

Araştırma Makalesi / Research Article

## **PREDICTABILITY OF CHALLENGES ON PROFESSIONAL SELF – EFFICACY BELIEF OF OCCUPATIONAL SAFETY SPECIALISTS**

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### **İŞ GÜVENLİĞİ UZMANLARININ YAŞADIKLARI- KARŞILAŞTIKLARI ZORLUKLARIN (SORUNLARININ) MESLEKİ ÖZ – YETERLİLİK İNANCINI YORDAYICILIĞI**

#### **Abstract**

The object of this study was to examine the predictability of challenges on professional self – efficacy belief in occupational safety specialists. Also, psychometrically valid and reliable professional self – efficacy belief scale for occupational safety specialists was developed within this study. 332 occupational safety specialists from private sectors participated to this study. After reliability and validity analysis, 7 items professional self – efficacy belief of occupational safety specialists scale was emerged. Regression analysis showed that insufficient awareness of employers which is a sub – dimension of main challenges and organizational challenges predicts the professional self-efficacy belief of occupational safety specialists.

**Keywords:** Challenges, Professional Self – Efficacy Belief, Occupational Safety Specialists, Self – Efficacy Belief Scale.

#### **Öz**

Bu çalışmanın amacı iş güvenliği uzmanlarının yaşadıkları zorlukların mesleki öz – yeterlilik inancını yordayıcılığını incelemektir. Bu çalışmada ayrıca, iş güvenliği uzmanlarına yönelik psikometrik özellikleri açısından geçerli ve güvenilir mesleki öz – yeterlilik inancı ölçeği geliştirilmiştir. Araştırmaya özel sektörde çalışan 332 iş güvenliği uzmanı katılmıştır. Geçerlilik ve güvenilirlik analizleri sonucunda 7 maddelik iş güvenliği uzmanlarına yönelik mesleki öz – yeterlilik ölçeği ortaya çıkmıştır. Regresyon analizi sonuçları ana zorlukların alt boyutlarından biri olan

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işverenin yetersiz farkındalığının ve organizasyonel zorlukların iş güvenliği uzmanlarının mesleki öz – yeterlilik inancını yordadığını göstermiştir.

**Anahtar Kelimeler:** Zorluklar (Sorunlar), Mesleki Öz – Yeterlilik İnancı, İş Güvenliği Uzmanları, Öz – Yeterlilik İnancı Ölçeği.

## **1. Introduction**

The object of this study was to examine the predictability of challenges on professional self – efficacy belief in occupational safety specialists. Also, psychometrically valid and reliable professional self – efficacy belief scale for occupational safety specialists was developed within this study. Safety professionals are assigned considerable role in providing health and safety of organizations. They have duties of conducting risk evaluations, health and safety surveillances and reporting of health and safety related cases (Leitão, Mc Carthy & Greiner, 2018). However, there are considerable challenges occupational safety specialists experience in implementation (The Ministry of Work and Social Security & International Labor Office, 2017:47). Besides, occupational safety specialists implement duties on any sector regardless of their graduation area. It wouldn't be possible to meet all OHS criterion of organizations that contains numerous managerial characteristics, risks, dangers and processes. Additionally, content of speciality training and graduation courses getting in university are contentious in terms of meeting necessities of occupational health and safety practices properly (Ceylan, 2012:95). Recent findings in the safety science showed that safety professional struggle long held beliefs on their professional role and safety (Swuste, Gulijk et al. 2014:22). All of this exhibit necessity for investigating professional self – efficacy belief of occupational safety specialists in terms of how much they believe to conduct their work efficiently.

## **2. Literature Review**

### **2.1. Challenges of Occupational Safety Specialists**

OHS has entered into rapid alteration with assigning stakeholders authorities, obligations and responsibilities after 6331 no. OHS Law have enacted in Turkey. Even there are positive arguments on new OHS system of Turkey, judges claim that OHS regulations are complex and detailed. Employers also claim that OHS legislation alters rapidly by expecting to conduct regulations in short time (MWSS & ILO, 2017:45). In this cases, occupational safety specialists are exposed many challenges arised from regulations, workplaces, employees or employers. Even one of the crucial point for occupational safety specialists is independency, it is clear that

