



Providing a Model of Workplace Health along with an Approach to Staffs' Physical Activity Improvement (Case Study: Mobarakeh Steel Company)

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ABSTRACT

The present study brings forward a model of workplace health with an rrrr occh to stfff pyyii aal att ivity imrr vmmntt thi styyy wss nn pplidd and descriptive research that has been conducted with a mixed approach for data collection (qualitative and quantitative). The methodology is performed qualitatively on the basis of grounded theory of Glaser approach. The research participants in qualitative included 18 subjects selected through judgmental sampling method with snowball approach. In addition, the sample in quantitative section, 384 subjects were studied through convenience sampling based on Krejcie and Morgan table. The analysis in the quantitative section is second-order confirmatory factor analysis. According to the results, components of workplace health comprising the physical environment with sub-components of preparing infrastructure along with strenuous company; the psycho-social environment with sub-components of education, culturalization, encouragement along with support; the health resources with the sub-components of evaluation, supervision and alignment of plans; and participation of the company which comprises management and planning.

Introduction

The most important resource of an organization is human resources (Heydari, Keshtidar, Talebpour, Shojaei, & Oveysi Sani, 2021). As human beings are the most fundamental focus in transformation and alteration in any organization, human resources are considered the most invaluable assets (Salimi

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M. , 2020). Immense preparations are provided in pioneer organizations to promote human resources (Salimi, 2017). Accordingly, any organization and firm being successful is crucially based on whether its staff are effectively and persistently regarded into consideration to be capable of growing their performance and introducing themselves as the principal element for resources of the organization to be provided and maintained (Barshan, safaei movahhed, moghadam zadeh, Farzad, & kiamanesh, 2018). Evaluation of the workplace is defined as the knowledge dealing with promoting productivity a gwwmg aae aaaffeatt a aaalyzn fffff ttt aa elaii kcccē a tttt eeee ooooo (Lisanne, R, Appel, & Arentze, 2021). In order to evaluate overall values crucial to workplace, along with rrrrr rzzē rate ff orgazzzaii" peffaaaa nce add fffff heatth; evaluation of the workplace can be considered as a great assist to organizations (Sadeghi & Omranzadeh, 2020). Due to several reasons, as lack of culture and appropriate consideration to productivity in society, the importance of taking productivity into account has been overlooked, in Iran. Many professionals believe that the missing chain of the country's economy is regarded lack of labor productivity rather than capital or natural resources. Recent knowledge tries to resolve issues in organizations and systems, of which is solving difficulties in relation to health and health care of the staff (Havaei, Lorenzo, & MacPhee, 2021). Science and technology having been progressed at lightning speed in every area and having not paid attention to principles of workplace in design and manufacture of equipment, staff and workers are obliged to be adapted to the imposed conditions of the workplace; consequently, the disproportion between the staff and the workplace conditions leads to diverse issues, physically and mentally. Imposing stress, lowering organization performance and productivity, increasing expenditures, and causing human harms to workforce are regarded among the above-mentioned issues (Faez, Zakerian, & Azam, 2018). Ignoring principles of health in the workplace leads to gigantic costs for the organization and the staff, furthermore, it leads to reduce the efficiency, effectiveness and quality. Approaches have been altered from components of individual risk and workplace safety, along with physical and psychological harmful factors control to health-promoting environments, in recent decades. It conveys that cultural, psychological, social and political specifying influences on employees, officials, families and society health are regarded into consideration, furthermore, diverse individuals and groups are identified as active factors to alter the environment and governing policies. One of the strategic domains in Ottawa Charter is regarded as environments promoting health, which have been operationally addressed in international conferences on health promotion and its implementation has been stated fundamental for governments (World Health Organization, 2009). Several studies have proposed that health growth in the workplace would lead to diminish unhealthy behaviors along with related expenditures to incidents, treatment and disability happening among staff workers (Van Rijn, Robroek, Brouwer, & Burdorf, 2014). Research indicates that unhealthy lifestyle factors lead to more than half of inopportune deaths among adults; accordingly, it is regarded significant to provide, maintain and grow health levels of staff and have an influential effect on their lifestyle. Sfff" iifettyle add caee are associated with the scope of activity and their personal and social values. Therefore, health-promoting workplaces take psychological, physical and social components, as well as the interaction between individuals with their environment into consideration. From another point of view, today, ee'''''' 'eatt a eeey reggggggaciiē ciiii eeee a ee ee. Furthermore, people work out less for the reason of incremental growth of industries and life being more mechanized in today's world; consequently, they experience a descending process of health and physical fitness (Salimi & Keshvari, 2019). As a result, deeper consideration is required for physical activity and its different levels, as they are regarded cultural and social categories, also are constructive to body and mind, furthermore, entail health and vitality. The reason is that, as a vital factor in health perspective, getting used to working out may lead to psycho-social outcomes in individuals (Sadegh Pour, Sadegh Pour, & Soltan Hosseini, 2014).

