Zoom dysmorphia in e-teaching: shifting the value from attributes to appearance

Oqab Jabali[1] · Munther Saeedi[1] · Maha Rabayaa[2] · Nihad Othman[2]
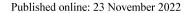
Abstract

The current study is motivated by Tory Higgins's self-discrepancy theory and the objectification theory. It aimed to investigate university staff members' perspectives towards zoom dysmorphia while involved in e-teaching during the Covid-19 Pandemic in terms of its popularity, causes, and instructors' experiences with the healing or eliminating mechanisms. Put simply, the researchers meant to identify the impact of the pandemic on body image and the long-term repercussions of e-teaching on instructors' quality. A descriptive online questionnaire was compiled to explore the way (630) university staff members having academic and academic/administrative positions evaluate, perceive, and handle zoom dysmorphia while teaching online. The study results showed several associations between the variables studied. Gender was significant because females proved to have more features of dysmorphia; faculty members who serve in scientific faculties also proved to expect more features of dysmorphia as they tended not to turn on their cameras. The study results also showed that sufferers of zoom dysmorphia warranted that their appearances occasionally made them feel insecure and occupationally unstable. Therefore, they tried different healing mechanisms to eliminate or, at least, reduce its traits. The study concluded that the prevalence of zoom dysmorphia may result in shifting the value from good, effective attributes (e.g., professionalism, adaptability, collaboration, empathy, and patience) of instructors to merely outside physical appearances. The researchers recommend that educators should elicit the presence of zoom dysmorphia at an early stage. They should prepare courses to improve instructors' self-confidence, and provide them with proper technical experience.

Keywords Covid-19 pandemic · Dysmorphia · e-teaching · Physical appearance · Zoom dysmorphia

---

Extended author information available on the last page of the article

Published online: 23 November 2022

🖄 Springer

1 Introduction

The massive spread of the Corona epidemic (Covid-19) has driven the entire world to shift towards the virtual world to work and socialize from their houses in an attempt to trade off and compensate for the tremendous loss that has impacted almost all walks of life. The leading sectors, including but not limited to, business and education, have started to revolve around virtual screens and platforms. "Video-conferencing as a primary means of communication in all aspects of life" (Rice et al., 2021, p. 215); it has started through Zoom, Skype, BigBlueButton, Microsoft Teams, Whereby, GoTo-Meeting, Google Hangouts, etc., to bring life into normality and things to proceeds smoothly and virtually.

However, it has driven people involved to suspect their views of themselves and constantly stare at their faces on computers and other related screens. Even those who had never worried about their appearances before found themselves facing new realities so closely that it made them notice that their true image is not the same as their mental image and that there are many flaws and defects (e.g., large eyes, bunny ears, a nose that is too big, thin lips, light wrinkles, etc.) on their faces that they hadn't noticed before which need to be looked at serious and instantly.

Students' perceptions of teachers' instructional ability are influenced by their appearance, clothing, and fitness (Mosca & Buzza, 2013). In order to improve the teaching effect and prestige of an instructor, the instructor's appearance must be rigorous and modest, and their clothing should reflect their personality and identity. Among the characteristics instructors, prioritize and rate above average are their faces, physique, expressive behaviors, and the design of the external appearances. Many instructors report an extremely negative attitude towards zoom meetings and video conferences, even when they are generally satisfied with the way they look (Serhan, 2020). However, instructors' professionalism, adaptability, collaboration, communication skills, empathy, and patience are more important than mere good physical features or the design of external appearances. Within educational circles, education practitioners should not shift their focus from these effective attributes to physical appearance.

1.1 Theoretical background

Higgins (1987) postulates that cultural norms advocate and promote particular standards of beauty and attractiveness; people tend to compare themselves to others. On the other hand, people may perceive their bodies in the wrong way. Consequently, self-dissatisfaction with one's image may arise. Additionally, it can affect appearance-related behaviors (e.g., wearing makeup excessively, cosmetic surgery, dietary restrictions, etc.).

Based on the objectification theory, people like to be perceived aesthetically (Heath et al., 2016); the majority of people, mainly adults, strive to appear physically attractive in front of others (Cox, et al., 2011). They constantly and repeatedly check their bodies and assess their physical fitness (Blashill et al., 2020) via examining, measuring, and pinching certain body parts (Sharfan et al., 2004), trying different clothes, and weighing themselves (Kraus, et al., 2015), checking one's appearance

in the mirror (Mountford & Waller, 2006), looking for assurance concerning shape and comparing themselves to others (Sharfan et al., 2007; Grilo et al., 2005). Such a repeated behavior, i.e., checking is associated with negative body image (Bailey & Waller, 2017), mood (Kraus et al., 2015) as well as negative eating habits (Waller & Mountford, 2015). Furthermore, checking is associated with anxiety to a large extent; it is conducted to decrease anxiety related to an obsessive preoccupation with imagined flaws (Phillips, 2015).

1.2 Review of literature

As the pandemic has mobilized audiences at Zoom meetings, interviews, and video conferences throughout 2020 and beyond, researchers have observed the disintegration of how people involved in discerning their self-images and that they contend their appearances occasionally make them feel insecure. This phenomenon is currently known as Zoom Dysmorphia (Rice et al., 2021) and it results in zoom dysmorphia. It is classified as a mental state in which people become obsessed or preoccupied with physical appearance (American Psychiatric Association, 2019; Smith, Waterman and Veale, 2019; Veale & Matsunaga, 2014). As put by (Bjornsson, Didie and Phillips, 2010), it is a "disorder that consists of a distressing or impairing preoccupation with imagined or slight defects in appearance" (p. 221).

Zoom dysmorphia differs from the idea of people viewing themselves through a filter because when they are "exposed to media content or other socialization agents, they gradually come to cultivate or adopt beliefs about the world that coincide with the images they have been viewing or messages they have been hearing" (American Psychological Association, 2007, p. 3). The front cameras in smartphones or computers distort images (Ward et al., 2018), making noses appear larger, and eyes appear smaller. This effect is exacerbated when the eye (lens) of the camera is closer. Self-portraits it is certainly closer to the person than any photographer shooting from a distance. Looking at the front camera of a phone or a laptop camera is one of the worst and least beautiful angles from which we see ourselves, so photographers recommend higher angles when using front cameras.

