answer this question has been the subject of investigation of various disciplines. Although it there are many ways an individual can acquire

* Nazmiye Civitci. Tel.: +90-258-2961056
E-mail address: ncivitci@pau.edu.tr

information about herself/himself it seems like a tough task to overcome (Mussweiler & Strack, 2000). Comparing one's self with other people is an important source in the process of obtaining information about one's self (Wood, 1989). According to the social comparison theory proposed by Festinger (1954) an individual has the motivation of self-evaluation. According to Festinger (1954), the main goal of social comparison is for the individual to evaluate herself/himself correctly. When the individual does not have objective standards to evaluate himself/herself, s/he has the tendency of comparing himself/herself with others. Social comparison shows how individuals use other people to make sense of themselves and their social world (Buunk & Gibbons 2006).

Diener and Fujita (1997) claim that social comparison is a function of personality and whether an individual makes social comparison or not, or making positive or negative social comparison shows individual differences. Gibbons and Buunk (1999) also support the idea that social comparison is a personality tendency and focused on individual differences in social comparison process. Accordingly, they conceptualized the tendency to engage in social comparison as social comparison orientation. Individuals with high social comparison orientation make more social comparisons and get more affected from the consequences (Buunk & Gibbons, 2006). Hence, it is reported that as social comparison orientation increases self-esteem, optimism, and positive affect decrease; depression, anxiety, social anxiety, neuroticism, and negative affect increase (Gibbons & Buunk, 1999).

Although social comparison can be made intentionally it is generally made spontaneously and automatically. However, in situations where there are stress, novelty or change it is indicated that the need for social comparison increases (Gibbons & Buunk, 1999). Thus, it could be said that the adaptive and coping roles of social comparison may gain importance in novel and stressful situations. When evaluated according to this point of view, it could be expected that social comparison orientation could have an effect over hardiness that is an important personality variable in the process of coping with stress.

Hardiness is defined as a personality trait that restrains the negative effects of stress on health. This trait is seen as the mixture of thought, emotion and behavior that helps the individual to survive and enrich his/her life. Hardy individuals have a remarkable curiosity and they have a tendency of thinking about their own lives as interesting and meaningful. They believe that they can be effective by what they imagine, what they say, and what they do. They perceive change as natural, meaningful, and despite stressful situations they perceive them as attractive and they can include these changes into their life plans. Thus, they experience less stress when faced with stressful events. Whereas, individuals with low hardiness have the tendency of finding themselves and their environments boring, meaningless, and threatening. They feel weak facing stressful experiences, they desire a life in which there are no changes and they are more passive in the interaction with their environments (Kobasa, Maddi, & Courington, 1981).

College years, that is accepted as one of the life cycles including stressful experiences, is a time in which young adults are responsible of their own health, school life, financial condition and they have to manage their own life (Cress & Lampman, 2007). It is observed that hardiness that reduces the negative effect of stress is related with college students' psycho-social and academic adjustments. According to some research, as hardiness increases in college students, coping with stress, problem solving skills (Weigold & Robitschek, 2011), total adjustment, academic adjustment (Maddi, Harvey, Khoshaba, Fazel, & Resurreccion, 2009; Surucu & Bacanlı, 2009), academic achievement (Sheard, 2009; Maddi, Harvey, Khoshaba, Fazel, & Resurreccion, 2012), self-esteem (Kamya, 2000), perceived social support (Terzi, 2008) increase; perceived stress (Cress & Lampman, 2007), mourning based on losing someone close (Mathews & Servaty-Seib, 2007), alienation (Thomson & Wendt, 1995), and psychopathologic tendencies (Maddi & Khoshaba, 1994) decrease. Furthermore, it was found that hardiness has a moderator role between academic stress and perceived health issues in college students (Hystad, Eid, Laberg, Johnsen, & Bartone, 2009). In an experimental research (Maddi et al., 2002), it was observed that a hardiness training for college students at the risk group decreased strain and increased wellness. Consequently, hardiness is a personality trait that helps college students to cope with compelling experiences and facilitates personal and academic adjustment.