Individuals who are involved in physical activity represent higher adaptation to surrounding properties at workplace; on the contrary, those not being physically in favorable condition may turn into pessimistic and isolated ones, by which leads to diminish efficiency and productivity of the workforce (Fang, Huang, & Hsu, 2019). Hereupon, regular and comprehensive sports schedule for staff needs to be taken into consideration by organizations; furthermore, along with monitoring the accurate execution of the program, they need to build required motivation to participate in sports

activities (Sadegh Pour, Sadegh Pour, & Soltan Hosseini, 2014). Family, friends and colleagues may play a major role in establishing physical activity among different individuals (Brunet, Gaudet, Wing, & Bélanger, 2019). It is undeniably accepted in diverse communities to be physically active and doing sports in current situation. Regular physical activity plays a crucial role in maintaining and promoting a healthy lifestyle, as indicated by many studies (Lahart, Darcy, Gidlow, & Calogiuri, 2019). Physical education and sports, in desirable conditions, may prepare opportunity to accomplish a considerable proportion of daily physical activity (Kalajas-Tilga, Koka, Hein, Tilga, & Raudsepp, 2020).

A study conducted by Mirzaei, halvani, fallah, & fallahzadeh (2021) "Ivveiii gaing effec participatory workplace implementation on job satisfaction in the staff of Shahid Rajaei Fareydan Hospital", by studying 60 subjects (40 nurses, 20 service personnel, 10 office personnel), found that there is a positive and significant relationship between the implementation of participatory ergonomics and job satisfaction. Atari, Ghorbanpour, Seyedmehdi, & Babayi mesdaraghi (2018) conducted a study under the iille "iiiiiii i aiigg efecc ciiii aiii gg Ergiiii i Pcccccett y a xxeeeeeee rr giiii i R Fac" by cccc eeey iiiii i elll oyee a food industry company in Tehran utilizing an analytical-descriptive method along with gathering data through the questionnaire, they conclude that half of the workers were working in an unfavorable environment. Alongside, the results indicate that persistent training of the preliminaries of the workplace may lower the score obtained by quick exposure check technique and may increase the eeee uuuuuuittt y rrr aaaace "ff fec eggiiii i saiaaacii aiii tttt aaiee ffff rrr nrrg eeeeeess Iaa nngееееggg ee eemmmn Cnnnnn n" iille a study conducted by Hosseini Yarandi, Shaafi, & Golabchi (2018), in which the authors carried out a descriptive-correlation study on 205 employees of the above-mentioned company utilizing a questionnaire to conclude that the path coefficient between the ergonomic variable and the job satisfaction variable is positive and significant, and the ergonomic variable explains 21% of the variance of the job satisfaction variable. Lisanne, R, Appel, & Arentze (2021) conducted "Investigating the physical office workplace as a resource for mental health", in which they studied 560 public sector employees at Eindhoven University in the Netherlands and proposed that some mental health indicators (like concentration and stress) show a significant relationship with the quality of the office workplace. Also, factors like burnout and depression indicated little relationship with the physical conditions of the office workplace. Nicolaas (2021) qualitatively carried out "Illl egggggggvvv eee a rrr ccccc apaaaacee cceeease hhyasaal activity and reduce eeeerrrr y eeha hle cxxxxxx rrr " hle eeaeeee Piiii c ee att eeeee eey ff Minnesota, the U.S., concluded that enhancing mobility at workplace promotes physical activity and mitigate sedentary behavior among staff. Furthermore, enhanced mobility at the workplace creates crucial health results in physical, mental, social and economic areas. Havaei, Lorenzo, and MacPhee (2021) iii iizgggeeeeeeii aa aalyss iiiii i "eee mraac rrr ll ace llle ecce ccccc cl-ggggcaeeeeeeeeetttooeeee eeeeeeeeeeeeeeeeeeeeeeeeeeeeee wwwwwwcccccccccccccccccccccc ooooooggggcecaaaa ry aa" exaii ee meaaaaal-surgical nurses (full-time, part-time) at the University of British Columbia, Canada; they found that workplace plays a moderating role between job burnout and workplace violence. Furthermore, burnout, violence, musculoskeletal impairments a axttt y eeeeeeeeare eeeeeee heattee rrr aaaace "Waaaaaae-based opportunities to support child care worke" eeatt a aafety" ccccc cccby Amber et al. (2020), through interviews and observations, to test staff of 74 child care centers in North Carolina via studying four areas of infrastructure, organizational policies, plan and procedures, and the organization internal physical environment, which concluded that the conditions of the workplace influence significantly on staff health, their occupational safety and healthcare. Abigail et al. (2019) rrr ,, "Percedddd Workplace Health and Safety Climates: Associaii eeee cccc Pcccccett y", studied 959 employees from among three companies of Minnesota, the U.S. utilizing the questionnaire method and structural equation modeling and concluded that a positive relationship exists between perceived workplace safety and physical activity. Furthermore, perceived workplace health and safety was associated with less depression, job satisfaction, and higher quality of life and public health. Also, the results indicate that the perceived workplace safety and health grow levels of productivity. Jennifer, Stephanie, Andrew, and Attallah (2018) iiiii i "Ineeeee eee rrr ll ace hhyaaaa aciittt y a caeeeeee eeeeeeeett" eeey iiiii i ssss e f agggg iiiii ials

in Canada to conclude that perceived workplace influences significantly on the level of physical activity and health of nurses. In addition, the results propose that 8-hour shifts, fixed-shifts and in-urban hospitals working nurses received higher scores in perception variable of the workplace. Also, the results indicate that rotating shifts and 12-hour shifts prevent nurses to meet the recommended physical activity levels.