In the era of camera programs, people have become preoccupied with flabby skin around the neck and jaws, the size and shape of their noses, pallor skin, small pimples on their faces, etc. They have started to believe that plastic surgeries or cosmetic interventions such as Botox and Fillers are the appropriate solutions to their real or imagined problems with their faces (Rice et al., 2021). Therefore, positive or negative body images may occur for a variety of reasons (e.g., biological predispositions, normal physical changes, eating and drinking habits, environment, media impacts, etc.). On the other hand, negative body images may persist for several factors such as personal beliefs (Waller & Mountford, 2015), negative body structure (Williamson et al., 2004), overrating of body image (Fairburn, 2008), and body-related safety behaviors (Bailey & Waller, 2017) including those which relate to body checking, comparison, and avoidance (Reas et al., 2002; Rosen, 1997).

"Exposure to media images is related to body image" (Lopez, Corona, and Halfond, (2013). Too much focus has been usually directed to the skin, face, and hair and that dysmorphia has negatively impacted people's functioning in many areas

including, but not limited to, relationships, socializing, work, and school (Phillips, 2014; 2009) because it is always connected with distress and disability (Fang & Wilham, 2015) that can be treated using various cognitive behavioral therapy techniques (Enander et al., 2016; Veale et al., 2014) to help people realize their problem, cope and respond swiftly, and eventually proceed with their lives normally (Silver & Reavy, 2010; Siliver et al., 2010). People may consider avoidance techniques to handle zoom dysmorphia as stated (Cash, 2008) such as "avoidance of social or public situations" (Ramphul, 2022; Tatiana Soler et al., 2019; Neziroglu, Khemlani-Patel, Veale, 2008).

Previous literature has mostly investigated zoom dysmorphia from a purely medical perspective investigating clinical features and treatment strategies in adolescents and students (Hart et al., 2022; Gherhes et al., 2021; Himanshu et al., 2020; Rosella Gorrasi et al., 2019; Trompeter et al., 2019; Schneider, Mond, Turner, & Hudson, 2017; Compte, Sepulveda and Torrente 2015; Murray & Griffiths, 2015; Bo et al., 2014; Lopez, Corona, and Halfond, 2013), artists, and social media users (Sultan et al., 2021; Zheng et al., 2021; Rice et al., 2020; Sierro et al., 2020; Patel et al., 2018; Rajanala et al., 2018; Ramphul & Mejias, 2018, Özgür et al., 2017; Kim & Verder, 2014), athletes including body-builders, gym users and weight-lifters (Waldorf, Vocks, Dusing, Bauer, & Cordes, 2019; Zeeck et al., 2018; Macik & Kowalska-Dabrowska, 2015; Danilova, Diekhoff, & Vandehey, 2013; Murray et al., 2012). Moreover, little qualitative research has been conducted (e.g., Siliver & Farrants, 2015).

Different types of people have been studied to investigate their attitudes, coping mechanisms, and consequences of dysmorphia; however, and to the best of the researcher's knowledge, no previous literature has explicitly solicited teachers' or university instructors' perspectives or addressed the experience of living with dysmorphia, in general, and zoom dysmorphia, in specific. The latter remains relatively unknown; as a result, it is important to study and scrutinize perspectives to provide data to increase understanding of zoom dysmorphia, particularly among teachers and instructors.

Therefore, the purpose of this study was to complement existing research by exploring university instructors' experiences with the problem, including its popularity, causes, and experiences with the healing mechanisms. The current study aimed to investigate university staff members' perspectives towards body dysmorphia, particularly zoom dysmorphia while involved in e-teaching during the Covid-19 Pandemic in terms of its popularity, causes, and instructors' experiences with the healing or eliminating mechanisms. Put simply, the researchers meant to identify the impact of the pandemic on body image and the long-term repercussions of e-teaching on instructors' quality. The researchers meant to answer the following questions. (1) Is frequent e-teaching using Zoom video-conferencing likely to be contributing to an increase in dysmorphia, particularly zoom dysmorphia? (2) Have you always turned on the camera while teaching online? Why (not)? (3) What were the main features/attributes of zoom dysmorphia you noticed? And (4) What did you do to reduce or eliminate these features?

It is hypothesized that university teachers are suspected to experience zoom dysmorphia since they have been forced to virtual teaching due to covid −19 pandemic without previous training; features of body dysmorphia can vary based on their sub-

jective evaluation of their appearance; besides, university teachers may adopt several techniques to improve their satisfaction regarding their appearance from their scope.

2 Materials and methods

2.1 Ethical consideration

This study received official ethical approval from the Institutional Review Board at An-Najah National University located in Nablus/Palestine. The study abided by "the Declaration of Helsinki (DOH)." All ethical considerations for medical research concerning human subjects were enforced. The human subject's confidentiality and rights were preserved throughout the study. Written informed consent was provided and handed to each participant. The form described the study procedure, duration, benefit, and lack of any harmful intentions. Moreover, the form indicated that all data collected would be used for research purposes only, while any information related to the participant would be kept confidential from all parties except the research investigators. The participants were fully informed that taking part in the study was voluntary and that no penalty would be enforced in case of non-participation.

2.2 Study sample

A cross-sectional study was done to investigate An-Najah National university staff members' perspectives towards body dysmorphia, particularly zoom dysmorphia, while involved in e-teaching during the Covid-19 Pandemic in terms of its popularity, causes, and instructors' experiences with the healing or eliminating mechanisms. A convenient nonprobability available sample took part in this study. The size of the sample was estimated using Jekel et al. equation. The population of this study was (630) including all university employees who have academic positions and academic/administrative positions at An-Najah National University in Nablus. There are two types of faculties at the university: scientific (e.g., Agriculture and Veterinary Medicine, Engineering and Information Technology, Medicine and Health Sciences, and Sciences) and humanities (e.g., Islamic Law, Fine Arts, Education, etc.). (113) university staff members teaching at scientific faculties answered the questionnaire and (93) instructors working at humanities faculties responded fully to the study tool. The sample size is appropriate compared to the population size; however, not enough staff members answered the survey (n=206).