they are exposed substantial responsibilities and task with bounded authority on organizations stated 6331 no. OHS legislation (MWSS & ILO, 2017:14). Additionally, employees ignore OHS activities instead of contributing these activities (Başkan Takaoğlu, Çelenk Kaya & Ölmezoğlu İri, 2018:7). To be an occupational safety specialist becomes more difficult in case of organizational challenges arised. Leitão, Mc Carthy & Greiner (2018:136) provided that when supportive climate is created, occupational safety professionals function more efficiently. This subsequently improves OHS performance of workplaces. Besides, so as to create supportive climate, occupational safety professionals should be provided to adequate autonomy and decision making (Leitão, Mc Carthy & Greiner, 2018:136). However, practices of occupational safety specialists only exist on paper (MWSS & ILO, 2017:21). Güzey (2014:23) claimed that according to the prosecutors, occupational safety specialists are seen as liable for the deaths and work accidents. Orhan (2014:88) also showed that job security of occupational safety specialists should be enhanced so as to work efficiently.

## **2.2. Professional Self – Efficacy Belief**

Within this study, professional self – efficacy belief term have been evaluated from aspect of self-efficacy (Bandura, 1986:34) belief of occupational safety specialists at work by focusing on investigation of how much occupational safety specialists believe to conduct their tasks, duties and roles effectively in the organizations.

Self-efficacy is identified as a belief that individuals could successfully perform the required action to generate an outcome (Bandura, 1977:205). Self-efficacy belief is not concerned with ones' capability, but with ones' perceptions of what s/he could do with their capabilities. Behavior of individuals are better comprehended by belief that they hold on their capabilities (Bandura, 1986:126). Bandura (1977:194-195) claimed four main sources of self – efficacy knowledge: 'past performance accomplishments' (additionally called enactive advanced attainment or performance or advanced experiences), 'vicarious experiences'(likewise called observational gaining, demonstrating or comparisons), 'verbal persuasion' (and other social impacts), and 'emotional and physiological situations'. Owing to based on individuals' own experiences, past performance accomplishments are the most powerful source of efficacy information (Bandura, 1997:36). Along this line, the performance of behaviours which generates successful outcome is the most powerful method of assembling self-efficacy (Maddux and Lewis, 1995:47). As in self-efficacy theory, while failures lower self-efficacy belief, successful performance increases self – efficacy belief. Thus, researchers have used

different way of manipulations to examine the impact of success and failure on self-efficacy beliefs (Bandura, 1986:199). Vicarious experiences which is a second source of self – efficacy includes observation and comparison of oneself with norms or others. Therefore, vicarious experience involves the more advanced modelling – grounded implementations. Bandura (1997:42) also suggested that “a formidable-looking opponent instils lower efficacy beliefs than does one who looks less impressive”. Social comparisons is also assessed a part of the modelling process. As referred by Feltz et al. (2008:57), modelling enables efficacy knowledge by indicating that a duty or task could be learned by enabling instructional information, and by displaying that a challenging task or duty is resolvable. According to applied aspect, models are considered as a stimulus for psychological or behavioural change, so the adoption of modelling can be seen as an intervention method. Thought vicarious experiences are assessed by Bandura (1997:56) to be less powerful in comparison with past performance accomplishments, this experiences are especially valuable in case individuals have less knowledge on their own capacity to achieve a task (Feltz et al., 2008:81). Even Bandura (1986:121) assessed imaginal experiences as in vicarious experiences (i.e. cognitive self-modelling), other researchers assessed these kind of experiences separately (Maddux and Lewis, 1995:56). Imagery experiences are identified as “an experience that mimics real experience. We can be aware of ‘seeing’ an image, feeling movements as an image, or experiencing an image of smell, tastes or sounds without actually experiencing the real thing” (White and Hardy, 1998:394). Dreaming is not the same as imagery; individuals are conscious and aware when adopting imagery (Richardson, 1969:212). The consideration of the verbal persuasion source could be gathered with this quotation: “All effective psychological interventions begin and end with communication, regardless of the techniques employed in between” (Maddux and Lewis, 1995:59). The process within this source involves feedback, expectations on the part of others and cognitive strategies (Feltz et al., 2008:96). Bandura (1986:95) indicated that the impact of persuasive influence on self-efficacy could vary according to the trustworthiness, credibility, prestige, expertise or knowledge of the persuader. The feedback given to an individual could boost self-efficacy beliefs or diminish them (Bandura, 1997:76). In addition to that, Escarti and Guzman (1999:93) found in their study that feedback had positive impact on performance, task choice and self-efficacy. In contrast to participants who gets negative feedback, participants who gets positive feedback had higher level self-efficacy, picked more difficult tasks and achieved tough tasks better. As indicated by Bandura (1997:143), individuals who consider themselves as high

efficacious incline to attribute their faulties to inadequate effort and/or situational hardles, whereas individuals who have low sense of self-efficacy see their faulties as arised from a lack of skill. Bandura (1997:76) suggested that setting goals influences self-efficacy and self-efficacy influences the goals an individual assign for theirselves. However, according to Feltz et al., (2008:117), “when people assign goals to others, they are engaging in a form of verbal persuasion”. By assigning a goals, individuals express their belief to others by tacitly indicating that s/he is competent of obtaining that performance.

