

Examination of the Relationship between General Self-efficacy Beliefs, Emotional Intelligence Levels and Emotional Self-efficacy Levels of Students in School of Physical Education and Sport

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KEYWORDS Self-efficacy. Verbal Persuasion. Physical Education. Mastery Experiences. Sport.

ABSTRACT The aim of the present research paper is to examine the relationship between general self-efficacy (GSE) beliefs, emotional intelligence (EI) levels and emotional self-efficacy (ESE) levels of students in school of physical education and sport. 256 students in school of physical education and sport at Çanakkale Onsekiz Mart University participated in the study. A model was hypothesized and model fit indices were examined in AMOS. Significant differences were noted between departments of physical education and sports teacher and coach education in terms of positive regulation. Positive correlations were found between ESE, EI and GSE. The hypothesized model could not be accepted; however after applying automatic linear modeling, it was observed that EI was the most important predictor of ESE. Consequently, linear modeling analyses have shown that EI and GSE are important predictors of ESE.

INTRODUCTION

Self-efficacy perception is about people's self-beliefs to control over their functioning and events that affect their lives (Bandura 1994). According to Schunk and Pajares (2010), self-efficacy is self-perceptions that individuals maintain about their capabilities. Schunk (1985) suggested that students showed differences about their past educational experiences according to school they carried on, types of teachers they had, times spent in various lessons. Having examined different dimensions of self-efficacy, Bandura (1982, 1989) stated that self-efficacy judgments were based on four different sources of information. The first one is mastery experiences, in another concept performance accomplishment, which is about individual's experiences. Vicarious experiences for evaluation of abilities compared to others are second sources of self-efficacy. Verbal persuasion is third source. The last source of self-efficacy is physiological

condition in which people partly evaluate their power and sensibility.

Mayer and Salovey (1997) defined emotional intelligence as helping thoughts and understanding emotions and emotional information to increase emotional and intellectual development, perceiving and reaching emotions and regulating them to organize emotions reflectively. Bar-On (2005) commented that emotional intelligence, first and foremost, is an ability to be aware of emotions and one's self; understand weak and powerful aspects and state emotions non-destructively. Yeung (2009) states that emotional intelligence is an ability to define and manage emotions and mood, both in one's self and in others. By emphasizing that emotionally intelligent individuals can become more aware of emotions of themselves and others, Mayer and Salovey (1993) suggested that emotionally intelligent people can be more open to positive and negative aspects of their internal experiences, can be better to classify them and when it is proper they can communicate with them.

The present study successfully explains the relationship between general self-efficacy, emotional intelligence and emotional self-efficacy. The purpose of this study was to examine the relationship between general self-efficacy, emo-

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tional intelligence and emotional self-efficacy of students in school of physical education and sport.

MATERIAL AND METHODS

Two hundred fifty-six (256) students in School of Physical Education and Sport at Çanakkale Onsekiz Mart University participated in the study. Students in physical education and sports teacher department (n=118), sport management department (n=75), coaching education department (n=63) made up the sample group. Collected data was analyzed in SPSS. One-way ANOVA was used to examine the differences between classes and departments. Independent t-test was used to examine differences between genders. Pearson Product Correlation was used to examine the relations between dimensions. A model consisted of examined factors was hypothesized and model fit indices were examined in AMOS.

General self-efficacy scale developed by Schwarzer and Jerusalem (1995) and adapted to Turkish by Yesilay et al. (1996), was used to determine the self-efficacy beliefs of participants. Cronbach's alpha value was found to be 0.85 in this study. In samples from 23 nations, Cronbach's alphas ranged from .76 to .90, with the majority in the high .80s.

Schutte et al. (1998) developed original emotional intelligence scale form consisting 33 items. Chan (2004, 2006) adapted this scale in a short form consisting of 12 items. Chan (2004, 2006) used this item to investigate the relationship between burnout and emotional intelligence. Scale was five-likert type. Chan found high scale reliability in his studies (Cronbach's Alpha = 0.82 - 0.86). Senel (2013) used the same scale to determine emotional intelligence levels of university students, examined the factors in confirmatory factor analysis (CFA), and found that the scale confirmed four sub-dimensions. Aslan and Özata (2008) used the same scale for a research on health service workers. The scale had four sub-dimensions: emotional appraisal, positive regulation, emphatic sensitivity, and positive utilization. In this study, Cronbach's alpha value was found to be 0.85.