It is worth investigating what kind of changes hardiness, that has an important role in college students' coping with adjustment and problems, will change according to social comparison orientation. No studies have been encountered investigating the relation of hardiness and social comparison in the literature. In a study by Warren and Rios (2013), it was found that as social comparison tendency increased in college students, perceived pressure and acculturative stress significantly increased. In another study (Gibbons & Buunk, 1999), it was reported that there was a positive relation between perceived stress and social comparison orientation. Consequently, it can be expected that hardiness which is a trait that eases to cope with stress will have a relation with social comparison orientation. When

the role of social comparison orientation on affective reactions and consequences of social comparison (Buunk & Dijkstra, 2014) is considered, then it is possible that these effects can reflect on levels of hardiness. Hence, whether social comparison orientation levels being low or high may also change the levels of hardiness.

When social comparison literature is examined, life satisfaction appears to be a salient variable related to social comparison orientation. Life satisfaction is the cognitive dimension of "subjective well-being" that is the conceptual equivalent of happiness. While positive and negative affect that constitute the affective side of subjective well-being consist of favorable and unfavorable emotions; life satisfaction includes cognitive evaluations related to one's life (Diener & Suh, 1997). When the idea that social comparison is the process of people comparing themselves to others according to particular behaviors is taken into consideration, it could be thought that these comparisons may lead to satisfactory or dissatisfactory emotions. People compare themselves to others and based on this comparison they may feel better or worse about the conditions they are in and in return this situation may affect their life satisfaction judgements. In other words, when people evaluate their own lives positively according to the standards they set socially, they get satisfaction and experience positive emotions. However, when the social comparison process ends negatively they experience negative emotions such as dissatisfaction, sadness, and anxiety (Diener & Fujita, 1997). Thus, it is possible that with the increase of social comparison orientation life satisfaction will decrease. On the other hand, while some studies indicate a negative relation between social comparison orientation and life satisfaction (Buunk, Groothof, & Siero, 2007; Edillo, Turiano, Reyes, & Villanueva, 2012; Gibbons & Buunk, 1999), some other studies (Gibbons & Buunk, 1999; Schneider & Schupp, 2014) indicate that there is no relation between the two variables. The inconsistent findings of research done in different countries and using different sample groups give rise to the thought that the relation between social comparison orientation and life satisfaction may vary within different cultures. Thus, there is need for researching life satisfaction changes with regard to social comparison orientation in Turkish college students.

Because individuals with high hardiness find their own lives interesting and meaningful and face changes in their lives as normal (Kobasa et al., 1981), it can be expected that they will have a more positive evaluation of their experiences and thus have more life satisfaction. Various research (Crowley, Hayslip, & Hobdy, 2003; Maddi et al., 2009; Skomorovsky & Sudom, 2011; Ulker Tumlu & Recepoglu, 2013) also reveal that as hardiness increases life satisfaction increases as well. In the current study, it is hypothesized that social comparison will have a moderator role in the relationship between hardiness and life satisfaction. There are studies that indicate when social comparison orientation increases, stressfulness increases (Gibbons & Buunk, 1999; Warren & Rios, 2013) and life satisfaction decreases (Buunk et al., 2007; Schneider & Schupp, 2014) as well. Taking into consideration that social comparison need increases in stressful situations (Gibbons & Buunk, 1999), it could be considered that high social comparison orientation could decrease the protective function of hardiness, a personality trait which eases to cope with stress (Kobasa et al., 1981), and this condition may reflect negatively on life satisfaction.

In summary, the current research has two aims. The first aim is to investigate the hardiness and life satisfaction changes of college students according to their social comparison orientation. The second aim is to test whether social comparison orientation has a moderator role in the relationship between hardiness and life satisfaction. It is hoped that the current research will contribute to better understand the direct and indirect effects of social comparison orientation on students' psychosocial adjustment during college years that is considered a stressful life period.

2. Method

2.1. Participants

In the current research, the sample consisted of 326 undergraduates at Pamukkale University in Denizli, Turkey. Of the sample group 220 (67%) were female and 106 (33%) were male. At the time of the study, 62 of the participants (19%) were first-year, 81 (25%) second-year, 68 (21%) third-year, and 115 (35%) fourth-year students currently.