Physical and mental health along with preventing the incidence of various psychological and neurological diseases is among outcomes of physical activity; therefore, physical activity increases quality of life (Kremer, et al., 2014). As David (2020) indicates, humans possess some sort of self-control system, by which they manage their thoughts, feelings, and behaviors, including physical activity and sports. It is regarded essential that everyone to have physical activity which can assist in delay, prevention or management of various diseases among different individuals (Mora & Valencia, 2018). It is considered crucial in any organization to identify factors diminishing performance and productivity of the staff in the workplace, align with implementing corrective actions, in order to attain best findings by utilizing minimum resources. Due to importance of addressing the issue, experts and researchers in diverse disciplines at various organizational, group and individual scales, have investigate productivity management as one of the most fundamental concepts in organizational research. Attaining productivity is regarded as one the manners to reach organizational goal; today, the importance of productivity is not latent, considering expanded rate of competition, complex technology, various tastes, deficient resources as well as rapid of information exchange. Accordingly, in order to progress productivity, focus and planning are needed, which are key points to organizations ccccess aaaay ctttttt tttt errrr eeeeeelll y, pcccccctt y jjjj ec rrrrr r is taken into consideration more crucially, so resource and facilities waste and productivity loss impose a high percentage of expenditure on the organization (Karmann & Roesel, 2017). Human resources, work and productivity, production and organization are terms which are related closely. Considering productivity of human resource, human is regarded as an operator, a driving force and an active force (Sánchez-Oliva, et al., 2020). Among crucial factors in productivity of human ecccccc rrrr e aee iiii ccuaacy a effccccc rrrrr re cccaiinn aaggnrg f eeccce, research and education to agriculture and industry (Atari, Ghorbanpour, Seyedmehdi, & Babayi mesdaraghi, 2018). One of the fundamental indicators in economic growth of every country is productivity. Analyzing and measuring productivity at the rate of heterogenous economic sectors may indicate the economic performance of the country in the field as well as indicating production capacity of various sectors. Human resource is regarded as the main factor to build and improve productivity; it is concerned with the best eeeee ee mneeeee rccc iittt y a rr gazzzai ccccc only resource being rare and unique and cannot be feasibly copied by competitors; consequently, it builds a sustainable competitive advantage for the organization (Sadeghi & Omranzadeh, 2020). The most significant criterion of productivity is human resource productivity; the reason is that human resource productivity pertains most organizational analyses; furthermore, it is the easiest data to be measured (Hamidi, Shaterabadi, & Soltanian, 2018).

The most immense private industrial unit in Iran and the most spacious steel production complex in the Middle East is Isfahan Mobarakeh Steel Company; being the driving force for divergent upstream and downstream industries. The aforementioned company is established on the basis of engineering and knowledge foundation, which is supported by experiences and knowledge achieved from the construction era to operation and development of the company having missioned to localization, support and development of the technology of the country's steel industry; relying on ffff eiii aaa exeeeece eii''' caaalll tty add exee ggregaddd keeeee eee ff aargest complex and steel supply chain in the country, it considers into account being pioneer in indigenization, development and commercialization of the technology of the country's steel industry; furthermore, to fulfill the insight, it is regarded principal to pay attention to level of organizational and workplace productivity in the company. Analyzing workplace conditions in terms of indicators of physical environment, psycho-social environment, the organization's participation in promoting community health and health resources, based on the World Health Organization model, can assist respective managers to plan significantly in order to improve the economic and social condition; insomuch, nowadays, it is not latent that improving levels of organizational productivity is extremely significant to flourish more in current competitive conditions. It is considered significant to pay

attention to the level of organizational productivity of Isfahan Mobarakeh steel complex more than before; regarding the reason that it now provides raw materials for exceeding 3000 factories and manufacturing workshops in the country in the industries of pipes and profiles, oil, gas and petrochemistry, automobiles, electric motors, household appliances, light and heavy metals, construction, food, shipbuilding and marine structures, etc.; furthermore, every year it export a part of its products to improve quality, meet currency needs, and appear progressively and grow in global markets; since during the last decade, its performance and production at the international level is interrupted due to spread of sanctions. It is noteworthy that the complex of subsidiary companies of Mobarakeh Steel comprises 350,000 direct and indirect workforce from which the growth of their physical activity is regarded as one of concerns of decision-making managers due to the adversity of occupation and the creation of various physical and mental complications; accordingly, the objective activity improvement of Mobarakeh Steel company. The obtained results of the present study are considered beneficial for managers and staff of Isfahan Mobarakeh Steel Company along with other consubstantial companies in the field of industry to obtain more comprehensive perception of the environment; also, to progress health and quality of the workplace through needed plans and preparations in order to be able to provide appropriate conditions for staff. The present study can be beneficial for managers and authorities of Isfahan Mobarakeh Steel Company in order to progress the level of organizational productivity and planning regarding the optimal characteristics of the workplace in order to grow the level of health and physical activity of staff.