Emotional self-efficacy scale was developed by Kirk et al. (2008) on the basis on emotional intelligence studies done by Mayer and Salovey (1997, 2004), and self-efficacy studies done by

Bandura (1997, 2001). In the study by Kirk et al. (2008), Cronbach's Alpha value was found to be 0.96. Emotional self-efficacy scale was adapted to Turkish by Totan et al. (2010) and Cronbach's Alpha value was found to be 0.93. In this study, Cronbach's Alpha value was found to be 0.81.

Collected data was analyzed in SPSS 22.0 and AMOS (Analysis of Moment Structure). Independent t-test was used to analyze differences between genders. One way ANOVA test was used to analyze differences between departments and grades. Pearson product correlation was used to analyze the relationship between factors. Structural Equation Modeling was used to analyze the fit indices of hypothesized model. Automatic Linear Modeling in SPSS was used to analyze the predictor importance and effect sizes of the second model hypothesized that EI and GSE was the predictors of ESE.

RESULTS

No significant difference was found between genders in terms of variables. No significant differences were found among grades except for positive regulation.

As exhibited in Table 1, significant difference was found between physical education and sports teacher department and coaching education department. Students in physical education and sport teacher department showed higher scores than those in coaching education department ($p < 0.01$).

Table 1: Comparison of physical education and sport teacher department and coaching education department in terms of positive regulations (N=256)

(I) Department	(J) Department	Mean difference (I-J)	Sig.
Physical education and sport teacher	Coaching education	0.31	0.00*

$P < 0.01^*$

Significant difference was found between sport management department and coaching education department in terms of positive regulation as it is seen in Table 2. Students in sport management department had higher scores than those in coaching department ($p < 0.01$).

Correlations between general self-efficacy and sub-dimensions of emotional self-efficacy

Table 2: Comparison of sport management department and coaching education department in terms of positive regulation (N=256)

(I) Department	(J) Department	Mean difference (I-J)	Sig.
Sport management	Coaching education	0.30	0.00*

P<0.01*

and sub-dimensions of emotional intelligence were displayed in Table 3. As expected, positive correlations were found between sub-dimensions of emotional intelligence. Positive correlations were found also between sub-dimensions of emotional self-efficacy. Positive correlations were found between general self-efficacy beliefs and regulating emotions in the self and others (r=.433), using emotions to facilitate thought (r=.545), perceiving emotions in self and others (r=.481), understanding emotions and emotional knowledge in the self and others (r=.488), emotional appraisal (r=.505), positive regulation (r=.464), emphatic sensitivity (r=.389), positive utilization (r=.490). Positive correlations were found also between sub-dimensions of emotional intelligence and emotional self-efficacy. As it is seen in Table 3, positive correlations were found between regulating emotions in the self and others and emotional appraisal (r=.420), positive regulation (r=.414), emphatic sensitivity (r=.323), positive utilization (r=.369). There were

positive correlations between using emotions to facilitate thought and emotional appraisal (r=.437), positive regulation (r=.458), emphatic sensitivity (r=.346), positive utilization (r=.428). Positive correlations were found between perceiving emotions in self and others and emotional appraisal (r=.476), positive regulation (r=.434), emphatic sensitivity (r=.440), positive utilization (r=.463). Positive correlations were also found between understanding emotions and emotional knowledge in the self and others and emotional appraisal (r=.470), positive regulation (r=.399), emphatic sensitivity (r=.500), positive utilization (r=.488).