2.2. Instruments

IOWA-Netherlands Comparison Orientation Measure (INCOM): In the current research, the social comparison orientation of the students was measured with the IOWA-Netherlands Comparison Orientation Measure developed by Gibbons and Buunk (1999) and adapted for Turkish undergraduates by Tekozel (2000). This scale measures the tendency of an individual evaluating himself/herself by comparing with others. This 5-point-Likert scale consists of a total of 11 items two of which are negative. The Turkish version of the scale contains a two-factored structure as the original scale as well. Concurrent validity and discriminant validity of the Turkish version were asserted. The test-item correlations were found to be between .26 to .65 and the Cronbach alpha value as .82 (Tekozel, 2000).

Personal View Survey III-R (PVS III-R): In the current research, the hardiness levels of the students was measured with the Personal View Survey III-R developed by Maddi and Khoshaba (2001) and adapted for Turkish undergraduates by Durak (2002). The original form of the scale situated in three dimensions (control, commitment, challenge) consists of 18 items half of which are negative. The scale is a 4-point Likert scale (0-3). The increase in the score obtained in the scale indicates increase in hardiness. Because the three-factored structure of the scale was not supported in the Turkish adaptation, the evaluation is done over the total score of the scale. The Turkish form of the scale consisted of 12 items after the items with test-item correlations below .20 were removed. The Turkish form that has concurrent validity was calculated to have .68 Cronbach alpha coefficient, .66 Guttman Split-Half coefficient and test-item correlations between .23 to .50 (Durak, 2002).

The Satisfaction with Life Scale-SWLS: In the current research, the perceived life satisfaction was measured with The Satisfaction with Life Scale originally developed by Diener, Emmons, Larsen, and Griffin (1985) and adapted to Turkish by Koker (1991). The scale based on self-report, measures how an individual evaluates, perceives his/her life in general. The scale is a 7-point-Likert scale and contains five positive items. The increase in the score of the scale indicates increase in perceived global life satisfaction. The item-test correlations of the Turkish form of the scale vary between .71 to .80. Test-retest coefficient was calculated as .85 (Koker, 1991). A psychometric study by Durak, Senol-Durak, and Gencoz (2010) indicate that the scale has construct validity, concurrent validity and discriminant validity. The item-test correlations of the scale were found to change between .55 to .63 and Cronbach alpha coefficient as .81 (Durak et al., 2010).

2.3. Data Analyses

In order to test the changes in hardiness and life satisfaction according to social comparison orientation of the participants Multivariate Analysis of Covariance (MANCOVA) was applied. Firstly, before the analysis the social comparison orientation of the participants were categorized (low/high) with median-split method. The median values of 326 students were calculated and they were grouped as "low" if the score was below the median and as "high" if the score was above the median. Twenty six participants were left out of the analysis because their scores were on the median. In the analysis, hardiness and life satisfaction took place as dependent variables, social comparison orientation (low and high) as independent variable and gender as control variable.

In order to test the moderator role of social comparison orientation in the relationship between hardiness and life satisfaction, hierarchical multiple regression analysis based on steps proposed by Baron and Kenny (1986) was applied. The details of the analysis are given in the Results section.

2.4. Procedure

The scales were administered in classroom medium by the researchers and three faculty members. Before the procedure the students were informed about the aims of the research that the scales would be administered anonymously, the replies would remain confidential and only be used for research purposes. The students participated in the research voluntarily. The administration of the scales took approximately 20 minutes.

3. Results

Descriptive statistics for the hardiness and life satisfaction are presented in Table 1. As shown, both skewness and kurtosis values were found to be within acceptable limits for a normal distribution.

Table 1. Descriptive statistics of all variables in the study

	<i>n</i>	\bar{X}	<i>Sd</i>	<i>Skewness</i>	<i>Kurtosis</i>
Social comparison orientation		37.55	6.24	-.20	-.07
Hardiness	326	35.10	4.83	-.17	-.44
Life satisfaction		25.02	5.49	-.78	.09

The effects of social comparison orientation on hardiness and life satisfaction were assessed using a multivariate analysis of covariance (MANCOVA). The results of the MANCOVA are presented in Table 2. The hardiness and life satisfaction scores were included as the dependent variables, and social comparison orientation (high and low) was included as the independent variable, while gender was included as covariate. The MANCOVA of hardiness and life satisfaction by one independent variables (social comparison orientation) revealed a significant multivariate effects for the social comparison orientation [Wilks' $\lambda = 0.96$; $p < .01$].

