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Esports and Traditional sports players: An exploration of psychosocial profile

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Abstract

Background: The commercial association has made computer-based games very attractive, providing a platform where they are being considered on similar lines as traditional/real sports. However, despite the similarities there exists considerable difference primarily because of extent of physical involvement. The study intended to explore the psychosocial profile of Esports players and traditional sports players.

Methods: The study sample consisted of 140 participants (73 esports & 67 sports). In this cross-sectional study, we recruited participants from Esports cafes, Youth Sports centers & Universities and collected their sociodemographic variables and psychosocial profile with Mini-International Personality Pool 6, Self-Concept Clarity Scale, UCLA Loneliness Scale Version 3, Satisfaction with Life Scale, and Depression, Anxiety and Stress Scale-21.

Results: The mean age of Esports and sports players were 23.11 ± 4.60 years and 22.24 ± 3.22 years respectively. Both category of players differed in term of hours of play on weekdays/weekend, process of introduction to games, engagement of family and methods used to improve game play. For Psychological variables, esports players were likely to report significant higher scores on openness (β = -0.151, CI=.769-.962) and honesty/Humility (β = -0.151, CI=.672-.863) compared to sports players but not on other variables of depression, anxiety, stress, loneliness, self-concept and satisfaction with life.

Conclusions: Our study points out that despite differing in Socio-demographic and playing variables, esports and sports players tend to exhibit much similarity in psychological domains. Further longitudinal studies are warranted to extend the application and generalizability of our study results.

Introduction

eSports involves organized, multiplayer video game competitions, typically between professional players. It has an ingrained component of competitive (team players and competition between teams) and media structure (media coverages, sponsors, spectators) [1].

The top video games in Esports are– DotA 2, Counter Strike-Global Offensive, Fortnite, League of legends, Players Unknown Battleground (PUBG) and Overwatch. There are 2.2 billion people are the active gamers and will further increase to 2.73 billion by 2021. Among these players, few thousand only become professional gamers or Esports player [2]. Current proponents of gaming believe that Esports has great potential to be a sporting activity as it mimics central features of sports, like interpersonal competition, adherence to rules, skill training and development, goal attainment, and involvement of coordination and agility [3]. Esports players follow intense practice regimens in order to train their hand movements, improve reaction times and their muscle memory [4]. The process of transformation from a recreational internet gamer to professional player require development of high level of cognitive and physical skills [5]. Certain esports title have been included as demonstration disciplines in Asian Games 2018, with hope of inclusion as full medal events in future games [6]. Addition of Esports to numerous intercollegiate athletic departments has further contributed towards acceptance as sporting entity [7].

Despite preliminary evidence of physical involvement, most organisations remain unconvinced about the physical intensity in esports sufficient enough to consider them as full-fledged sports in their own self [8]. Recent case studies highlighted the manifestations of dysfunctions in the form of disturbance in academic and interpersonal relationships, external or internal expression of anger, irritability, hospitalization, self-harm and suicidality due to excessive indulgence in PUBG [9, 10]. Further, lack of federations and organisational structures have been cited as one of the biggest hindrances in Esports being considered a fully sporting entity [11, 12].

There are no studies which have compared Esports and traditional sports from psychosocial perspective [13]. Such inconclusive information has resulted in misinformation in public and health professionals about Esports in International context also. We felt a need to challenge the above-mentioned confusion and build empirical evidence for better understanding of Esports and sport entity. To the best of our knowledge, this is one of its kind works to compare the psychosocial domains of these two groups and can provide a steppingstone in exploring more similarities between these disciplines.

Methods

Study participants: A total of 155 individuals in the age group of 18-35 years were approached for the participation in the study. Among them,140 players (73 Esports players and 67 sports players) provided completed survey protocols. We recruited using convenient sampling from Esports cafes, Youth Sports centers & Universities based in Southern part of India using a cross-section research design. Majority of the preferred Esports video games have 3-5 players in a team and as a result, Basketball was chosen for the sports category. The survey period lasted for 24 weeks. Only those players who (i) had competed in one or more state/national level sports or esports event in last one year, (ii) practicing minimum of one hour/day (iii) fluent in English and (iv) provided informed consent were included. This study was approved by the Institute Ethics Committee (protocol number = NIMH/DO/IEC [BEH.Sc.DIV]/2019 & date of approval =13/06/2019. All participants provided informed consent to participate in the study.