Individuals cognitively evaluate their condition or physiological state to shape self-efficacy judgements to decide whether they meet task expectations (Feltz et al., 2008). Bandura (1997:89) merges affective and physiological states owing to both of them have physiological basis. According to Bandura (1997:96), physiological states affects self-efficacy beliefs in case individuals identify repulsive physiological arousal with perceived incompetence, perceived failure, poor behavioural performance.

Even general self – efficacy scales was used for students in different degrees (Aypay, 2010:121), school administors (Okutan ve Kahveci, 2012:31), individuals in different psychological states (Rimm ve Jarusalem, 1999:330) and university students (Smith, Kass, Rotunda & Schneider, 2006:166), professional self – efficacy belief of occupational safety specialists scale is task specific for occupational safety specialists regarding their profession. The importance of professional self – efficacy belief was getting increased in the literature. However, in our knowledge, scale for professional self – efficacy belief of occupational safety specialists have not been confronted in the present literature. Investigating the professional self – efficacy belief of occupational safety specialists, as an one of the main actor in occupational health and safety area, will contribute the health and safety performance of organizations and in turn, health and safety of employees. On the other hand, as distinct from other self – efficacy belief studies in the literature, this study examine professional self – efficacy belief with challenges. According to researchers of this study, investigating the professional self – efficacy belief of occupational safety specialists in challenging context would shed light on following studies in terms of enhancing work quality of occupational safety specialists.

### **2.3. Object and Hypothesis**

Self-efficacy is defined by (Bandura, 1977:205) as a belief that individuals could successfully perform the expected action to generate a result. Outcome of works of occupational safety specialists could be seen in

organizations, over employers or employees. Thus, challenges stemming from organizations, employers or employees would affect the professional self – efficacy belief of occupational safety specialists. In addition to that, as indicated in self - efficacy theory, while failures lower self-efficacy belief, successful performance increases self – efficacy belief (Bandura, 1986:199).

*H1.1: Insufficient awareness of employer negatively predicts professional self – efficacy belief in occupational safety specialists*

*H1.2: Unwillingness of employees to participation negatively predicts professional self – efficacy belief in occupational safety specialists*

*H1.3: Ignorance of employees negatively predicts professional self – efficacy belief in occupational safety specialists*

*H1.4: Providing lack of resources negatively predicts professional self – efficacy belief in occupational safety specialists*

*H1.5: Legislative challenges negatively predicts professional self – efficacy belief in occupational safety specialists*

*H1.6: Law based challenges negatively predicts professional self – efficacy belief in occupational safety specialists*

*H1.7: Organizational challenges negatively predicts professional self – efficacy belief in occupational safety specialists*

The main duty of occupational safety specialists are to provide services to workplaces in order to adapt them 6331 no. OHS Law. However, some occupational safety specialists have additional duty related to their background such as engineering, quality or other managerial duties.

*H2: Additionally duty negatively predicts professional self – efficacy belief in occupational safety specialists*

It is required in Turkish OHS legislation to be A class occupational safety specialists that to spend four years active tenure with B class occupational safety speciality certificate, and the similar condition stated in Turkish OHS legislation that is required to be B class occupational safety specialists that to spend three years active tenure with C class occupational safety speciality certificate. One exception is that engineers, architectures or technical personnels graduated from OHS or Occupational Safety master programme could participate B class certification exam and can get B class occupational safety certification without 3 years active tenure with C class occupational safety speciality certificate (DARTOSSR, 2013:No.8).