The mean scores of emotional self-efficacy, general self-efficacy and emotional intelligence were displayed in Table 4. Positive correlation was found between emotional self-efficacy and

Table 4: Correlations between mean scores of emotional self-efficacy, general self-efficacy and emotional intelligence (N=256)

	1) Emotional self-efficacy (mean)	2) Emotional intelligence (mean)	3) General self-efficacy (mean)
	3.78 (0.51)	4.11 (0.54)	3.15 (0.53)
1	1		
2	.597**	1	
3	.553**	.572**	1

**p<0.01, mean (standard deviation)

Table 3: Correlations between general self-efficacy, sub-dimensions of emotional self-efficacy, and sub-dimensions of emotional intelligence (N=256)

	(1) Regulating emotions in the self and others	(2) Using emotions to facilitate thought	(3) Perceiving emotions in self and others	(4) Understanding emotions and emotional knowledge in the self and others	(5) Emotional appraisal	(6) Positive regulation	(7) Emphatic sensitivity	(8) Positive utilization	(9) General self-efficacy
1	3.71 (0.57)	3.78 (0.58)	3.79 (0.60)	3.84 (0.57)	4.12 (0.66)	4.06 (0.67)	4.05 (0.68)	4.19 (0.67)	3.15 (0.53)
2	.724**	1							
3	.692**	.655**	1						
4	.671**	.656**	.748**	1					
5	.420**	.437**	.476**	.470**	1				
6	.414**	.458**	.434**	.399**	.579**	1			
7	.323**	.346**	.440**	.500**	.552**	.431**	1		
8	.369**	.428**	.463**	.411**	.534**	.591**	.525**	1	
9	.433**	.545**	.481**	.488**	.505**	.464**	.389**	.490**	1

**p<0.01, mean (standard deviation)

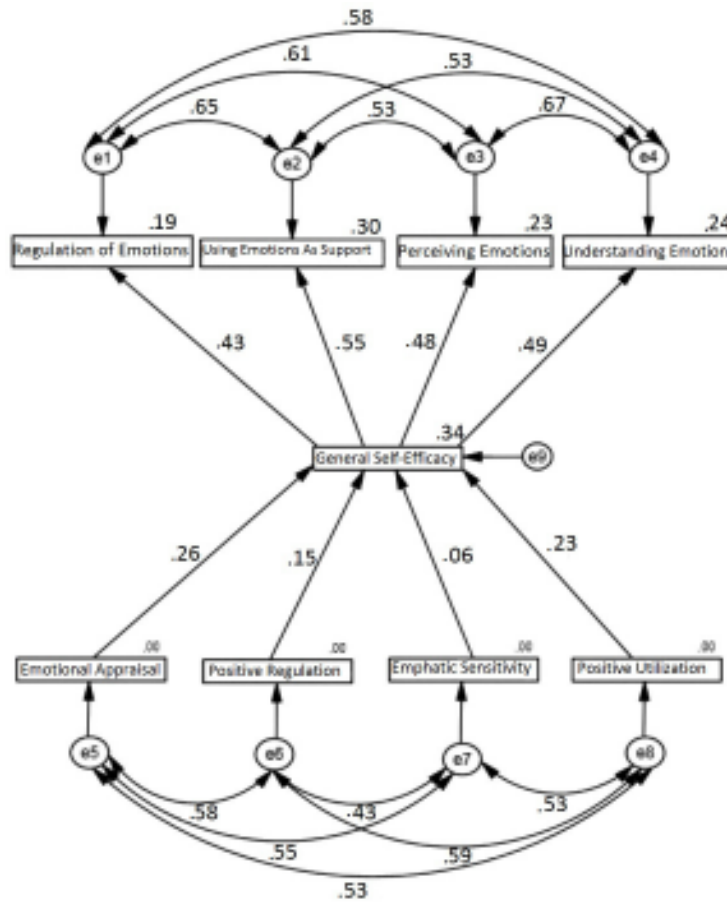


Fig. 1. Hypothesized model

emotional intelligence ($r=0.59, p<0.01$). Positive correlation was found between emotional self-efficacy and general self-efficacy ($r=0.55, p<0.01$). Positive correlation was found between emotional intelligence and general self-efficacy ($r=0.57, p<0.01$).

It is seen hypothesized model including general self-efficacy, emotional intelligence and emotional self-efficacy in Figure 1. In this model, it was hypothesized that high level of emotional intelligence increases general self-efficacy beliefs and high-level general self-efficacy beliefs increases emotional self-efficacy.