Study Tools:

Background Data Sheet: Two separate background sheets were created for both Sports and Esports athletes by the researcher using 6 focused group discussions with 10 mental health professionals (working in the area of addiction/technology addiction and mental health for the last 5 years), 9 sports players and 9 Esports players (with a minimum of one year experience) and four sports and Esports coaches. Both the data sheets consisted of an equal number of questions and were created in order to gain information regarding, gender, age, academic qualifications, occupation, relationship status, devices used by Esports players, information regarding participation in competitive gaming, the average time spent playing sports/videogames and other characteristics related to gaming or sports.

Mini-International Personality Pool 6 (Sibley et.al, 2011): It is 24 items on which respondent to rate items on seven-point Likert scale, 1 being very inaccurate and 7 being very accurate. It assesses six personality

traits, namely Honesty-Humility, Extraversion, Agreeableness, Conscientiousness and Neuroticism [14, 15]. The Cronbach alpha for the study was 0.62.

UCLA Loneliness Scale Version 3 (Russell, 1996): The scale measures the overall feelings of loneliness in individuals through a 20 items self-report four-point Likert scale, 1 being never and 4 being often [16]. The Cronbach alpha for the study was 0.52.

Self-Concept Clarity Scale (Campbell et.al, 1996): It is a unidimensional measure of 20 items, which uses 5-point Likert scale items ranging from 1 Strongly Disagree to 5 Strongly Agree and the range of scale from 12 to 60 [17]. The Cronbach alpha for the study was 0.84.

Satisfaction with Life Scale (Diener et al, 1985): It is made up of 5 items on a 7-point Likert scale items ranging from 1 Strongly Disagree to 7 Strongly Agree and the range of scale from 5 to 53. It measures subjective well-being [18]. Cronbach Alpha reliability is .84.

Depression, Anxiety and Stress Scale-21 (Lovibond & Lovibond, 1995): It is made up of 21 items on 4point Likert scores, measuring three domains of stress, anxiety and depression. Each domain consists of 7 items [19]. The Cronbach alpha for the study was 0.91.

Procedure: A total 155 players were approached and out which a sample size of 140 was recruited for the present study. The schedule of questionnaire i.e., MINI International Personality Pool 6, Self-Concept Clarity Scale, UCLA Loneliness Scale Version 3, Satisfaction with Life Scale, and Depression, Anxiety and Stress Scale-21 was administered in individual setting. Consent was taken from the participants at the time of filling the form. Confidentiality and anonymity about the survey responses were assured for all the participants.

Data Analysis: We used descriptive analysis for nominal and ordinal data. Mann Whitney U test was used to compare medians of both the groups with the variables. A Chi-square test was used to test categorical variables. Stepwise regression analysis was used to find the significant predictors of Mini- International Personality pool, UCLA Loneliness Scale, Self-concept clarity scale, satisfaction with life scale and Depression, anxiety and stress scale for Esports and sports.

We used the Statistical Package for the Social Science version 20.0 for Windows (SPSS International Business Machines Corp, Armonk, NY, USA) to compute the study data. The differences between groups were considered significant if p < 0.05.

Results

Socio-demographic profile:

Mean age of Esports and sports athletes was 23.11±4.60 years and 22.24±3.22 years respectively. Sixty percent of esports group had more than 15 years of education whereas it was 49% for sports players. In Esports group 45% of the athletes were employed, however, in sports only 21% were employed (Table1).

Gaming Characteristics:

Eighty Four percent (n=61) of the Esports players used PC as their primary device, followed by mobile (13.7%, n=10) and consoles (2.7%, n=2). All sports players were from basketball discipline whereas among esports players majority (43, 58.9%) played MOBA, with remaining playing FPS (13, 17.8%), Battle Royale (8, 11%) and other genre (9, 12.3%). Sports and esports players significantly differed on average amount of time spent training during the weekdays and weekends (Table 2). Over 90% of sports players trained for 10 or more hours over the weekdays as compared to 61% esports players, while 27% sports players spent 10 or more hours during the weekend as compared to 38.4% sports players. Significantly greater proportion of esports players were introduced to gaming through social media (38.95) and used You tube to improve their performance (61.6%).

Psychosocial variables:

Using Mann Whitney U test, esports players had significantly higher scores on openness and honesty/humility personality domains while sports players had higher scores on measures of depression, anxiety and stress. However, using logistic regression significant difference was observed only on personality domains where Esports athletes were significantly more likely to exhibit openness and honesty humility when compared with sports players (Table3).