*H3: Speciality class positively predicts professional self – efficacy belief in occupational safety specialists*

Danger classes are mainly formed according to main processes of workplace regardless of the employee count. Such as mining and construction are high dangerous, painting and service are dangerous and office works and retail are low dangerous. This classification is important in terms of the responsibilities and obligations are increased when danger class ascending. Such as employers are obligated to recruit occupational safety specialists at least 40 min. per employees in high dangerous workplaces, at least 20 min. per employees in dangerous workplaces, and at least 10 min. per employees in low dangerous workplaces. OHS trainings have to be updated at least in one year for high dangerous workplaces, at least two years for dangerous workplaces and at least 3 years for low dangerous workplaces. Health surveillances have to be updated at least one year for high dangerous workplaces, at least three years for dangerous workplaces and at least five years for low dangerous workplaces (The Regulation of Occupational Health and Safety Services, 2014).

*H4: Danger class negatively predicts professional self – efficacy belief in occupational safety specialists*

### **3. Methodology**

In the first stage of this study, professional self – efficacy belief of occupational safety specialists scale was developed. Then, regression analysis conducted to test predictability of challenges of occupational safety specialists on professional self – efficacy belief of occupational safety specialists.

#### **3.1. Sample**

Data have been collected from occupational safety specialists who work in private sector including consultants. Public sector occupational safety specialists excluded from this research since the obligation of employing occupational safety specialist in public sector has been suspended to 2020. 332 occupational safety specialists participated to this study by using snowball sampling method. The mean age of the participants is 35,6 years in range of 21 years and 69 years. Participants consists of 72 A class (21.7%), 149 B class (44.9%) and 111 C class (33.4%) occupational safety specialist over 20 years 209 males (63%) and 123 females (37%), at least associate degree graduated. Participants service about 27 workplaces in the mean divided by low dangerous, dangerous, high dangerous. 202 of participant employed by Public Health and Safety Unit (60.8%), 122

participant working subject to an employer in company (33.7%) and 18 participants work as individual consultant (5.4%). 126 (38%) participants have additional duty apart from OHS. Social Security Pension of 158 (47.6%) participants are deposited by minimum salary.

## **3.2. Instruments**

### **3.2.1. Demographic Information Form**

Demographic variables consist of gender, age, education status, service type, speciality class, number of workplace, danger classes, weekly average working hours, total employee number. Participants also asked whether they have liability insurance, additional work apart from OHS and how social security institution pension is deposited.

### **3.2.2. Challenges of Occupational Safety Specialists Scale**

Challenges of occupational safety specialists scale developed by Aksoy and Mamatoğlu (2019:78). Scale consists of 2 parts as main challenges and organizational challenges with 34 items. Cronbach's alpha coefficient of main challenges was found .954. Main challenges part contains 6 factor with 28 items which were named as 'insufficient awareness of employer', 'providing lack of resource', 'ignorance of employees', 'unwillingness of employees to participation', 'legislative challenges' and 'law based challenges'. In main challenges part, employers and employees related challenges items are mostly based on their approach on OHS in workplaces such as *Employer(s) conceives OHS investments as redundant in workplace(s) that I service and employees don't request employer to take measure when they confront a hazard workplace(s) that I service.* Legislation related challenges items are consist of challenges in practice and content of OHS legislation such as *It is hard to follow OHS legislation updates.* Law related challenges items are related to attribution of 6331 no. OHS Law such as *OHS law is inadequate to prevent accidents because of mostly focusing on technical measures.* Organizational challenges part contains 6 items. Cronbach's alpha coefficient of organizational challenges was found .818. Organizational challenges items are consist of challenges stemming from organizational context such as *assigned tasks and responsibilities are too much to me as an Occupational Safety Specialist.*

### **3.2.3. Professional Self – Efficacy Belief of Occupational Safety Specialists Scale**

In order to measure how much occupational safety specialists believe in conducting their work efficiently, professional self – efficacy belief of



occupational safety specialists scale was developed. Scale is consists of 7 items.

### **3.2.4. Psychological Safety Scale**

Psychological safety scale was used for convergent validity of professional self – efficacy belief of occupational safety specialists scale. Psychological safety perception of occupational safety specialists was measured with seven-item scale which has been developed by Edmondson (1999:382). Following sentences would be given as examples of this scale; “Members of this organization are able to bring up problems and tough issues”, “No one in this organization would deliberately act in a way that undermines my efforts”. Yener (2015) adapted psychological safety scale into Turkish sample by conducting psychometric analysis. The Cronbach alpha internal consistency coefficient of original scale was found .80 and adapted Turkish psychological safety scale is observed as .810. Adapted psychological safety scale has two sub - dimension as tolerance which are reversed items of 1, 3 and 5 and initiative which are items of 2, 4, 6 and 7.