2.3 Inclusion and exclusion criteria

The study included university employees who have academic as well as academic/administrative positions as they are required to teach students. However, the employees who have only administrative or secretarial roles were excluded.

2.4 Study instrument

A self-administered questionnaire in Arabic was used for data collection and was distributed to the study population. The questionnaire was made up of six sections: sociodemographic factors including age, level of education, gender, place of residence, online teaching experience, reasons for not turning on the camera, features of BDD, and steps to reduce problems while turning on the camera.

Eventually, the questionnaire was posted to the university professor and instructors online; it was written in the staff members' native language (Arabic) to ensure that all the respondents fully understood the survey items. To ensure the validity of the study instrument, the tool was given to eight experts in the field of education and health professionals including but not limited to dermatologists and physical therapists. There was an agreement among them regarding the content of the questionnaire. The internal consistency of the questionnaire was measured based on Cronbach Alpha values (0.946) before data collection.

2.5 Statistical analysis

All statistical analyses were conducted using Statistical Package for the Social Sciences version 26. Data were tested for normality, descriptive analyses were used for sociodemographic characteristics, and factorial ANOVA was used to calculate the mean differences between the demographic elemental scores. Stepwise linear regression analysis was conducted to analyze the predictive factors influencing the reasons for not turning on the camera, the features of dysmorphia as well as the step of healing. Statistical significance was accepted for a p-value less than 0.05.

3 Results

3.1 Demographic characteristics and zoom dysmorphia

To answer the first question, (206) faculty and staff members at An-Najah National University responded to the questionnaire. The descriptive statistics of the professors' and instructors' responses were calculated based on the demographic variables; the results are shown in Table 1. 52.9% were females and 47.1% were males. 39.3% had more than 10 years of experience. 54.9% were academics teaching in scientific faculties and 45.1% were serving at humanities faculties.

3.2 Online teaching

It is customary to investigate whether university professors and instructors are familiar with online teaching or e-teaching due to its significance during crises such as the spread of the latest pandemic universally. Therefore, the researchers meant to make sure that the study respondents have taught online or not and whether they have started to consider their images while teaching online. The study results showed that 75.7% of the participants have not taught online previously. Surprisingly, more

Table 1 Participants' basic characteristics and attributes

Variable		Count	Percentage
Gender	Male	97	47.1
	Female	109	52.9
Age in years	20–29	40	19.4
	30–39	65	31.6
	40–49	50	24.3
	50 or more	51	24.8
Type of Job	Academic	176	34.5
	Administrative	30	26.2
Years of Experience	1–5 years	71	39.3
	10–6 years	54	54.9
	11 years or more	81	45.1
Type of Faculty	Scientific	113	47.1
	Humanities	93	52.9
e-Teaching before Corona Pandemic	Yes	50	24.3
	No	156	75.7
The device used in e-Teaching	Laptop	166	81
	Desktop	19	9
	Tablet	2	1
	Mobile phone	19	9
Need for technical assistance in e-Teaching	Yes	88	42.7
	No	118	57.3
Self-Confidence in using technology in e-Teaching	Not Confident at all	14	7
	Somehow Not Confident	25	12
	Uncertain	15	7
	Somehow Confident	89	43
	Very Confident	63	31
Frequency of turning on web camera in e-Teaching	Never	20	10
	Rarely	39	19
	Sometimes	80	38
	Usually	39	19
	Always	28	14

than 73% reported being confident while using the computer or related technology in e-teaching; however, 13.6% reported turning on the camera all the time while 9.7% have not turned on the camera during e-classes at all. The percentage of those who needed technical assistance 42.7% to operate their devices and use them in e-teaching was less than those who did not.

3.3 Reasons for not turning on the camera during e-teaching

According to the study sample, the reason for not turning on the web camera, the features of zoom dysmorphia, and the steps to reduce or overcome these features have moderate means that range between 2.61–2.71 as shown in Table 2. It is observed that the reason for not turning on the camera ''I am concerned about my physical appearance and mainly my face'' had the highest mean. Besides, the dysmorphia feature of realizing that his/her face is not friendly to the camera had also the highest mean

Table 2 Means and Standard Deviations of all the questionnaire items

No.	Reason for not turning on web-camera	N	M	SD
1	I am concerned about my physical appearance and mainly my face.	206	3.18	1.4
2	I am concerned about some facial flaws such as lines, wrinkles, or a big nose.	206	2.79	1.42
3	I am concerned about the unreal appearance of my body	206	2.91	1.35
4	I don't want to be seen eating or being in bed.	206	2.66	1.16
5	My internet connection is weak.	206	2.73	1.21
6	My webcam is not working.	206	1.93	0.93
No.	**Features of zoom dysmorphia**	**N**	**M**	**SD**
1	My self-esteem and confidence have plummeted.	206	2.73	1.39
2	My appreciation for my external appearance has decreased.	206	2.8	1.46
3	I look at my external appearance negatively.	206	2.69	1.4
4	I realized I needed some plastic/cosmetic surgery.	206	2.52	1.37
5	I have noticed some birth defects that I hadn't noticed before.	206	2.92	1.59
6	I hesitate to open the camera.	206	2.92	1.43
7	I get nervous when I open the camera.	206	2.83	1.38
8	I inquired from some specialists about how to improve the image with the camera	206	2.92	1.61
9	I look at myself in the mirror carefully and repeatedly.	206	2.45	1.26
10	I feel a bit awkward talking to others since I have a feeling that they have become aware of my physical flaws	206	2.13	0.99
11	I have realized that my face is not friendly to the camera	206	3.06	1.55
12	I have received some negative comments on my features from some friends	206	2.15	1.08
13	I have tried to hide or camouflage my defect with my hands, hair, make-up, or clothing	206	2.67	1.41
14	my excessive concern about my physical appearance affected my academic performance.	206	1.91	0.89
15	I have developed excessive sensitivity because of my physical appearance.	206	2.49	1.28
16	I have started to feel depressed and emotionally unstable	206	2.53	1.36
No.	**Steps to reduce features of zoom dysmorphia**	**N**	**M**	**SD**
1	I attempt to conceal and hide defects by using makeup.	206	2.71	1.52
2	I sought advice from others to improve my appearance or image.	206	3	1.6
3	I think that corrective surgical treatment is necessary and so I may undergo a plastic surgery	206	2.41	1.34
4	I watch some videos that talk about how to improve the image with the front camera as necessary	206	2.88	1.62
5	I attend therapy sessions, classes, and speeches about zoom dysmorphia	206	2.08	1.04
6	I thought about buying a new camera to improve my image.	206	2.95	1.58
7	I thought about buying equipment that helps improve my image.	206	2.91	1.54
8	I used filters to improve my image.	206	2.77	1.59

among features. In the steps to overcome dysmorphia features, the highest mean was in the step of seeking advice from others to improve my appearance or image. The common denominator is being concerned with appearance and mainly the face.