Discussion

While majority of people tend to play video games for recreation, esports players are a minority competing similarly to sporting events [4]. The following research was planned to compare the psychosocial profile of sports and esports players.

Esports and sports players significantly differed on a number of playing characteristics. Esports players spent more time practicing during the weekends. Keeping in with the nature of discipline, social media role in terms of introduction or for learning was greater for esports players [20].

The two groups significantly differed on two personality domains: openness and honesty/humility. The personality trait of openness is an indicator of the level of imaginativeness and creativity while honesty/humility relates with fairness, mutual help and non-aggression [14]. Individuals exhibiting higher scores on openness tend to engage in newer idea related tasks. Online games present challenges to the players where they are expected to make quick decisions and often think out of the box to proceed ahead with the gameplay, thus esports tend to favor the individuals who are imaginative and creative, unlike sports where physical attributes are most prominent aspect determining performance. Further, our study reported higher scores on honesty/humility in esports players. As described previously this trait has been an object of interest since last decade only and has not been explored previously in esports players. Higher scores in esports player as compared to sports players tend to indicate that esports players believed in idea of fairness, mutual help and non-aggression. As esports require frequent social

engagements and team play, this comes unsurprisingly that they tend to exhibit traits of mutual help and fairness.

The current study found that there was no significant difference between the self-concept clarity and loneliness among Esports and sports players. Since sports persons are physically active and tend to keep themselves in good shape, they often have a positive perception about their self-concept [21, 22]. Among sports players self-concept is positively related with better skills [23] and mental toughness [24], while in those who play video games, poor self-concept is associated with problematic gaming [25, 26]. The fact that in our study Esports players had similar scores on self-concept clarity as sports persons, tend to highlight that these Esports players considered themselves as attractive and competitive on similar lines to sports players rather than as problematic gamers.

We did not find any significant difference between the scores on loneliness for Esports and sports players. While studies [27, 28] suggest that sports players experience less loneliness in comparison with general population, online games by presenting highly socially interactive environments can serve to further enhance social connectivity [29, 30, 31] suggesting positive impact of both these disciplines. Further, we did not find any significant difference among the sports and esports group on the domains of depression, anxiety and stress. Except certain subgroups (experiencing failures or suffering injuries or at the verge of retirement) [32], prevalence of mental disorders among athletes are comparable to general population [33]. Although, esports players may be less active and with poorer physical attributes compared to sports athletes [34], yet most consider their health status as good to excellent

[35]. Finally, Esports and sports players reported no significant difference in subjective satisfaction with their life. The process of regularly training and developing their skills appear much similar and tend to have a similar effect on their subjective experience of life.

As a stereotypical view exists about the addictive nature of online gaming, findings from this study can help better delineate that distinction between professional online gaming and problematic online gaming. Our study clearly points to the fact that sports and esports players are comparable on a number of psychosocial domains, suggesting similar attributes between them. This can prove useful for sensitization of professionals and stakeholders, as well as enhance the psychosocial conceptual understanding of Esports.

This is the first study in India exploring the various psychological facets of Indian esports players. We ensured that those participating in competitive gaming were included by visiting various esports/gaming café. The study has a comparison arm in the form of traditional athletes, which again is perhaps first of its kind in the context of Esports research. However, the readers are cautioned not to overinterpret the study results because of certain limitations. The study data were exclusively self-reported and may have shared method variance. Study included a single sports group (basketball players), on other hand Esports group had players from multiple genres of Esports. It remains unclear how this would have affected final results. The cross-sectional design limited our ability to know the similarities and differences in the

psychosocial domains of Esports and traditional sports players. Further research with longitudinal research design can be planned to understand Esports and traditional sports players.

Conclusions

Due to the rise in problematic gaming and gaming disorder, sport psychology-based research works are needed to find the position of Esports in the realm of sport activities, as well as the clinical implications of playing Esports, given the recognition of gaming disorder in ICD11. It also means that, in order to make Esports a safe and healthy activity, a multidisciplinary team approach involving professionals from mental health, sports psychology, gaming, and the Esports professions is required.