Univariate findings indicated main effects of social comparison orientation on hardiness [$F(1, 299) = 12.83$; $p < .001$] and on life satisfaction [$F(1, 299) = 4.93$; $p < .05$]. The means indicate that hardiness in students who have high social comparison orientation ($M = 34.21$) is lower than the students who have a low social comparison orientation ($M = 36.17$). Life satisfaction in students who have high social comparison orientation ($M = 24.35$) is also lower than the students who have a low social comparison orientation ($M = 25.70$).

Table 2. Multiple analysis of covariance (MANCOVA) results for hardiness and life satisfaction according to social comparison orientation

	Dependent variables	<i>F</i>	<i>p</i>	<i>Wilks' λ</i>	<i>p</i>
Gender (Control variable)	Hardiness	.94	.332	.93	.000
	Life satisfaction	19.61	.000		
Social comparison (Low/High)	Hardiness	12.83	.000	.96	.002
	Life satisfaction	4.93	.027		

Table 3. Means and standard deviations of hardiness and life satisfaction according to social comparison orientation

Dependent variables	Social comparison (low)		Social comparison (high)	
	\bar{X}	<i>Sd</i>	\bar{X}	<i>Sd</i>
Hardiness	36.17	4.81	34.21	4.67
Life satisfaction	25.70	5.35	24.35	5.56

In order to test the moderating effects of social comparison orientation on the relationship between hardiness and life satisfaction, hierarchical multiple regression procedures were performed, as recommended by Baron and Kenny (1986). Both predictor variables (hardiness and social comparison orientation) were centered at their means to reduce problems associated with multicollinearity between the interaction term and the main effects when testing for moderator effects. Thus, z-scores were calculated for hardiness and social comparison orientation (Frazier, Tix, & Barron, 2004).

In the hierarchical regression model, the order of entry was as follows. In the first step, gender was entered into the model as control variable. In the second step, the predictor variable (hardiness) was entered into the regression equation. At step 3, moderator variable (social comparison orientation) was entered into the regression equation. In the last step, interaction variable (hardiness x social comparison orientation) was entered into the model. Significant change in R^2 for the interaction term indicates a significant moderator effect.

As shown in Table 4, when the gender was controlled, hardiness predicted significantly to life satisfaction [$\beta = 0.45$, $p < 0.001$]. Social comparison orientation did not predict significantly to life satisfaction [$\beta = -0.06$, $p > 0.05$]. There was no significant interaction between hardiness and social comparison orientation [$\beta = 0.03$, $p > 0.05$].

Table 4. Hierarchical regression analysis for moderating effect of social comparison orientation on the relationships between hardiness and life satisfaction

Variables	<i>B</i>	<i>SHB</i>	β	<i>t</i>	<i>R</i> ²
Criterion Variable: Life satisfaction					
Step 1					
Gender	-2.99	.63	-.26	-4.75*	.065*
Step 2					
Hardiness	2.45	.26	.45	9.34*	.264*
Step 3					
Social comparison orientation	-.33	.27	-.06	-1.24	.268
Step 4					
Hardiness X Social comparison orientation	.14	.26	.03	.54	.268

* $p < .001$

4. Discussion

In the current study, the hardiness and life satisfaction changes according to social comparison orientation in college students were examined. One of the findings of the research indicates that college students with low social comparison orientation have more hardiness compared to students with high social comparison orientation. Although there are no studies in the literature investigating the relation between social comparison and hardiness, when hardiness is considered an important personality variable in coping with stress (Kobasa et al., 1981) it could be said that the current finding is consistent with research that indicate social comparison orientation increases as perceived stress (Gibbons & Buunk, 1999), perceived pressure, and acculturative stress (Warren & Rios, 2013) increases.