Methodology

The current research was conducted in 2021 using a qualitative and quantitative approach. The methodology is based on grounded theory method in qualitative section. Theory generated from data or Grounded theory is defined as a general, inductive, interpretive and exploratory method. In the present study, the classic approach pertaining Glaser is utilized, in which there is no frame and mental presupposition about the relations of data or concepts. Structural equations modelling approach is utilized in the quantitative section, in which, the structural model of the study was provided according to the statistical indicators obtained from in the qualitative section. Questionnaire is the tool for data collection in quantitative section was composed of elites in the research field (including professionals, managers, HSE experts) from which the statistical sample was selected utilizing a judgmental sampling method with snowball approach to theoretical saturation to reach 18 individuals. In quantitative section, the statistical population comprised Mobarakeh Steel Company staff (13,000 individuals), which the number of the sample is specified according to the table of Krejcie and Morgan (384 individuals) and based on the available sample. The first step was to study the documents, books, articles and reliable sources about the investigated components and indicators. After that, while designing the researcher's questionnaire, interviews were conducted with specialists and experts. Each of the interviews was conducted by making an appointment with the relevant expert and each one took between 30 minutes and one hour. With each interview, thematic analysis was done, and as soon as the theoretical saturation was reached and the accuracy and accuracy of the design and implementation of the research was ensured, the operation was stopped. The final stage was the presentation of the qualitative research model and the final step was the presentation of the structural model of the research. For this purpose, according to the extracted final model, a researcher-made quantitative questionnaire was designed based on components and sub-components in the form of a Likert scale and sent and tracked through an electronic form in order to collect information. In order to analyze the data in qualitative and

quantitative section, MAXQDA and SmartPLS software are utilized, respectively. The criteria of long-term participation, sustained observation, re-inspection of information learning path, participant review, triangulation and continuous contrast (Skinner, Edwards, & Corbett, 2014) were used for validity testing, as well as for reliability testing. From the qualitative part of the current research, the reliability method is test-retest. Among the interviews, some were selected as samples to calculate the retest reliability and each one was compared in two different time periods, based on which the amount of agreement and disagreement in the two-step coding of the stability index was calculated and analyzed in this study. (Sheikhi, Salimi & Zahedi, 2013). In two 30-day intervals, the total number of codes, the total number of agreements among codes, and the total number of disagreements equals to respectively 26, 21, and 5. The reliability of retest of the interviews in the present study equals to 81%. Furthermore, face validity was employed to evaluate validity of the questionnaire, in the reliability of the quantitative section was determined by Cronbach's alpha to 81%, therefore, the reliability was confirmed.

Results

at least during last year were utilized in order to answer the first research question. Based on the Steel Company, on the basis of separated disciplines in the contract party, 61143 individuals have used the sports spaces and facilities.

Table (1) indicates distribution of users based on separation of personnel, retirees and under the care of each one.

Table 1: Distribution of users based on separation of personnel, retirees and dependents

User	Number	Frequency Percentage
Employed	12391	20.27
Under the care of the employee	26075	42.65
Retired	7493	12.25
Under the care of the retired	15184	24.83
Total	61143	100

Furthermore, according to rates of participation of staff and retirees and their dependent families in sports activities like sports arena, domestic competitions, veteran groups, mountain climbing and hiking groups, and sports conferences, the penetration coefficient of sports in Mobarakeh Steel Company equals to 43%. Sports fields exercised are listed as: bodybuilding, swimming (recreational, training), aerobics, massage, Pilates, soccer school, volleyball, taekwondo, gymnastics, corrective movements, yoga, aerobics and fitness, ninja, ancient, CrossFit, senior sports, Muay Thai, Massage therapy, aqua village, fat burn, trampoline, boxing, fitness, Ninjutsu, Jeet Kune Do. The number of active individuals in the above-mentioned fields equals to 50785. Regarding the rate of participation currently. As presented in Table (2), a semi-structured interview was conducted with a total of 18 elites to reach theoretical saturation in order to answer the second research question.

Table 2. Itt rr vicee ss' ffett rr ss

Feature	Education Degree			Employment Category							Age		
	B.A.	M.A.	Ph.D.	Supervisor /Manager	President	Occupational medicine specialist	Health expert	Sports affairs expert	Sports affairs Technician	Faculty member	30 years or	31-40 years	40 years and older
Dimensions													
Number	3	8	7	3	2	2	4	3	1	4	2	8	8

Firstly, the open coding was conducted after the interview. Secondly, data coding alters to axial coding. It means that at this step, concepts are connected with each other in a network. The main categories are built in the final step. Building main categories comprises logically arranging together sub-categories and relating them to other categories, validating the relationships and filling the blank spaces with the categories obliged to be further modified and expanded. It implies that this step is regarded as the most abstract level of coding through which the relations among built sub-categories are explained. The researcher needs to regulate the main phenomenon and commits himself to it, in order to obtain the desired integration at this step. Table (3) extracts and represents the resulted categories from the concept analysis at in the interview step.