Abbreviations

DotA-2: Defense of the Ancients (DotA)

ICD-11: International Classification of Diseases-11

Mini-IPIP: Mini-International Personality Item Pool

MOBA: Multiplayer online battle arena

PUBG: Player Unknown's Battlegrounds

SPSS: Statistical Package for the Social Sciences

UCLA: University of California, Los Angeles

Declarations

Ethics approval and consent to participate – The study was approved by Institute's Ethics Committee (protocol number = NIMH/D0/IEC [BEH.Sc.DIV]/2019 & date of approval is 13/06/2019.

Consent for publication - Obtained from all participants

Availability of data and materials - The data that support the findings of this study are available from the corresponding author [PS] upon reasonable request.

Competing interests - The authors report there are no competing interests to declare

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Authors' contributions – PS and MKS conceived the study. PS collected the data and wrote the first draft of the manuscript. MKS and SA interpreted and analyzed data and contributed to the subsequent drafts of the manuscript. All authors read and approved the final manuscript

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Tables

Table 1. Distribution of demographic among the sample (n=140)

Variable		Groups		
		Esports	Sports	
		n (%)		
Gender	Male	73(100)	32(47.8)	
	Female	0(0)	35(52.2)	
Education (years)	15 or below	29(39.7)	34(50.7)	
	>15	44(60.3)	33(49.3)	
Occupation	Student	40(54.7)	53(79.1)	
	Employed	33(45.2)	14(20.9)	
Relationship Status	Single	62(84.9)	52(77.6)	
	Married	3(4.1)	9(13.4)	
	Committed	8(11.0)	4(6.0)	
	Separated	0(0.0)	2(3.0)	

Table 2. Gaming characteristics of Esports and Sports players

Variable		Groups n (%)		P	
		Esports	Sports	value	
Average time spent on sports or videogaming in hours (weekdays)	<10	28(38.4)	4(6.0)	<0.001	
	10-30	25(34.3)	53(79.1)		
	>30	20(27.4)	10(14.9)		
Average time spent on sports or videogaming in hours (weekends)	<10	28(38.4)	49(73.1)	<0.001	
	10-20	41(56.2)	18(26.9)		
Introduction of athletes to sports	Family	12(16.4)	34(32.9)	<0.001	
	Friends	34(46.6)	25(37.3)		
	Others (advertisement through social media)	27(38.9)	8(11.9)		
Engagement of family members in	No	62(84.9)	27(40.3)	<0.001	
sports/esports	Yes	11(15.2)	40(59.8)		
How do athletes spend their interval time?	Relax	25(47.0)	23(34.3)	0.527	
	Make game strategies & talk to my team mates	38(52)	44(65.7)		
Methods used to train or improve gameplay.	Coach	1(1.4)	35(52.2)	<0.001	
	YouTube (streaming)	45(61.6)	17(25.4)		
	Self-review	27(37.0)	15(22.4)		
Reasons for engaging in competitive gaming.	Enjoyment & self-esteem enhancement	37(50.7)	35(52.2)	0.854	
	skill building & career	36(49.2)	32(49.7)		
Do they get "tilted" or "frustrated"?	Often	21(28.8)	12(17.9)	0.227	
	Sometimes	31(42.5)	37(55.2)		
	Rarely	21(28.8)	18(26.9)		

Table 3. Comparison of sports and esports players on various psychosocial using logistic regression analysis

Predictors	B(SE)	p- values	Odds Ratio	OR			
				Lower Class Interval	Upper Class Interval		
MINI Personality Pool 6							
Extraversion	.065(.057)	0.252	1.067	.955	1.194		
Agreeableness	.025(.061)	0.679	1.026	.910	1.156		
Conscientiousness	.014(.060)	0.810	1.014	.902	1.141		
Neuroticism	006(.064)	0.925	.994	.877	1.126		
Openness	151(.057)	0.008	.860	.769	.962		
Honesty/humility	272(.064)	<0.001	.762	.672	.863		
Self-Concept Clarity Scale							
Self-Concept Clarity	003(.032)	0.928	.997	.936	1.062		
Depression, Anxiety and Stress Scale-21							
Depression	.105(.074)	0.160	1.110	.959	1.285		
Anxiety	.017(.082)	0.840	1.017	.866	1.194		
Stress	020(.102)	0.848	.981	.803	1.197		
UCLA Loneliness Scale Version 3							
Loneliness	.084(.046)	0.067	1.088	.994	1.190		
CONSTANT	3.702(3.545)	0.296	40.528				

(Esports = reference category)