After model was modified, model fit indices were examined. The model fit indices were displayed in Table 5. As it is seen in Table 5, AGFI and TLI values are low. RMSEA value is over 0.05. After examining the model fit indices, it was concluded that this model had low fit indices and was not accepted. Model fit indices are near good fit.

After examining model fit in structural equation modeling, we proposed another model and examined its fit in automatic linear modeling. In proposed model, emotional intelligence and general self-efficacy beliefs were predictors of emo-

Table 5: Model fit indices

Model	χ^2	df	χ^2/df	NFI	GFI	AGFI	TLI	CFI	RMSEA
Before modification	887.1	28	31.68	.302	.478	.161	.106	.305	.347
After modification	75.3	16	4.7	.941	.943	.840	.892	.952	.121

tional self-efficacy. While emotional self-efficacy was target variable, emotional intelligence and general self-efficacy were hypothesized as predictors. As it is seen in Figure 2, the bar represents the adjusted R square. The accuracy of final model was 44.1%.

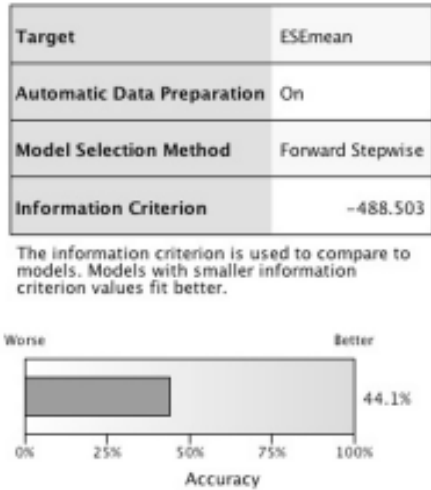


Fig. 2. Model summary

“The predictor importance chart helps you do this by indicating the relative importance of

each predictor in estimating the model. Since the values are relative, the sum of the values for all predictors on the display is 1.0. Predictor importance does not relate to model accuracy. It just relates to the importance of each predictor in making a prediction, not whether or not the prediction is accurate” (IBM 1989, 2011).

The predictor importance of predictors in estimating the model was displayed in Figure 3. As it is displayed in Figure 3, EI was the most important predictor of emotional self-efficacy.

The binned scatterplot of the predicted values on the vertical axis by the observed values on the horizontal axis was displayed in Figure 4. In IBM (1989, 2011) it was indicated that the points ideally should lie on a 45-degree line; with this view it is possible to interpret whether any records are predicted particularly badly by the model. In this figure, it can be said that emotional intelligence and general self-efficacy beliefs predict emotional self-efficacy reasonably well, because plots are on a 45-degree line.

Field (2009) suggested that effect sizes were useful because they provided an objective measure of the importance of an effect. The effect sizes of predictor variables were displayed in Figure 5.

“Note that factors (categorical predictors) are indicator-coded within the model, so that effects containing factors will generally have multiple