Based on the length of the category using the five-point Likert scale, these means fall in the average region of 2.6–3.4, and to ensure that this applies to the population of the study, the One-sample test was used; the results are shown in Table 3.

It is obvious that the means for the three dependent variables are not far from the minimum test value, i.e. 2.6, meaning that they are all average for the study

Table 3 One-sample test for the dependent variables

Variable	M	S.D	T	df	P	t	df	P
Reasons for not turning on web-camera	2.7	0.87	-11.59	205	0.0001	1.653	205	0.1
Features of Body-dysmorphia	2.61	1.18	-9.62	205	0.0001	0.094	205	0.926
Steps to reduce Body-dysmorphia	2.71	1.34	-7.383	205	0.0001	1.214	205	0.226

* Test value ranges between 2.6 and 3.4

Table 4 Step-wise Linear regression for factors affecting the reasons for not turning on the camera in e-teaching

Model	Prediction Constant	B	t	P	R^2	F	P
1	(Constant)	3.782	20.48	0.0001	0.156	37.77	0.0001
	Self-Confidence in using technology in e-Teaching	-0.29	-6.15	0.0001			
2	(Constant)	4.564	19.33	0.0001	0.246	33.2	0.0001
	Self-Confidence in using technology in e-Teaching	-0.3 3	-7.27	0.0001			
	Age	-0.25	-4.93	0.0001			
3	(Constant)	3.553	10.23	0.0001	0.298	28.63	0.0001
	Self-Confidence in using technology in e-Teaching	-0.24	-4.79	0.0001			
	Age	-0.27	-5.49	0.0001			
	Need for technical assistance in e-Teaching	0.46	3.864	0.0001			

The results also showed that the third Model indicates that not turning on the camera can be attributed to (Self-confidence in e-Teaching, Age, and Need for technical assistance) with an explanatory variation of 30% according to the following linear equation:

respondents. As the second question relates to the frequency of and/or abstaining from turning on the camera during e-teaching, Step-wise Multiple Regression was carried out to identify the effect of variables on the reasons for not turning on the camera (Table 4). The results showed that there are three Constants to predict the factors that impact the reasons for not turning on the camera and that all of them are statistically significant at the significance level of $p < 0.01$. The more self-confidence a faculty member has, the fewer the factors that cause him/her not to turn on the camera while teaching online; besides, the older s/he is, the fewer the factors. However, the more the need for technical assistance in using technology, the more influential the factors are.

Factors affecting not turning the camera on = 3.55 − (Self-confidence in e-Teaching) 0.24 − (Age) 0.27 + (Need of technical assistance in e-Teaching) 0.46

3.4 Features of zoom dysmorphia

To answer the third question (What were the main features/attributes of zoom dysmorphia you had noticed?), Step-wise Multiple Regression was carried out to identify the effect of variables on the features of zoom dysmorphia (Table 5). The results

Table 5 Step-wise Linear regression for features of zoom dysmorphia

Model	Prediction Constant	B	T	P	R^2	F	P
1	(Constant)	0.689	2.916	0.004	0.262	72.34	0.001
	Need of technical assistance in e-Teaching	1.22	8.505	0.001			
2	(Constant)	2.413	5.614	0.001	0.334	50.99	0.001
	Need of technical assistance in e-Teaching	0.858	5.476	0.001			
	Self-Confidence in using technology in e-Teaching	-0.31	-4.71	0.001			
3	(Constant)	3.204	7.387	0.001	0.411	46.99	0.001
	Need of technical assistance in e-Teaching	0.942	6.34	0.001			
	Self-Confidence in using technology in e-Teaching	-0.34	-5.5	0.001			
	Age	-0.31	-5.13	0.001			
4	(Constant)	3.606	7.862	0.001	0.428	37.63	0.001
	Need of technical assistance in e-Teaching	0.954	6.496	0.001			
	Self-Confidence in using technology in e-Teaching	-0.34	-5.51	0.001			
	Age	-0.31	-5.07	0.001			
	Type of Faculty	-0.31	-2.46	0.015			
5	(Constant)	2.919	5.203	0.001	0.44	31.48	0.001
	Need for technical assistance in e-Teaching	0.972	6.662	0.001			
	Self-Confidence in using technology in e-Teaching	-0.31	-5.01	0.001			
	Age	-0.27	-4.28	0.001			
	Type of Faculty	-0.29	-2.28	0.024			
	Gender	0.279	2.092	0.038			

showed that there are five models to predict the features of dysmorphia and that all of them are statistically significant at the significance level of $p < 0.01$. It is clear from Table 5 that the more need for technical assistance, the more features the faculty member may expect to have; however, the older and more confident s/he is, the fewer features s/he may expect to have. The gender was also significant; females proved to have more features. The type of faculty was also significant and because Scientific faculties were given 1 and Humanities were given 2 in the survey, study results showed that faculty members who serve in scientific faculties proved to expect more features of dysmorphia as they tended not to turn on their cameras.