Table 3. Main categories obtained according to combining concepts and sub-categories

Interview Code	Concepts	Sub-Categories	Main Categories
P6, P7, P18	Growing public awareness of staff about sports and its effects	Education and culture	Psycho-social environment
P13, P17	Emphasis on perseverance of participation in sports activities		
P3, 10, P8, P9, P17, P18	Company's media coverage and support for the pertained sports programs		
P11, P16	Employing experienced coaches and sports professionals in sports and health sessions		
P5, P16, P2	Company informing health matters		
P19, P8	Promoting health-oriented sports activities	promoting sports and physical activity	
P15, P12, P13	Providing needed opportunity for public in order to participate in health improvement activities		
P9, P11, P16	Sports competition events being held specifically for Steel Company staff		
P7, P9	Allocating the appropriate time to involve in sports activities		
P16, P18	Oobligatory exercise at work for at least 30 minutes		
P4, P6, P7	Stretching and corrective movements being performed at work		
P4, P9, P11	Involving in sports activities accompanying with the family, like hiking		
P7, P9	Active participation of higher-order managers in sports events		
P5, P9	ttttt tttaam''rrrr tiii ptt i iuuutii t company competitions		
P9	Sports programs being performed before work begins		
P1	Employing sports coaches at work		
P10, P12, P13	Encouraging staff to do sports		

Table 3. Main categories obtained according to combining concepts and sub-categories

Interview Code	Concepts	Sub-Categories	Main Categories
P1, P4, P9, P11, P12, P16	Encouraging staff to stop smoking	Encouragement and support	
P4, P3, P7, P9	Encouraging to lose weight		
P1, P11, P14, P12	Allocation of required resources to progress physical activities		
P10, P15	Allocating budget to the company's sports and physical activity		
P10	Operational managers of the company supporting sports processes and proceedings		
P2, P5	Higher-order managers support for physical activities		
P10, P17	Company's sports successes to be regarded as worthy		
P1, P2, P5	Higher-order managers support for physical activities		
P14	Champions being celebrated for winning sports competitions inside company		
P1, P8, P11, P13	Health caregivers and communicators of workplace being honored		
P1, P9, P16, P17, P18	Equip with standard sports facilities	Providing infrastructure	Physical environment
P7, P11, P12, P14, P16, P18	Providing the needed sports facilities		
P3, P4, P9, P11, P14, P8, P18	Development of workplace health informatics		
P7, P11, P12, P15	Appropriate distribution of sports arena and facilities at the company level		
P9, P14, P17, P18	Proprietary sports arena for male and female staff		
P8, P9, P13, P14, P17, P18	Equipment Ergonomics and working rooms		
P6, P9, P17, P18	Sports facilities access		
P4, P6, P9, P16	Appropriate distribution of sports arena and facilities at the company level		
P4, P5, P16	Furnishing safe equipment		
P10, P15, P16, P17, P18	Wellbeing stations construction at workplace		
P10, P18	Utilizing standing tables to have lunch		
P2, P5, P6, P10, P13, P14, P16, P18	Use of bikes in the company campus		
P2, P3, P8, P11	Meeting ordinary but not important issues while pacing		
P10, P14, P15	Utilizing standing tables to have lunch		
P10	Cycling route in the company campus being determined	Alignment of plans	Health resource
P1, P2	Sports programs planning align with health goals		
P1, P4, P6, P7, P9, P14, P13, P14, P15, P16, P18	Sports programs being coordinated with the staff wants		
P1, P0	Sports programs being coordinated with the workplace		
P10, P11, P18	Staff physical health assessment		

Table 3. Main categories obtained according to combining concepts and sub-categories

Interview Code	Concepts	Sub-Categories	Main Categories
P10	aaaffpppr t'' eedaaæesmrttt	Evaluation and monitoring	
P3, P9	Monitoring the improvement of physical activity development plans		
P4	Monitoring staff compliance of sports instructions		
P1, P2, P5, P8, P9, P13, P14, P17, P18	Evaluating and monitoring the company's sports performance		
P2, P6, P9	Monitoring utilization of sports equipment based on instructions		
P2, P4, P9, P11, P12, P13	Evaluating accessible sports equipment quality		
P1, P2	Evaluating accessible sports facilities quality		
P10	Maintenance of the company's sports equipment	management	
P10, P15, P17	Maintaining and repairing sports arena possessed by the company		
P3, P11, P15	Organizing a working group to develop physical activity in the company		
P1, P3, P7, P11, P12, P13, P14, P16	Construction of sports arena concentrating on wr rrr '' rrrr ts		
P10	Health-oriented management set up	planning	Company participation
P10, P15, P17	Assembling workplace health plan		
P10, P15, P16, P17, P18	Planning to create sports content at the workplace		
P11, P12, P13	Identifying skeletal impairment and organizing sessions for compensatory movements and providing nutrition at the location sports affairs		
P10, P13, P14	Appropriate planning of providing sports services based on day shift type, shift work turns and job order		
P10, P18	Prioritizing actions for physical activity development		
P2, P5, P6, P10, P13, P14, P16, P18	Possessing a calendar and regular schedule by the company pertaining sports and physical activity		
P2, P3, P8, P11	Explicit definition objectives of physical activity development		
P10, P14, P15	Planning to grow physical literacy of the staff		