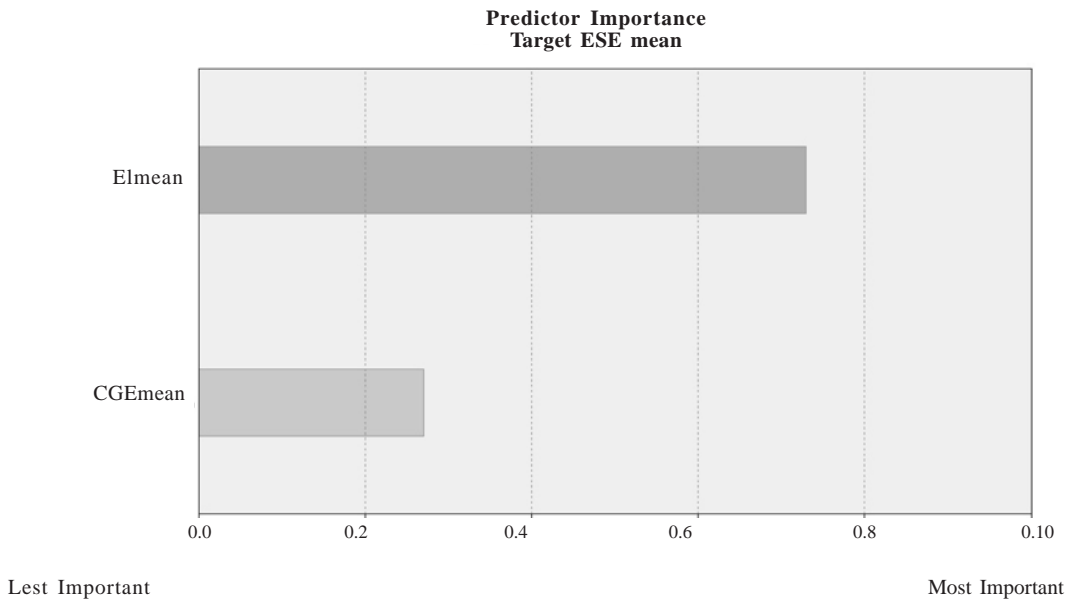


Fig. 3. Predictor importance in estimating the model

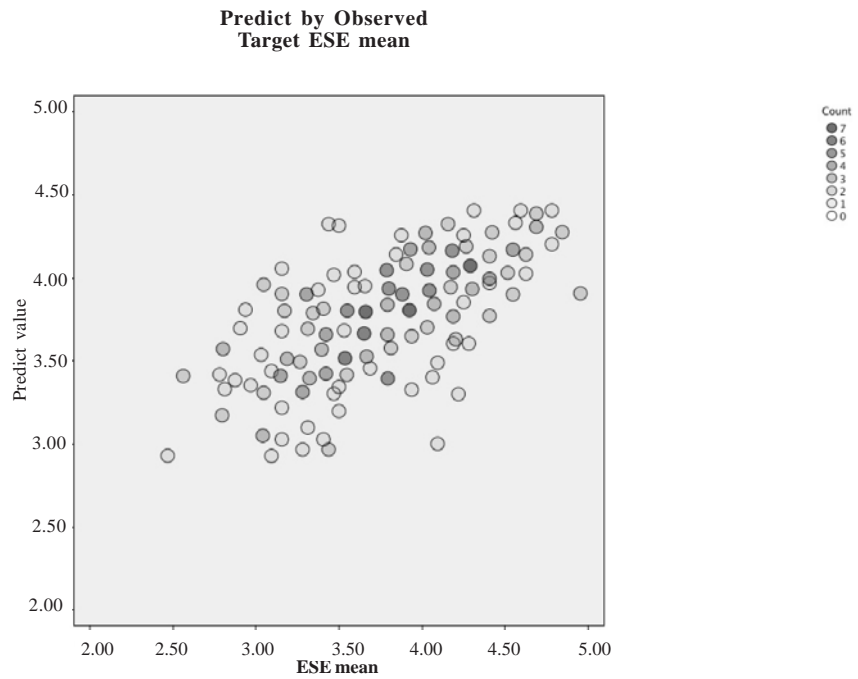


Fig. 4. Binned scatterplot of emotional self-efficacy

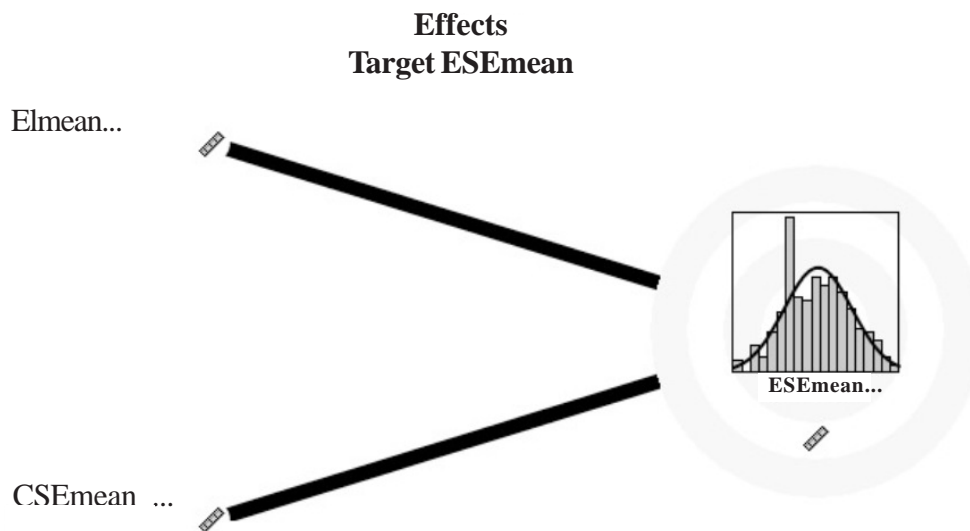


Fig. 5. Effect sizes of emotional intelligence and general self-efficacy in the model