### **3.3. Procedure**

In the first phase of this research, the confirmation of the ethics board committee of Bilgi University was received to get to study. Then, pilot study was conducted to 100 occupational safety specialists to test psychometrics specifics of professional self – efficacy belief of occupational safety specialists scale. Items of professional self – efficacy belief of occupational safety scale have been prepared from aspect of self-efficacy theory (Bandura, 1986:176) by focusing on investigation of how much occupational safety specialists believe to conduct their job tasks effectively in the organizations. The Tasks, Authorization, Responsibility and Trainings of Occupational Safety Specialists Regulation was utilized to determine the tasks of occupational safety specialists. In addition to the tasks stated in this regulation, some general tasks regarding to the job of occupational safety specialists was added. Expert ideas were taken on theoretical suitability and comprehensibility of the items. At the last stage, scale was sent to one occupational safety specialists to get general information about items and 9 items was prepared for implementation. Snowball sampling method was used for data collection. Anonymous link which includes professional self – efficacy belief of occupational safety specialists scale and psychological safety scale for convergent validity were sent to occupational safety specialists via e-mail in the contact list of researchers of this study. Then, occupational safety specialists were asked to send this anonymous link to their contacts /friends / colleagues to fulfill.

After psychometrics specifics of professional self – efficacy tested in pilot study, challenges of occupational safety specialists and professional self – efficacy belief of occupational safety specialists scales were sent to occupational safety specialists with anonymous link. Similiar with pilot study, snowball sampling method was used. Of 443 responses, 111 responses were disregarded because of the missing data and remaining 332 responses data was used for this study. Thus, %74 of response was reached rate was reached in a period of 2 weeks. Participants were asked to rate items on 6 point Likert-type (1 - totally disagree and 6 - totally agree) scale.

## **4. Results**

In the first stage of this study, professional self – efficacy belief of occupational safety specialists scale was developed. Then, regression analysis conducted to test predictability of challenges of occupational safety specialists on professional self – efficacy belief of occupational safety specialists.

### **4.1. Content Validity of Professional Self – Efficacy Belief of Occupational Safety Specialists Scale**

In the first phase of this study, item pool of professional self-efficacy belief of occupational safety specialists were prepared according to related literature and tasks stated in regulation. Prepared items from pool were sent to 2 professors in the area of law and psychology before conducted. After they reviewed items, the last version of scale was reviewed by a linguistic scientist in Sakarya University. After expert ideas was taken, researchers decided to add ‘I believe’ phrase prior to items. Then, scale was sent to 1 occupational safety specialist to get general information about items. Ultimately, 9 items were involved into analyses.

### **4.2. Reliability and Validity Analysis of Professional Self – Efficacy Belief of Occupational Safety Specialists Scale**

#### **4.2.1. Factor Construct of Professional Self – Efficacy Belief of Occupational Safety Specialists Scale**

Professional self – efficacy belief of occupational safety specialists scale was implemented to 100 occupational safety specialists to test psychometric specifics. Factorability of 9 items of professional self – efficacy belief of occupational safety specialists scale was examined. All factor loadings met the minimum criteria except 2 items that factor loadings of them under .30 so 2 items were eliminated. The Barlet Sphericity value of 7 items professional self – efficacy belief of occupational safety specialists scale was significant ( $p=.00 < .05$ ) and

KMO value is .866 which is very high. Direct oblimin rotation method was used for factor analysis of professional self – efficacy belief of occupational safety specialist scale. The result of the rotation could be seen in the Table 1. Only one eigenvalue of factor recorded as above 1 in the Total Explain table. Initial eigenvalue results showed that first factor explained 57.1% of the variance. All factor loadings met the minimum criterians so no items were eliminated. Professional self – efficacy belief of occupational safety specialists scale could be seen in Appendix.

**Table 1:** The Results of Direct Oblimin Factor Rotation of Professional Self – Efficacy Belief of Occupational Safety Specialists Scale

Items	Factor Loadings	% of Variance	Cumulative %
2.I believe I do efficient works that support safety and health of employees	.806	54.11	54.11
3.I believe I use communication channels efficiently when implementing my duties and responsibilities.	.770		
4.I believe I conduct efficient guidance events.	.762		
1.I believe I exactly implement duties and responsibilities that my job requires.	.703		
6.I believe I work in cooperation with related persons and units.	.700		
5.I believe I efficiently participate in risk assessment works.	.534		
7.I believe I contribute workplace surveillance periodical maintance, control, measurements, e be conducted efficiently.	.440		

#### 4.2.2. Reliability Analysis of Professional Self – Efficacy Belief of Occupational Safety Specialists Scale

Cronbach’s Alpha value of professional self – efficacy belief of occupational safety specialists scale was calculated so as to measure internal consistency of scale. Professional self – efficacy belief scale has a .853 Cronbach’s alpha value, which represents high level of internal consistency. The Cronbach alpha values and correlations could be seen in the Table 2.