As social comparison orientation and its frequency increases, self-esteem, optimism and positive affect decrease; depression, anxiety, social anxiety, neuroticism, negative affect (Gibbons & Buunk, 1999) and destructive emotions and behavior such as envy, guilt, regret, defensiveness (White, Langer, Yariv, & Welch IV, 2006) increase. Because individuals who have high social comparison orientation get affected from the consequences of the comparison more negatively (Buunk & Gibbons, 2006) and react more affectively (Buunk & Dijkstra, 2014), the negative consequences of social comparison may have caused a disadvantage with regard to hardiness.

According to another finding of the current research, individuals with low social comparison orientation have more life satisfaction compared to individuals with high social comparison orientation. This finding is consistent with research indicating a negative relation between social comparison orientation and life satisfaction (Buunk et al., 2007; Edillo et al., 2012; Gibbons & Buunk, 1999). It is an expected result that social comparison has an effect on life satisfaction since humans evaluate their own lives by comparing their own conditions with other people's conditions. It could also be said that research findings of individual differences in social comparison process of happy and unhappy individuals also support the findings of the current research. For instance, various studies conducted on college students (Lyubomirsky & Ross, 1997; Lyubomirsky, Tucker, & Kasri, 2001), indicate that unhappy students get affected more negatively from the consequences of social comparison compared to happy students.

In the current research, due to the increase in need of social comparison in stressful situations (Gibbons & Buunk, 1999) and the positive relation of social comparison orientation with stress (Gibbons & Buunk, 1999; Warren & Rios, 2013), it is hypothesized that high social comparison orientation will decrease the protective function of hardiness against stress and thus reflect negatively on life satisfaction. However, the research findings indicate that the relationship between hardiness and life satisfaction does not change based on high or low social comparison orientation; hence showing that social comparison orientation does not have a moderator role. The reason social comparison orientation and hardiness interaction does not predict life satisfaction significantly might be explained with the existence of some factors (e.g., coping process). Humans, experiencing tough experiences, judge their situations by comparing their situations with people in similar conditions. As a result of this comparison, they might feel better or worse about their situations. Getting affected positively from these comparisons may help motivate the individual to cope with stressors, avoiding destructive or self-defeating responses. However, even if the individual feels better about his/her situation, if s/he does not make enough effort to solve the problem then coping may not occur (Wills & Sandy, 2001). It could be said that, the coping potential of social comparison can be functional not

only by an individual feeling better about his/her situation, but also by an individual making the effort of easing to cope with the stressor. Hence, low social comparison orientation may not facilitate the coping mechanism. Considering this condition, it could be thought that low social comparison orientation does not significantly contribute to the coping function of hardiness which is a personality trait that increases resistance against stressors. While there is a positive relation between social comparison orientation and perceived stress, the relation between social comparison orientation and coping not having a statistically significant relation (Gibbons & Buunk, 1999), partially support this evaluation. New researches that will investigate the intervening variable roles of social comparison orientation in the relationship between life satisfaction and stress and hardiness may facilitate more extensive evaluations on the subject.

In conclusion, the current study that revealed the relation of social comparison orientation with hardiness and life satisfaction is perhaps quite important due to being the first research investigating specifically the relation between hardiness and social comparison. The hardiness and social comparison orientation relation show that hardiness is a variable that contributes to the understanding of individual differences in the social comparison process. However, the lack of previous research on the relation of hardiness and social comparison has quite limited to evaluate some of the findings of the current research. Thus, new researches that will investigate the direct and indirect relations between these two variables may help develop the social comparison literature that is yet in its infancy (Schneider & Schupp, 2014). In another research (Schneider & Schupp, 2014) as well, similar to the findings of the current research, social comparison orientation was not found to have a moderating effect on life satisfaction gives the impression that the indirect effects of social comparison on life satisfaction are limited. New researches done with different samples may clarify whether this limitation is dependent to life satisfaction.

The current study has some limitations. Due to the sample group being comprised from a single public university's faculty of education students in Turkey limits the generalizability of the findings. Thus, similar studies in different cultures and universities may help generalize the findings. In the current study, social comparison orientation, hardiness and life satisfaction were measured with self-report scales based on students' perceptions. Hence, the examined variables are limited to the students' self-perceptions and evaluations.