associated coefficients; one for each category except the category corresponding to the redundant (reference) parameter” (IBM 1989, 2011). Coefficient of emotional intelligence with emotional self-efficacy was found as 0.44; coefficient of general self-efficacy with emotional self-efficacy was found as 0.27, and these results were significant ($p < 0.01$) (see Fig. 6).

Figure of estimated means provides a useful display of the effects of each predictor’s coefficients on the target (IBM 1989, 2011). It is seen that emotional intelligence and general self-efficacy are significant predictors of emotional self-efficacy, because it was stated in IBM (1989, 2011) that if no predictors were significant, no estimated mean would be displayed in Figure 7.

DISCUSSION

The aim of this study was to examine the relationship between general self-efficacy beliefs, emotional intelligence and emotional self-efficacy levels of students in school of physical education and sport. No significant differences were found between male and female students in terms of emotional intelligence. This result is consistent with findings

of some studies (Chan 2004; Adilogullari 2011; Senel 2013).

Significant positive correlations were found between emotional intelligence and general self-efficacy. Villanueva and Sánchez (2007) found positive correlations between trait emotional intelligence and collective self-efficacy ($r = 0.25$), leadership self-efficacy ($r = .56$). Tabatabaei et al. (2013) found positive correlation between emotional intelligence and self-efficacy ($r = 0.78$). Gurol et al. (2010) found positive correlation between self-efficacy and emotional intelligence ($r = .74$). It can be said that when emotional intelligence level is high, it is likely that general self-efficacy beliefs are high. Thus, in the paper, a positive correlation was found between emotional intelligence and emotional self-efficacy. It can be concluded that this positive relation indicates that having high level of emotional intelligence results in having high level of emotional self-efficacy. Petrides and Furnham (2000, 2001, 2003) proposed two different model of emotional intelligence that they have different aspects in themselves. The first emotional intelligence model is trait emotional intelligence, which was conceptualized as emotional self-efficacy. This results show that it is usual that emotional intelligence and emotional self-efficacy have close correlation values. The same can

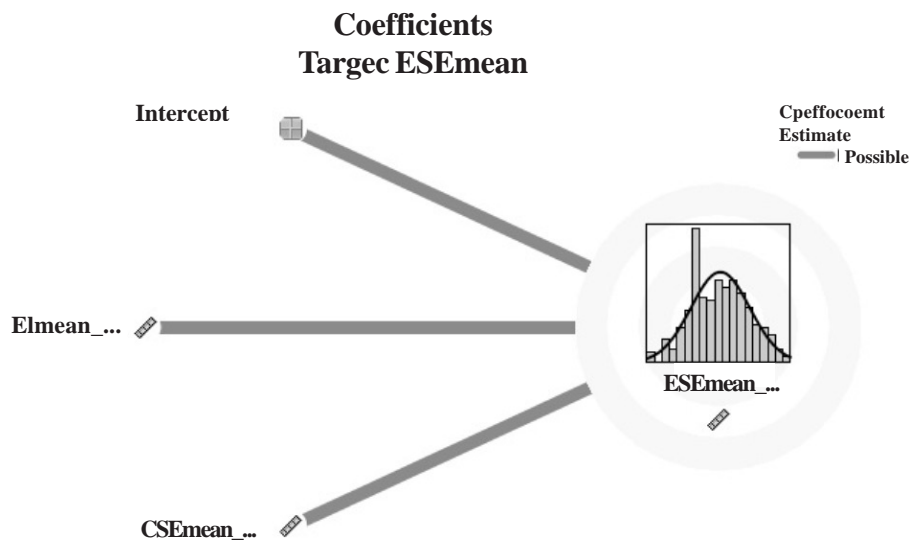


Fig. 6. Coefficient values of emotional intelligence and general self-efficacy beliefs