The results also showed that the fifth Model indicates that having or observing features of dysmorphia can be attributed to (Need for technical assistance in e-Teaching, Self-Confidence in using technology in e-Teaching, Age, Type of Faculty, and Gender) with an explanatory variation of 44% according to the following linear equation:

Features of zoom dysmorphia = 2.92 + (Need of technical assistance in e-Teaching) 0.97 − (Self-Confidence in e-Teaching) 0.31 − (Age) 0.27 − (Type of Faculty) 0.29 + (Gender) 0.28

3.5 Steps to reduce zoom dysmorphia

Step-wise Multiple Regression was carried out to answer the fourth question "What did you do to reduce or eliminate these features?" and identify the steps for reducing zoom dysmorphia. The results showed that there are six Models to predict these steps

Table 6 Step-wise Linear regression for the steps to reduce zoom dysmorphia

Model	Prediction Constant	B	T	P	R^2	F	P
1	(Constant)	4.52	16.152	0.0001	0.184	45.866	0.001
	Self-confidence in using technology	-0.477	-6.772	0.0001			
2	(Constant)	5.564	16.202	0.0001	0.267	36.938	0.001
	Self-confidence in using technology	-0.509	-7.568	0.0001			
	Years of experience	-0.45	-4.801	0.0001			
3	(Constant)	3.941	7.418	0.0001	0.318	31.459	0.001
	Self-confidence in using technology	-0.367	-4.932	0.0001			
	Years of experience	-0.46	-5.071	0.0001			
	Need of technical assistance in e-teaching	0.703	3.911	0.0001			
4	(Constant)	2.433	3.946	0.0001	0.377	30.387	0.001
	Self-confidence in using technology	-0.308	-4.241	0.0001			
	Years of experience	-0.383	-4.312	0.0001			
	Need of technical assistance in e-teaching	0.769	4.448	0.0001			
	Gender	0.668	4.34	0.0001			
5	(Constant)	1.782	2.808	0.005	0.408	27.604	0.001
	Self-confidence in using technology	-0.332	-4.656	0.0001			
	Years of experience	-0.36	-4.136	0.0001			
	Need of technical assistance in e-teaching	0.772	4.57	0.0001			
	Gender	0.698	4.631	0.0001			
	Turing on camera during e-teaching	0.21	3.262	0.001			
6	(Constant)	2.262	3.399	0.001	0.422	24.245	0.001
	Self-confidence in using technology	-0.33	-4.666	0.0001			
	Years of experience	-0.346	-4.004	0.0001			
	Need of technical assistance in e-teaching	0.782	4.674	0.0001			
	Gender	0.669	4.468	0,001			
	Turing on camera during e-teaching	0.201	3.153	0.002			
	Faculty	-0.32	-2.195	0.029			
7	(Constant)	2.48	3.716	0.0001	0.435	21.808	0.001
	Self-confidence in using technology	-0.351	-4.962	0.0001			
	Years of experience	-0.1	-0.699	0.486			
	Need of technical assistance in e-teaching	0.831	4.964	0.0001			
	Gender	0.596	3.909	0.0001			
	Turing on camera during e-teaching	0.226	3.509	0.001			
	Type of Faculty	-0.339	-2.344	0.02			
	Age	-0.257	-2.138	0.034			

The results also showed that the seventh Constant indicates that the steps can be attributed to (Self-Confidence in using technology in e-Teaching, years of experience, Need of technical assistance in e-Teaching, Gender, Turing on camera during e-teaching, Type of Faculty, and Age) with an explanatory variation 43.5% according to the following linear equation:

and that all of them were statistically significant at the significance level of $p < 0.01$. Table 6 indicates that the more confident the staff member, the more experience s/he has in teaching in science faculties and the older s/he is, the fewer steps s/he opted

for to reduce features of dysmorphia. However, there is a monotonic relationship between the need for technical assistance, the gender and not turning on the camera, and the steps to reduce features of dysmorphia. In other words, the more need the staff member needs, the more steps s/he followed to reduce dysmorphia; females tended to consider more steps than males as males were given 1 in the survey and females 2. Those who turned off their cameras or chose not to turn them on thought about more steps to eliminate features of dysmorphia.

Steps to reduce features of zoom dysmorphia = 2.48 − (Self-Confidence in using technology in e-Teaching) 0.351 − (years of experience) 0.1+ (Need of technical assistance in e-Teaching) 0.831 + (Gender)+0.226 (Turing on camera during e-teaching) − (Type of Faculty) 0.339 − (Age) 0.257

4 Discussion

The purpose of this study was to investigate and scrutinize university staff members' perspectives on body dysmorphia, particularly zoom dysmorphia. The study findings indicated that 75.7% of the participants had not taught online previously since this type of teaching was not popular at all in Palestine to the extent that the Palestinian Ministry of Education and Higher Education does not accredit university degrees obtained online. E-Teaching was new and it was imposed forcefully on university staff members due to the lockdown caused by Covid-19 to sustain the continuity of education (Rice et al., 2021). Thus, zoom dysmorphia is a new problem that has not previously existed nor been evaluated in Palestine. This study is leading in its topic and aimed to evaluate the presence, features, and healing practices of zoom dysmorphia among university teachers. University staff members are found to experience zoom dysmorphia at varying degrees.

In our study, more than 70% of university teachers reported being confident while using the computer or related technology for teaching as most of them are young and have good experience in technology use. However, only 13.6% reported turning on the camera all the time while 9.7% have not used the camera as they lacked experience in handling it or they feared being displayed inappropriately to their students. Similarly, lower than expected use of cameras among students and teachers was also reported in another study Gherhes (2021). Avoiding turning on the camera could be attributed to the fact that people do not have enough experience in handling it or they feared being displayed inappropriately to others (Smith, Waterman, and Veale, 2019). Therefore, different degrees of stress were reported due to turning on the camera while teaching online as instructors feared some defects in their images (Bjornsson, Didie, and Phillips, 2010) and this is consistent with our findings. More than 50% of the respondents were concerned about their physical appearance and mainly their faces; therefore, they attempted to hide their appearance and focus on their internal images rather than the external ones and that they were not qualified enough to improve their images which were mostly distorted by front cameras (Ward et al., 2018).