Components obtained in the model are studied by selecting a sample of 384 individuals from the population in order to answer the third research question in the third step. As figure (1) represents, second-order structural equation model was utilized to analyze the compatibility of the components for Mobarake Steel Company of Isfahan.

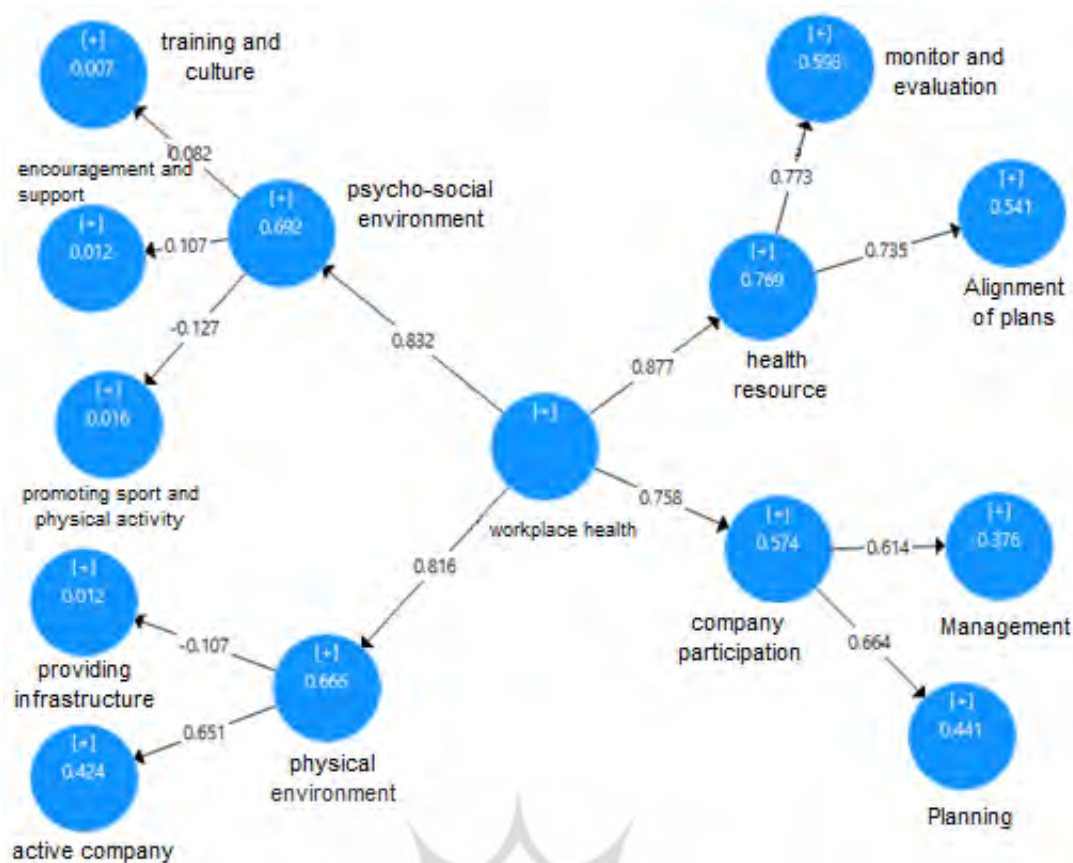


Figure 1. Second-order structural equation model in terms of factor loading

As it is evident from the second-order structural equation model appeared in figure (1), apart from education and culture, encouragement and support, and promotion of sports and physical activity acting as secondary variables of psycho-social environment, the factor loading of all factors is located at an appropriate level. Psycho-social environment factor remained among the model components due to significance of sub-components of the factor listed as: growing public awareness of staff about sports and its effects, emphasis on perseverance of participation in sports activities, company's media coverage and support for the pertained sports programs, company informing health matters in training and culture dimension, allocating budget to the company's sports and physical activity, operational managers of the company supporting sports processes and proceedings, company's sports successes to be regarded as worthy, higher-ddd aaaa eer hhyaaaa aciitt y caaiii eenrg celebrated for winning sports competitions inside company, health caregivers and communicators of workplace being honored. Furthermore, sub-components of training and culture as well as encouragement and support remained in the aforementioned component. Furthermore, although the factor loading has been evaluated at low rate in physical environment; equipping standard sports facilities, development of workplace health informatics, workplace equipment ergonomics and furnishing safe equipment have been significant. Other components possess appropriate factor loading and are higher than 0.5, representing the requirement of their presence in the model. Estimated values of the generality evaluation indices of the structural equation model are presented in table (4).