**Table 2: Internal Consistency Analysis of Professional Self – Efficacy Belief of Occupational Safety Specialists Scale**

Items	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1.I believe I exactly implement duties and responsibilities that my job requires	4.81	1.00	.663	.821
2.I believe I do efficient works that support safety and health of employees	4.60	1.00	.692	.817
3.I believe I use communication channels efficiently when implementing my duties and responsibilities	4.85	.91	.663	.822
4.I believe I conduct efficient guidance events	4.79	1.02	.671	.819
5.I believe I efficiently participate in risk assessment works	4.71	1.32	.527	.848
6.I believe I work in cooperation with related person and units	4.68	1.07	.660	.820
7.I believe I contribute workplace surveillance (periodical maintenance, control, measurements, etc.) to be conducted efficiently	5.08	.96	.444	.850
Cronbach's Alpha Value of Scale: .853				

### 4.2.3. Convergent Validity Analysis of Professional Self – Efficacy Belief of Occupational Safety Specialists Scale

In this study psychological safety scale was used to test the convergent validity of professional self – efficacy belief of occupational safety specialists scale. The correlations between professional self-efficacy belief of occupational safety specialist and psychological safety and its sub-dimensions were shown in Table 3. As could be seen in Table 3, professional self – efficacy belief of occupational safety specialists positively correlated with initiative ( $r=.175, p<.01$ ). This result showed that when professional self – efficacy belief of occupational safety specialists increased, initiative enhances. Morrison and Phelps (1999:411) - they used the concept of “taking charge” that is very similar to personal initiative- found that self-efficacy was associated with personal initiative. According to Bandura (1977:166), individuals incline to avoid conditions

which they do not believe in that they could achieve, but become in and are pretentious in situation that they consider that they are able to be successful. There is also positive correlation between professional self efficacy belief of occupational safety specialists and psychological safety ( $r=.133, p<.05$ ).

**Table 3:** The Correlations Between Professional Self-Efficacy Belief and Sub-Dimensions of Psychological Safety

Spearman's rho	1	Tolerance	Initiative	Total Psychological Safety Scale
1. Professional Self - Efficacy Belief of Occupational Safety Specialists	-	-.038	.175**	.133*

\*Correlation is significant at the .05 level (2-tailed).

\*\*Correlation is significant at the .01 level (2-tailed).

According to this findings, in psychological safer organizations, occupational safety specialists are more encouraged and supported to show their capabilities. As a result, findings justified the expectancy of researchers on the relationship between professional self – efficacy belief and psychological safety. Therefore, psychological safety and initiative would be taken into account in self - efficacy researches as complimentary part.

#### **4.2.4. Regression Analysis of Challenges of Occupational Safety Specialists on Professional Self – Efficacy Belief of Occupational Safety Specialists**

In the second stage of this study, predictability of challenges of occupational safety specialists on professional self – efficacy belief of occupational safety specialists was examined. Firstly, correlations between demographics, professional self – efficacy belief of occupational safety specialists, organizational challenges and sub – dimensions of main challenges of occupational safety specialists were tested. Correlation analysis results between these variables could be seen in Table 4. Then, regression analysis were conducted to test the predictability of challenges of occupational safety specialists on professional self – efficacy belief of occupational safety specialists. While Block 1 was composed of demographic as controlled variables, Block 2 was consists of sub – dimensions of main challenges and organizational challenges of occupational safety specialists. As could be seen in the Table 5, insufficient awareness of employer predicts professional self – efficacy belief of occupational safety specialists ( $\beta= -.464, t= -4.03, SE=.086, p<.01$ ). This result provided that H1.1 was supported. Organizational challenges

predicts professional self – efficacy belief of occupational safety specialists ( $\beta= .166, t=2.43, SE=.061, p<.05$ ). This result showed that H1.7 was not supported. Additionally, there were no findings on predictability of unwillingness of employees on participation, ignorance of employees, providing lack of resources, legislative challenges, law based challenges, additional duty, speciality class, danger class on professional self – efficacy belief of occupational safety specialists so H1.2, H1.3, H1.4, H1.5, H1.6, H2, H3 and H4 were not supported.