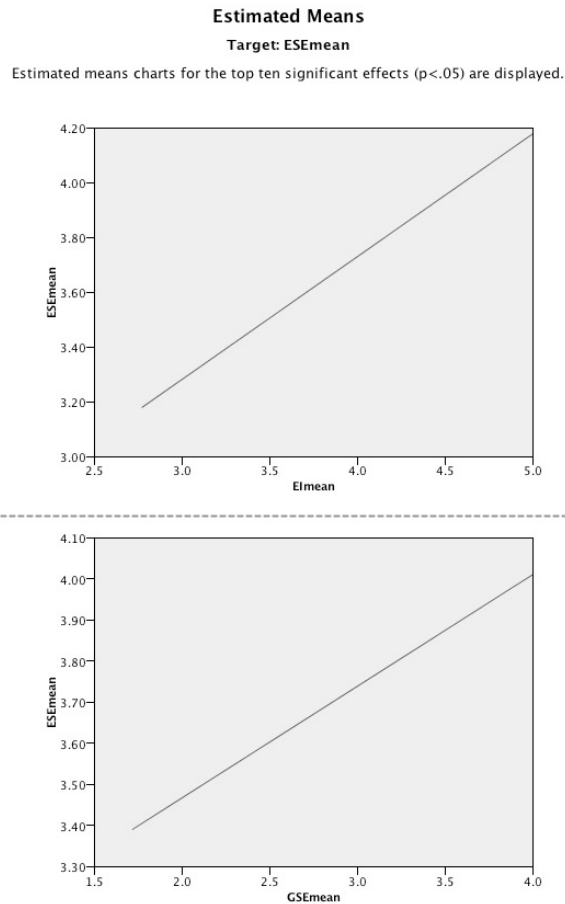


Fig. 7. Estimated means of predictors

be said for emotional self-efficacy and general self-efficacy beliefs.

In Figure 2, it was hypothesized that emotional intelligence and general self-efficacy beliefs predicted emotional self-efficacy. Besides, emotional self-efficacy was proposed to be a different aspect of emotional intelligence, as it is seen in the Figure 3, emotional intelligence is the most important predictor of emotional self-efficacy. As it was expected, self-efficacy beliefs are another predictor of emotional self-efficacy.

Students graduated from school of physical education and sport as teachers, coaches and managers will work in sporting field. Emotional intelligence and self-efficacy become important in working area. Coetzee and Harry (2014) have suggested that developing individuals' emotional intelligence is important for their career adapt-

ability. Sloan (2014) has found that a worker's sense of self-efficacy in emotional labor performance has reduced the negative effects of surface acting.

CONCLUSION

The analyses in the paper done from the various angles demonstrate that emotional intelligence and general self-efficacy beliefs were important predictors of emotional self-efficacy. It can be made an inference that boosting emotional intelligence and general self-efficacy would result in having high level of emotional self-efficacy. The findings of this paper revealed that emotional intelligence and general self-efficacy are important predictors of emotional self-efficacy. Self-efficacy and emotional intelligence

are the social factors that teachers, coaches, managers can use in social relations. Physical education and sport is a field in which theoretical and practical factors exist. Teachers with high level of self-efficacy and emotional intelligence, and also emotional self-efficacy, will be more effective in teaching. Similarly, coaches in any branches will use their abilities more effective in training. Sport managers will provide effective working area in sports.

Consequently, educating teachers, coaches and managers with high level of self-efficacy, emotional intelligence can improve the quality of sport, and bring success.

RECOMMENDATIONS

The first recommendation is that hypothesized model in Figure 1 could not be accepted. This result led us to interpret that larger sample group should include in future research, because modification indices were near close fit. Findings of this study were theoretical and based on statistical results. The findings of this study revealed that general self-efficacy and emotional intelligence are predictors of emotional self-efficacy. Experimental studies can be conducted in future research to find out whether emotional intelligence and self-efficacy can be improved. Different sample groups from different regions and countries can be included in future studies.

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