Table 4. Estimating the values of the evaluation indicators of the structural equation model

Index	Value
SRMR	0.186
Chi-Square	341.256
NFI	0.087

The hypothesized model instated by the research data is supported as represented by the values of the indices; put it another way, the data fit to the model, also the fit indices demonstrate suitability of

the structural equation model. Furthermore, figure (1) depicts the values of the coefficient of determination inside the blue circles in the present model. The coefficient of determination of whole values is regarded as a proper value and approximate to 0.5 and higher (apart from for the components as train and culture, sports and physical activity promotion, encouragement and support, providing infrastructure). Remaining components as independent variables, having coefficient of determination under 0.5, are considered significant. The following chart represents the final model (Figure (2)) proposed, according to conducted analysis:

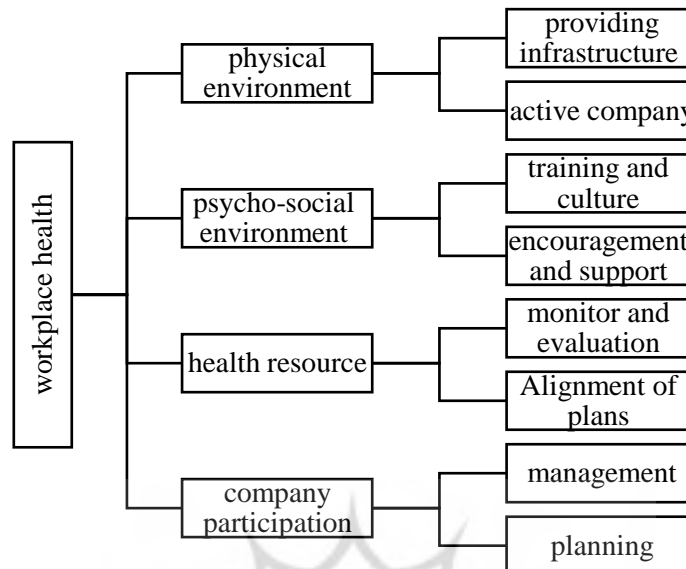


Figure 2. The model of workplace health with an approach of staff's physical activity improvement in Mobarakeh Steel Company

Discussion and Conclusion

The objective of the present study was to bring forward a model for workplace health with an exploratory and was done in order to express knowledge and understand the current situation. The present research was conducted in order to solve a problem in Mobarakeh Steel Company, therefore it is in the field of applied research. Also, in the current research, the contextual theory method of Glasser's approach has been used. Also, confirmatory factor analysis and structural equation model were used to confirm the research model. Basically, workplace health along with staff health result in health level growth leading to productivity; consequently, utilizing the Grounded theory and Glaser approach, it was proposed that these conditions comprised the conditions of psycho-social environment, physical environment, health resources and the company's participation. Furthermore, no effect was found from conducting mandatory actions for sports in Mobarakeh Steel Company like obligatory exercise for at least 30, stretching and corrective exercises to be done, employing sports coaches at the workplace, etc.; it is regarded fundamental to adopt appropriate strategies in order to obtain desired and expected results.

The initial dimension was considered the psycho-social environment which indicates the presence of factors such as culture, promotion of sports and physical activity, and encouragement and support. In the present study some actions have not represent an influential effect on workplace health in Mobarakeh Steel Company like: promoting health-oriented sports exercise, providing opportunity to public participation in activities to improve health, holding matches specified for Steel Company staff, allocating appropriate time to do sports activities, obligatory 30-minute exercise at workplace, performing stretches and corrective movements at workplace, performing sports activity with family like hiking, higher-order activities, participating in matches outside the company and holding sports exercises prior to starting work. Mirza Rah Kooshki and Khodayari (2019) in propose that making sports attractive, positive point of view, including sports in the household budget, approving World Sports Day, belief and religion of

leadership in sports and media growth is regarded as part of the factors resulting in improvement and promotion of sports and workplace health. These factors are consistent with culture, promotion of sports and physical activity, as well as encouragement and support which are regarded as the fundamental factors of the present study (Kargar, Nazari, & Salimi, 2022) explains the health-related factors affecting the institutionalization of sports in Iranian families. In the above-mentioned study, authorities and politicians considering sports, creating cultural attitude, and establishing encouraging regulations have been identified as factors which may result in institutionalization of sports. The present study in these dimensions is consistent with the dimension of the present research model.