**Table 4:** Correlation Analysis Results of Demographics, Professional Self - Efficacy Belief of Occupational Safety Specialists, Organizational Challenges and Sub-Dimensions of Main Challenges of Occupational Safety Specialists

Spearman's rho	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
1 Sex	1																					
2 Age	.154**	1																				
3 Education Status	-.041	.028	1																			
4 Service Type	.053	.100	-.016	1																		
5 Speciality Class	-.047	-.548**	-.219**	-.030	1																	
6 Danger Class	-.034	-.014	.058	-.302**	.123*	1																
7 Number of Workplace	-.060	.115*	.009	-.452**	-.082	.426**	1															
8 Weekly Avarage Working Hours	.075	-.016	.059	-.048	.104	-.028	.017	1														
9 Total Employee Number	.068	.028	-.035	-.216**	.006	.212**	.277**	.069	1													
10 Occupational Liability Insurance	-.016	.131*	.007	.037	-.058	-.007	.022	.029	.046	1												
11 Additional Duty	-.044	.027	-.107	-.222**	-.090	.001	.055	-.067	.016	-.026	1											
12 Social Security Institution Pension	.070	-.024	.024	.425**	-.032	-.086	-.250**	-.242**	-.017	-.053	-.077	1										
13 Professional Self - Efficacy Belief of Occupational Safety Specialists	-.004	-.081	.041	.055	.098	-.042	-.133*	-.063	-.073	-.066	-.032	.167**	1									
14 Insufficient Awareness of Employer	.043	-.035	-.056	-.370**	.105	.162**	.312**	.212**	.073	.137*	.037	-.363**	-.309**	1								
15 Unwillingness of Employees to Participation	.075	.015	-.016	-.278**	.094	.081	.173**	.166**	.035	.106	.011	-.306**	-.283**	.713**	1							
16 Ignorance of Employees	.051	-.050	-.072	-.303**	.132*	.152**	.270**	.191**	.077	.076	.034	-.322**	-.217**	.776**	.724**	1						
17 Providing Lack of Resources	.063	-.023	-.029	-.353**	.038	.152**	.319**	.147**	.115*	.055	.049	-.337**	-.280**	.728**	.588**	.662**	1					
18 Legislative Challenges	.008	-.199**	-.127*	-.033	.219**	.012	-.022	.006	.034	-.041	-.037	.042	-.103	.336**	.304**	.323**	.292**	1				
19 Law Based Challenges	-.041	-.047	-.081	-.085	.129*	.061	.051	.089	.001	.029	.012	-.068	-.03	.423**	.300**	.395**	.326**	.399**	1			
20 Total Main Challenges	.050	-.061	-.065	-.352**	.140*	.149**	.284**	.203**	.082	.097	.027	-.334**	-.302**	.951**	.798**	.867**	.793**	.483**	.529**	1		
21 Organizational Challenges	-.024	-.040	-.026	-.144**	.057	.104	.146**	.143*	.012	.042	.027	-.243**	-.121*	.549**	.423**	.456**	.386**	.234**	.414**	.551**	1	

**Table 5:** Regression Analysis Results (Professional Self – Efficacy Belief of Occupational Safety Specialists, Organizational Challenges and Sub – Dimensions of Main Challenges of Occupational Safety Specialists)

Variable		Professional Self - Efficacy Belief of Occupational Safety Specialists				
		B	Std. Error	Beta	t	Sig.
<b>Model 1</b>	Sex	-.016	.113	-.009	-.143	.886
	Age	-.002	.009	-.026	-.285	.776
	Education Status	.087	.048	.111	1.812	.071
	Service Type	-.090	.119	-.053	-.754	.452
	Speciality Class	.189	.099	.150	1.916	.056
	Danger Class	.018	.030	.037	.580	.563
	Number of Workplace	-.001	.000	-.072	-1.19	.233
	Weekly Avarage Working Hours	-.078	.122	-.039	-.641	.522
	Total Employee Number	-.028	.039	-.043	-.716	.475
	Occupational Liability Insurance	-.097	.153	-.037	-.636	.526
	Additional Duty	-.044	.114	-.023	-.390	.697
Social Security Institution Pension	.275	.124	.151	2.22	.027	
<b>Model 2</b>	Insufficient Awareness of Employer	-.346	.086	-.464	-4.03	.000
	Unwillingness of Employees to Participation	-.072	.057	-.110	-1.25	.209
	Ignorance of Employees	.102	.069	.146	1.47	.141
	Providing Lack of Resources	-.049	.058	-.070	-.854	.394
	Legislative Challenges	.008	.047	.011	.169	.866
	Law Based Challenges	.089	.055	.109	1.62	.105
	Organizational Challenges	.147	.061	.166	2.43	.016