Body dysmorphic disorders are considered severe psychiatric disorders that could lead to stress, suicide, and poor quality of life; however, little is known about the diagnostic and treatment strategies. Our findings revealed that turning the camera on was variable among teachers based on several factors; the more self-confidence a faculty member has and the older his/her age is associated with fewer reported causes of not turning on the camera while teaching online. However, the more the need for technical assistance in using technology, the more influential the factors, and this is explained by low experience in e-learning. This type of need proved to limit turning on the camera because negative body images persist due to personal beliefs (Waller & Mountford, 2015), negative body structure (Bailey & Walker, 2017; Williamson et al., 2004), overrating of body image (Fairburn, 2008), and body-related safety behaviors (Bailey & Waller, 2017). Thus, improving teachers' technical knowledge and the presence of supportive workshops could be organized to get a better experience in zooming.

People, including instructors, tend to be more awkward, emotionally sensitive, hesitant, and shy if their appearances are minimally distorted by the cameras they use or when someone (e.g., relative, friend, colleague, and, most importantly, student) tells negative remarks or teases them to the extent that their academic function is negatively impacted; such aversion acts negatively impact people's physical appearance as stated by Neziroglu et al. (2008). The evaluation of dysmorphic features revealed that more self-confidence, older age, and less need for technical assistance were associated with lower expression of dysmorphic features among teachers, moreover, females reported more features than males as females are more dissatisfied with the body compared with males (Himanshu et al., 2020). And others reported more prevalent body dysmorphic disorders among females (Tatiana Soler et al., 2019). Such a result is inconsistent with another study that found that "males who place a greater emphasis on their physical attributes and monitor their outward appearance may engage in MD characteristics" (Heath et al., 2016).

The researchers contend that too much focus on body image will impact people's functioning negatively not only in relationships and socializing, but also at work and at school (Phillips, 2014; 2009). Dysmorphia is also "associated with high levels of occupational and social disability, including…lost productivity" (Wilhelm & Neziroglu, 2002, 204) as well as "impairment in daily functioning, including, at the extreme level, employment disruptions, relationship breakdowns" (Pope, Phillips, & Olivardia, 2000).

According to Cash (2008), many factors (e.g., socialization, individual experiences, etc.) may overlap and result in more attributes of dysmorphia mainly "body size and shape estimation" within the boundaries of "relational frame theory" (Neziroglu et al., 2008, 29). According to the cognitive learning theory, instructors are also likely to learn from others' experiences especially those involved in media. Therefore, they may fear having more distorted images when they get involved in e-teaching. Because cultural norms advocate and promote particular standards of beauty and attractiveness; people, including instructors, tend to compare themselves to others and may perceive their bodies wrongly. Consequently, dysmorphia and self-dissatisfaction with their images may arise and may decide appearance-related behaviors including but not limited to wearing makeup excessively, cosmetic surgery, dietary restrictions,

locking down oneself, etc. (Higgins, 198). A survey of more than 100 care providers at dermatology departments revealed that there was an increase in cosmetic consultation and that people became less satisfied with their appearance due to video calls (Ramphul, 2022). Following our findings, it was reported that video conferencing was associated with greater concern about appearance and consequently an increase in the desire for cosmetic surgery and other nonsurgical treatments (Hart et al., 2022). The study results showed that the suggested steps to reduce zoom dysmorphia and appear physically attractive were significantly variable. The more confident the staff member, the more experience s/he has in teaching in science faculties and the older s/he is, the fewer steps s/he adopted to reduce features of dysmorphia.

Confidence, experience, and old age all compensate for the loss in instructors' self-objectification and evaluation self-images; they drive staff members to focus on function rather than the image; therefore, they tended to consider fewer steps to reduce zoom dysmorphia. Based on the objectification theory, people like to be perceived aesthetically especially females and they evaluate their appearances through social interaction (Heath et al., 2016). The majority of the respondents reported that they looked at the mirror for a long as in (Balshill et al., 2020; Sharfan et al., 2007; Mountford & Waller, 2006) and tried to conceal the defects they had using makeup and corrective surgical treatments or by trying clothes over and over (Kraus, et al., 2015); they also watched videos and sought advice from experts as shown by Rice et al. (2021). Many thought about buying new tools and filters to improve their images. People may consider avoidance techniques to handle zoom dysmorphia as stated by (Cash, 2008) such as "avoidance of social or public situations" (Neziroglu, Khemlani-Patel, Veale, 2008).

5 Conclusion

The study findings showed a correlation between the studied variables and the traits of zoom dysmorphia among university staff members. The researchers found that some staff members did not turn on the webcam while involved in e-teaching to maintain their good image and eliminate features of dysmorphia as much as they can; consequently, they tried to reduce the many features of zoom dysmorphia they had following several relevant steps. The prevalence of zoom dysmorphia may result in shifting the value from good, effective attributes of the teacher to merely outside appearances.

Body dysmorphic disorders are considered severe psychiatric disorders that could lead to stress, suicide, and poor quality of life; however, little is known about the diagnostic and treatment strategies. Our findings revealed that turning the camera on was variable among teachers based on several factors; the more self-confidence a faculty member has and the older his/her age is associated with fewer reported causes of not turning on the camera while teaching online. However, the more the need for technical assistance in using technology, the more influential the factors, and this is explained by low experience in e-learning.

On the other hand, zoom dysmorphia is very likely to trigger an increase in body dysmorphic disorder among instructors and teachers, educators must consider the

congnitive behavioral therapy to help staff members who may develop unhealthy thoughts or behaviors about their images. Because there is a correlation between self-view time and appearance concerns, an increase in interest in cosmetic surgery and other nonsurgical treatments arise among instructors; therefore, educators should identify potential negative effects on body image and mitigate them. They can also encourage the use of asynchronous zoom meetings to mitigate these effects. Furthermore, university instructors can experiment new things, explore creative alternatives, and reflect on their own practices by designing effective learning environments and integrating online technologies. Finally, they should offer pre-service and in-service training on how to teach online; teachers and instructors need to become updated on effective teaching methods, regardless of whether online technologies are used or not more than ever. In other words, online teaching techniques should be modeled more carefully by universities or educational institutions.