The second dimension is defined as physical environment. Physical environment is defined as the presence of factors like providing infrastructure including: equip with standard sports facilities, providing the needed sports facilities, development of workplace health informatics, appropriate constructed, equipment ergonomics and working rooms, sports facilities access, appropriate distribution of sports arena and facilities at the company level as well as furnishing safe equipment; furthermore, active company including wellbeing stations construction a rrr ccccc ss arrangement inside the company, use of bikes in the company campus, meeting ordinary but not important issues while pacing, utilizing standing tables to have lunch as well as cycling route in the cnnnn ncaasss bleggderrrii ee Faaaaaa aaeSSSeCCGnnn naaaaaaaiiicccccccciiii iiiii ii providing infrastructure; furnishing safe equipment, equipment and working rooms ergonomics as well as appropriate spott eer cattt a a oo aaaaæ allecaii crrrr r ooeennnnnm mmmnnnnmfff the factor, are regarded more crucial; also, active company is related to components like meeting ordinary but not important issues while pacing, utilizing standing tables to have lunch as well as cycling route in the company campus, although remaining components are not considered influential on the study model. In the comprehensive system of education and health promotion at the workplace (2014), in the service package of health promotion at the workplace, it is pointed in the dimension of the physical environment that diseases may be entailed due to the improper ergonomics of the working room and equipment at the workplace and appropriate conditions are not met in the company to exercise. In the aforementioned document, the emphasized strategies to solve this issue are regarded as appropriate equipment and design of the workplace as well as possibility of performing alternating movements of body organs while working. Mirza Rah Kooshki and Khodayari (2019) have proposed strategies like establishing the deputy of health and appropriate structural changes, as well as the existence of requirements and standards in sports development in the workplace. These strategies within providing infrastructure and active company dimensions are entirely consistent with the present study. Kargar, Nazari, and Salimi (2022) explains the health-related factors affecting the institutionalization of sports in Iranian families. The aforementioned study stated factors such as infrastructural factors, including development of sports facilities being high quality and accessible, optimization of sports facilities and application of infrastructural capacities, from which the present study is align with its infrastructure dimension.

Health resources is considered as the third dimension, by which it means the presence of factors such as evaluation, monitoring and alignment of plans. Evaluation and monitoring are represented by components as staff physical health assessment, staff sport neess assemmm iiiii gggggg improvement of physical activity development plans, monitoring staff compliance of sports instructions, evaluating and monitoring the company's sports performance, monitoring utilization of sports equipment based on instructions, evaluating accessible sports equipment quality and evaluating accessible sports facilities quality; furthermore, the factor for plans alignment is defined by sub-components like plan for sports programs in line with health goals, sports programs coordinating with staff demands, and sports programs coordination with the workplace. All above-mentioned components and sub-components are regarded significant also present in the model of Mobarakeh Steel Company of Isfahan workplace health. Strategies in Mirza Rah Kooshki and Khodayari (2019) aee ciiii eeeee dddd aaaaeg l eegggnrg a mraeeee eeegg eeatt iiiii gggggg information and monitoring systems related to physical activity and setting up and developing health monitoring and consulting centers. In addition, Linnan, Cluff, Lang, Penne, and Leff (2019) imply effects of plans aligned with health objectives at the workplace, also emphasize the point that scant workplaces have comprehensive health plans. They indicate a persistent monitoring in order to

measure, evaluate and improve comprehensive health plan; from which perspective, evaluation and

Company participation is the fourth dimension, by which the presence of factors like management and planning is regarded. Management is defined by the following components like maintenance of the company's sports equipment, maintaining and repairing sports arena possessed by the company, organizing a working group to develop physical activity in the company, construction of sports arena is explained by sub-components like assembling workplace health plan, planning to create sports content at the workplace, identifying skeletal impairment and organizing sessions for compensatory movements and providing nutrition at the location sports affairs, appropriate planning of providing sports services based on day shift type, shift work turns and job order, prioritizing actions for physical activity development, possessing a calendar and regular schedule by the company pertaining sports and physical activity, explicit definition objectives of physical activity development, as well as planning to grow physical literacy of the staff. In the present model of workplace health in Mobarakeh Steel Company of Isfahan, the entire proposed components and sub-components are considered significant also present. Strategies presented in Mirza Rah Kooshki & Khodayari (2019), like requiring workplaces to support physical and sports activities, holding training courses on sports and health, determining and allocating the contribution of sports from financial credits are entirely consistent with the present study. Furthermore, Linnan, Cluff, Lang, Penne, and Leff (2019) in their study propose the effects of plans aligned with health objective at the workplace and emphasize that scant workplaces have comprehensive health plans. They imply that the method objective exists via developing physical activity utilizing comprehensive health plans; in addition, they declare the establishment of health-oriented management, by which this study is considered consistent with the present study. In addition, Hagger (2019) proposes habit formation to be considered as a behavioral response to environmental clues as a context to establish usual behaviors and to grow physical activity mentally. In the aforementioned study, the author states the accurate planning of providing sports services, prioritizing sports activities, defining the method of sports objectives, as well as facilitating physical literacy growth in order to eliminate skeletal impairment, by which, this study is regarded consistent with the present study.

Eventually, it is suggested to monitor and supervise actions and activities pertaining development of physical activity in Mobarakeh Steel Company, in order to highly utilize the proposed model. Furthermore, developing a comprehensive health plan needs to be performed. Additionally, the design of the workplace in Mobarakeh Steel Company needs to be carried out such, which the staff, unconsciously and by developing behavioral habits, participate in sports activities. It is apparent that determine appropriate model of workplace health while preparing appropriate instructions.

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