References

- Baron, R.M. & Kenny, D.A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Buunk, A.P., & Dijkstra, P. (2014). Social comparison orientation and perspective taking as related to responses to a victim. *Psychology*, 5, 441-450.
- Buunk, A.P., & Gibbons, F.X. (2006). Social comparison orientation: A new perspective on those who do and those who don't compare with others. In Guimond, S. (Ed.), *Social Comparison and Social Psychology: Understanding cognition, intergroup relations and culture* (pp. 15-33). Cambridge: Cambridge University Press.
- Buunk, A.P., Groothof, H. A., & Siero, F.W. (2007). Social comparison and satisfaction with one's social life. *Journal of Social and Personal Relationships*, 24 (2), 197-205.
- Cress, V.C. & Lampman, C. (2007). Hardiness, stress, and health-promoting behaviors among college students. *Psi Chi Journal of Undergraduate Research*, 12(1), 18–23.
- Crowley, B.J., Hayslip Jr. B., & Hobdy, J. (2003). Psychological hardiness and adjustment to life events in adulthood. *Journal of Adult Development*, 10(4), 237-248.
- Diener, E. & Fujita, F. (1997). Social comparisons and subjective well-being. In B. P. Buunk & F. X. Gibbons (Eds), *Health, coping, and wellbeing: Perspectives from social comparison theory* (pp. 329-358). Mahwah, NJ: Erlbaum
- Diener, E. & Suh, E. (1997). Measuring quality of life: Economic, social, and subjective indicators. *Social Indicators Research*, 40(1-2), 189-216.
- Diener, E., Emmons, R.A., Larsen, R.J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(19), 71-75.
- Durak, M. (2002). *Predictive role of hardiness on psychological symptomatology of university students experienced earthquake*. Unpublished Master's Thesis. Middle East Technical University, Ankara.
- Durak, M., Senol-Durak, E., & Gencoz, T. (2010). Psychometric properties of the Satisfaction with Life Scale among Turkish university students, correctional officers, and elderly adults. *Social Indicators Research*, 99(3), 413-429.
- Edillo, M.T.A.F., Turiano, M.K.U., Reyes, J.A.S., & Villanueva, C.L.J.G. (2012). The mediating role of social comparison in the relationship between choice–making orientation and subjective well-being. *Philippine Journal of Counseling Psychology*, 14(1), 13-28.
- Festinger, L.A. (1954). Theory of social comparison processes. *Human Relations*, 7, 117-140.
- Frazier, P.A., Tix, A.P., & Barron, K.E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology*, 51(1), 115–134.
- Gibbons, F.X. & Buunk, B.P. (1999). Individual differences in social comparison: The development of a scale of social comparison orientation.

Journal of Personality and Social Psychology, 76, 129-142.