## 5. Conclusion

The object of this study was to examine the predictability of challenges on professional self – efficacy belief in occupational safety specialists. Also, psychometrically valid and reliable professional self – efficacy belief scale for occupational safety specialists was developed within this study. Psychometric results of professional self – efficacy belief of occupational safety specialists scale shown that this scale is suitable for Turkish sample.

Findings showed that insufficient awareness of employer predicts professional self – efficacy belief of occupational safety specialists. Self-efficacy is identified as a belief that individuals could successfully perform the required action to generate an outcome (Bandura, 1977:205). Outcome of works of occupational safety specialists could be seen in organizations, over employers or employees. It could be said that when occupational safety specialists feel insufficient awareness of employers which is a sub



dimension of main challenges raising, it means that they couldn't generate an outcome and in turn, self-efficacy belief diminishes. Another finding showed that organizational challenges positively predicts professional self – efficacy belief of occupational safety specialists. This result was interesting because negative predictability of organizational challenges on professional self – efficacy belief was expected. However, Bandura (1997:82) claimed that complexity influence self - efficacy in terms of ensuring individual to gain mastery experiences. Bandura (1997:58) also argued that mastery experiences generates higher level of self – efficacy. According to this finding of this study, organizational challenges provides people mastery experiences and in turn, enhances professional self – efficacy belief of occupational safety specialists.

In the following studies, researchers may investigate the professional self – efficacy belief of the other health and safety professionals in Turkey such as occupational physicians or occupational nurses. Public sector occupational safety specialists excluded from this research since the obligation of employing occupational safety specialist in public sector has been suspended to 2020 in Turkey. Researchers may also involve occupational safety specialists who work in public sector into professional self – efficacy belief studies in Turkey. This study additionally showed that psychological safety and initiative would be taken into account in self - efficacy researches as complimentary part.

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**Appendix: Professional Self – Efficacy Belief of Occupational Safety Specialists Scale**

Soru No.	İŞ GÜVENLİĞİ UZMANLARININ MESLEKİ ÖZ – YETERLİLİK İNANCI ÖLÇEĞİ ( Turkish) Lütfen anketteki önermeleri yaptığınız işi düşünerek; 1 - Kesinlikle Katılmıyorum, 2- Katılmıyorum,3 -Kısmen Katılmıyorum, 4 - Kısmen Katılıyorum, 5 - Katılıyorum, 6 - Kesinlikle Katılıyorum şeklinde işaretleyiniz	Kesinlikle Katılmıyorum (1)	Katılmıyorum (2)	Kısmen Katılmıyorum (3)	Kısmen Katılıyorum (4)	Katılıyorum (5)	Kesinlikle Katılıyorum (6)
		1	İşimin gerektirdiği görev ve sorumlulukları tam anlamıyla yerine getirdiğime inanıyorum.	( )	( )	( )	( )
2	İşyerinde çalışanların sağlık ve güvenliklerini destekleyen etkin çalışmalar yaptığıma inanıyorum.	( )	( )	( )	( )	( )	( )
3	Görev ve sorumluluklarımı yerine getirirken iletişim kanallarını etkin kullandığıma inanıyorum.	( )	( )	( )	( )	( )	( )
4	Etkin rehberlik faaliyetleri yürüttüğüme inanıyorum.	( )	( )	( )	( )	( )	( )
5	Risk Değerlendirme çalışmasına etkin katılım sağladığıma inanıyorum.	( )	( )	( )	( )	( )	( )
6	İlgili birim ve kişilerle etkin işbirliği içerisinde çalıştığıma inanıyorum.	( )	( )	( )	( )	( )	( )
7	Çalışma ortamı gözetimlerinin (periyodik bakım, kontrol, ölçümler vs.) etkin bir şekilde yürütülmesine katkı sağladığıma inanıyorum.	( )	( )	( )	( )	( )	( )