Although this study is the first to make valuable contributions to the literature on zoom dysmorphia, it has some shortcomings including the absence of standardized tools to evaluate zoom dysmorphia since it is a new topic in body dysmorphic disorders. Our study evaluated zoom dysmorphia at one of the largest universities in Palestine and further studies should be conducted in other universities and on different populations. The absence of pre-pandemic studies regarding zoom dysmorphia presents a gap in findings regarding zoom dysmorphia. It is recommended that further studies should be carried out to conclude if dysmorphic features were just instant outcomes of change in education method or if it is a persistent psychological disorder that requires conducting a proper alleviation step. The importance of the recent finding is to elicit the presence of zoom dysmorphia in the early stage, thus, proper preparation courses that target teachers, students, and others who may use video conferencing to improve their self-confidence and provide them with proper technical experience because these preparatory courses could lower improper image perception.

Data availability The data that support the findings of this study are available from the corresponding author upon special request.

Declarations

Competing interests None.

References

American Psychiatric Association (2019). *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*

Bailey, N., & Waller, G. (2017). Body checking in non-clinical women: experimental evidence of a specific impact on fear of uncontrollable weight gain. *International Journal of Eating Disorders*, 1–17. https://doi.org/10.1002/eat.22676.

Bjornsson, A. S., Didie, E. R., & Phillips, K. A. (2010). Body dysmorphic disorder. *Dialogues in clinical neuroscience*, *12*(2), 221–232. https://doi.org/10.31887/DCNS.2010.12.2/abjornsson.

Blashill, A. J., Grunewald, W., Fang, A., Davidson, E., & Wilhelm, S. (2020). Conformity to masculine norms and symptom severity among men diagnosed with muscle dysmorphia vs. body dysmorphic disorder. *Plos One*, *15*(8), e0237651. https://doi.org/10.1371/journal.pone.0237651.

Bo, S., Zoccali, R., Ponzo, V., Soldati, L., De Carli, L., Benso, A., & AbbateDaga, G. (2014). University courses, eating problems and muscle dysmorphia: are there any associations? *Journal of Translational Medicine*, *12*, 221–228. https://doi.org/10.1186/s12967-014-0221-2.

Cash, T. F. (2008). *The body image workbook (second edition)*. Oakland, CA: New Harbinger Publications.

Compte, E. J., Sepulveda, A. R., & Torrente, F. (2015). A two-stage epidemiological study of eating disorders and muscle dysmorphia in male university students in Buenos Aires. *International Journal Of Eating Disorders*, *48*, 1092–1101. https://doi.org/10.1002/eat.22448.

Cox, A. E., Ullrich-French, S., Madonia, J., & Witty, K. (2011). Social physique anxiety in physical education: Social contextual factors and links to motivation and behavior. *Psychology of Sport and Exercise*, *12*(5), 555–562. doi:https://doi.org/10.1016/j.psychsport.2011.05.001.

Danilova, D., Diekhoff, G. M., & Vandehey, M. A. (2013). A multidimenstional scaling analysis of male body perception in men with muscle dysmorphia: "The Adonis Complex". *International Journal of Men's Health*, *12*, 83–105. https://doi.org/10.3149/jmh.1202.83.

Enander, J., Andersson, E., Mataix-Cols, D., Lichtenstein, L., Alström, K., & Andersson, G. (2016). Therapist guided internet based cognitive behavioural therapy for body dysmorphic disorder: single blind randomised controlled trial. *Bmj*, 352. https://doi.org/10.1136/bmj.i241.

Fairburn, C. G. (2008). *Cognitive behavior therapy and eating disorders*. New York, NY: Guilford.

Fang, A., & Wilhelm, S. (2015). Clinical features, cognitive biases, and treatment of body dysmorphic disorder. *Annu Rev Clin Psychol*, *11*, 187–212. https://doi.org/10.1146/annurev-clinpsy-032814-112849

Gherhes,, V., S, imon, S., & Para, I. (2021). Analysing Students' reasons for keeping their webcams on or off during online classes. *Sustainability 2021*, *13*, 3203. https://doi.org/10.3390/su13063203.

Grilo, C. M., Reas, D. L., Brody, M. L., Burke-Martindale, C. H., Rothschild, B. S., & Masheb, R. M. (2005). Body checking and avoidance and the core features of eating disorders among obese men and women seeking bariatric surgery. *Behaviour Research and Therapy*, *43*, 629–637. https://doi.org/10.1016/j.brat.2004.05.003.

Hart, L. M., Mitchison, D., Fardouly, J., & Krug, I. (2022). Zoomers: videoconferencing, appearance concerns, and potential effects on adolescents. *Current Opinion in Pediatrics*, *34*(4), 320–325. doi: https://doi.org/10.1097/MOP.0000000000001141.

Heath, B., Tod, D., Kannis-Dymand, L., & Lovell, G. (2016). The relationship between objectification theory and muscle dysmorphia characteristics in men. *Psychology of Men & Masculinity, 17(3), 297–308* doi:https://doi.org/10.1037/men0000022

Higgins, E. T. (1987). Self-discrepancy: a theory relating self and affect. *Psychological Review*, *94*, 319–340.

Himanshu, Kaur, A., Kaur, A., & Singla, G. (2020). Rising dysmorphia among adolescents: a cause for concern. *Journal of family medicine and primary care*, *9*(2), 567–570. https://doi.org/10.4103/jfmpc.jfmpc_738_19.

Kim, W., & Vender, R. (2014). Use of Facebook as a tool for knowledge dissemination in dermatology. *Journal Of Cutaneous Medicine And Surgery*, *18*(5), 341–344. DOI https://doi.org/10.2310/7750.2014.14022.

Kraus, N., Lindenberg, J., Zeeck, A., Kosfelder, J., & Vocks, S. (2015). Immediate effects of body checking behaviour on negative and positive emotions in women with eating disorders: an ecological momentary assessment approach. *European Eating Disorders Review*, *23*, 399–407. https://doi.org/10.1002/erv.2380.

Lopez, V., Corona, R., & Halfond, R. (2013). Effects of gender, media influences, and traditional gender role orientation on disordered eating and appearance concerns among latino adolescents. *Journal of Adolescence*, *36*, 727–736. https://doi.org/10.1016/j.adolescence.2013.05.005

Macik, D., & Kowalska-Dabrowska, M. (2015). The risk of muscle dysmorphia and the perception of change in retrospective, current and ideal self- image—preliminary study. *Health Psychology Report*, *3*, 24–34. https://doi.org/10.5114/hpr.2015.47087.