- Hystad, S.W., Eid, J., Laberg, J.C., Johnsen, B.H., & Bartone, P.T. (2009). Academic stress and health: Exploring the moderating role of personality hardiness. *Scandinavian Journal of Educational Research*, 53(5), 421-429.
- Kamya, H.A. (2000). Hardiness and spiritual well-being among social work students: Implications for social work education. *Journal of Social Work Education*, 36(2), 231-241.
- Kobasa, S.C., Maddi, S.R., & Courington, S. (1981). Personality and constitution as mediators in the stress-illness relationship. *Journal of Health and Social Behavior*, 22, 368-378.
- Koker, S. (1991). *Normal ve sorunlu ergenlerin yasam doyumu duzeyinin karsilastirulmasi [Comparison of the level of life satisfaction of normal adolescents and adolescents with problems]*. Unpublished Master's Thesis, Ankara University, Ankara.
- Lyubomirsky, S., Tucker, K. L., & Kasri, F. (2001). Responses to hedonically conflicting social comparisons: Comparing happy and unhappy people. *European Journal of Social Psychology*, 31, 511-535.
- Lyubomirsky, S. & Ross, L. (1997). Hedonic consequences of social comparison: A contrast of happy and unhappy people. *Journal of Personality and Social Psychology*, 73, 1141-1157.
- Maddi, S.R. & Khoshaba, D.M. (1994). Hardiness and mental health. *Journal of Personality Assessment*, 63(2), 265-274.
- Maddi, S.R., Harvey, R.H., Khoshaba, D.M., Fazel, M., & Resurreccion, N. (2012). *The relationship of hardiness and some other relevant variables to college performance*. *Journal of Humanistic Psychology*, 52(2), 190-205.
- Maddi, S.R., Harvey, R.H., Khoshaba, D.M., Fazel, M., & Resurreccion, N. (2009). Personality construct of hardiness, iv: Positive cognitions and emotions concerning oneself and developmentally relevant activities. *Journal of Humanistic Psychology*, 49(3), 292-305.
- Maddi, S.R., Khoshaba, D.M., Jensen, K., Carter, E., Lu, J.L., & Harvey, R.H. (2002). Hardiness training for high-risk undergraduates. *NACADA Journal*, 22 (1), 45-55.
- Mathews, L.L. & Servaty-Seib, H.L. (2007). Hardiness and grief in a sample of bereaved college students. *Death Studies*, 31, 183-204.
- Mussweiler, T. & Strack, F. (2000). The "relative self": Informational and judgmental consequences of comparative self-evaluation. *Journal of Personality and Social Psychology*, 79 (1), 23-38.
- Schneider, S.M. & Schupp, J. (2014). Individual differences in social comparison and its consequences for life satisfaction: Introducing a short scale of the Iowa-Netherlands Comparison Orientation Measure. *Social Indicators Research*, 115(2), 767-789.
- Sheard, M. (2009). Hardiness commitment, gender, and age differentiate university academic performance. *British Journal of Educational Psychology*, 79, 189-204.
- Skomorovsky, A. & Sudom, K.A. (2011). Role of hardiness in the psychological well-being of Canadian Forces officer candidates. *Military Medicine*, 176, 7-12.
- Surucu, M. & Bacanlı, F. (2010). Üniversite uyumu psikolojik dayanıklılık ve demografik değişkenlere göre incelenmesi [An examination of university adjustment according to psychological hardiness and demographic variables]. *G.U. Gazi Eğitim Fakültesi Dergisi/Gazi University Journal of Gazi Educational Faculty*, 30(2), 375-396.
- Tekozel, İ.M. (2000). *Sosyal karsilasturma surelerinde benligin olumlu degerlendirilmesi ihtiyacının incelenmesi [An investigation of the need for positive self-evaluation in social comparison processes]*. Unpublished Master's Thesis. Ege University, İzmir.
- Terzi, S. (2008). *Universite ogrencilerinin psikolojik dayanıklılıkları ve algıladıkları sosyal destek arasındaki ilişki [The relationship between psychological hardiness and perceived social support of university students]*. *Türk Psikolojik Danışma ve Rehberlik Dergisi/Turkish Psychological Counseling and Guidance Journal*, 3(29), 1-11.
- Thomson, W.C. & Wendt, J.C. (1995). Contribution of hardiness and school climate to alienation experienced by student teachers. *Journal of Educational Research*, 88(5), 269-274.
- Ulker Tumlu, G. & Recepoglu, R. (2013). Üniversite akademik personelinin psikolojik dayanıklılık ve yaşam doyumu arasındaki ilişki [The relationship between psychological resilience and life satisfaction of university academic staff]. *Yükseköğretim ve Bilim Dergisi/Journal of Higher Education and Science*, 3(3), 205-213.
- Warren, C.S., & Rios, R.M. (2013). The relationships among acculturation, acculturative stress, endorsement of Western media, social comparison, and body image in Hispanic male college students. *Psychology of Men & Masculinity*, 14(2), 192-201.
- Weigold, I.K., & Robitschek, C. (2011). Agentic personality characteristics and coping: Their relation to trait anxiety in college students. *American Journal of Orthopsychiatry*, 81(2), 255-264.
- White, J.B., Langer, E.J., Yariv, L., & Welch IV, J. C. (2006). Frequent social comparisons and destructive emotions and behaviors: The dark side of social comparisons. *Journal of Adult Development*, 13(1), 36-44.
- Wills, T.A. & Sandy, J.M. (2001). Comparing favorably: A cognitive approach to coping through comparison with other persons. In C. R. Snyder (Ed.), *Coping with Stress: Effective People and Processes* (pp. 154-177). New York, NY: Oxford University Press.
- Wood, J.V. (1989). Theory and research concerning social comparison of personal attributes. *Psychological Bulletin*, 106(2), 231-248.