Mosca, J. B., & Buzza, J. (2013). Clothing and the effects on a teacher's image: how students view them. *Contemporary Issues in Education Research*, *6*(1), 59–66.

Murray, S. B., & Griffiths, S. (2015). Adolescent muscle dysmorphia and family- based treatment: a case report. *Clinical Child Psychology and Psychiatry*, *20*, 324–330. https://doi.org/10.1177/1359104514521639.

Murray, S. B., Rieger, E., Hildebrandt, T., Karlov, L., Russell, J., Boon, E., & Touyz, S. W. (2012). A comparison of eating, exercise, shape, and weight related symptomatology in males with muscle dysmorphia and anorexia nervosa. *Body Image*, *9*, 193–200. https://doi.org/10.1016/j. bodyim.2012.01.008.

Neziroglu, F., Khemlani-Patel, S., & Veale, D. (2008). Social learning theory and cognitive behavioral models of body dysmorphic disorder. *Body Image*, *5*, 28–38. doi:https://doi.org/10.1016/j. bodyim.2008.01.002.

Özgür, E., Muluk, N., & Cingi, C. (2017). Is selfie a new cause of increasing rhinoplasties? *Facial Plastic Surgery*, *33*(4), 423–427. DOI: https://doi.org/10.1055/s-0037-1603781.

Patel, R. R., Hill, M. K., Smith, M. K., Seeker, P., & Dellavalle, R. P. (2018). An updated assessment of social media usage by dermatology journals and organizations. *Dermatol Online J*, 24(2). 13030/ qt3jr646v0. PMID: 29630149

Phillips, K. A. (2009). *Understanding body dysmorphic disorder: an essential guide*. Oxford: Oxford University Press.

Phillips, K. A. (2014). Body dysmorphic disorder: common, severe and in need of Treatment Research. *Psychotherapy And Psychosomatics*, *83*(6), 325–329. https://doi.org/10.1159/000366035.

Phillips, K. (2015). PhillipsBody Dysmorphic Disorder: clinical aspects and relationship to obsessive-compulsive. *Disorder Focus*, *13*, 162–174. https://doi.org/10.1176/appi.focus.130205

Rajanala, S., Maymone, M. B. C., & Vashi, N. A. (2018). Selfies—living in the era of filtered photographs. *JAMA Facial Plast Surg*, *20*(6), 443–444. https://doi.org/10.1001/jamafacial.2018.0486

Ramphul, K. (2022). "Zoom Dysmorphia": the rise of a new issue amidst the pandemic. *Acta bio-medica: Atenei Parmensis*, *92*(6), e2021348. https://doi.org/10.23750/abm.v92i6.12523.

Ramphul, K., & Mejias, S. (2018).Cureus, 10(3),e2263. doi: https://doi.org/10.7759/cureus.2263

Reas, D. L., Whisenhunt, B. L., Netemeyer, R., & Williamson, D. A. (2002). Development of the body checking questionnaire: a self-report measure of body checking behaviors. *International Journal of Eating Disorders*, *31*, 324–332. https://doi.org/10.1002/eat.10012

Rice, S. M., Siegel, J. A., Libby, T., Graber, E., & Kourosh, A. S. (2021). Zooming into cosmetic procedures during the COVID-19 pandemic: the provider's perspective. *International journal of women's dermatology*, *7*(2), 213–216. https://doi.org/10.1016/j.ijwd.2021.01.01.

Rosen, J. C. (1997). Cognitive-behavioral image therapy. In D. M. Garner, & P. E. Garfinkel (Eds.), *Handbook of treatment for eating disorders* (2nd ed., pp. 188–201). New York, NY: Guilford.

Serhan, D. (2020). Transitioning from face-to-face to remote learning: students' attitudes and perceptions of using zoom during COVID-19 pandemic. *International Journal of Technology in Education and Science (IJTES)*, *4*(4), 335–342.

Schneider, S. C., Mond, J., Turner, C. M., & Hudson, J. L. (2017). Sex differences in the presentation of body dysmorphic disorder in a community sample of adolescents. *Journal of Clinical Child & Adolescent Psychology*, *00*, 1–13. https://doi.org/10.1080/15374416.2017.1321001.

Sierro, T. J., Young, P. M., Kassabian, S. K., Wu, K. K., & Armstrong, A. W. (2020). Dermatologists in social media: A study on top influencers, posts, and user engagement. *Journal of the American Academy of Dermatology, 83*(5) , 1452?1455. https://doi.org/10.1016/j.jaad.2020.03.001 PMID: 32151630

Silver, J., & Farrants, J. (2015). 'I once stared at myself in the mirror for eleven hours.' Exploring mirror gazing in participants with body dysmorphic disorder. *Journal of Health Psychology*, *21*(11), https://doi.org/10.1177/1359105315581516.

Silver, J., Reavey, P., & Fineberg, N. A. (2010). How do people with body dysmorphic disorder view themselves? A thematic analysis. *Int J Psychiatry Clin Pract*, *14*(3), 190–197. DOI: https://doi.org/10.3109/13651501003735492.

Silver, J., & Reavey, P. (2010). "He's a good-looking chap aint he?": narrative and visualisations of self in body dysmorphic disorder. *Social Science And Medicine*, *70*(10), 1641–1647. https://doi.org/10.1016/j.socscimed.2009.11.042

Smith, A., Waterman, L., & Veale, D. (2019). Recognising and managing body dysmorphic disorder. *The Pharmaceutical Journal*. DOI:https://doi.org/10.1211/PJ.2019.20206935.

Sultan, M., Brown, E. M., & Thomas, R. H. (2021). Clinicians embracing social media: potential and pitfalls. *Epilepsy Behav*. 2021;115:106462. doi: https://doi.org/10.1016/j.yebeh.2019.106462.

Tatiana Soler, P., Novaes, J., & Miguel Fernandes, H. (2019). Influencing factors of social anxiety disorder and body dysmorphic disorder in a nonclinical brazilian Population. *Psychological Reports*, *122*(6), 21552177. https://doi.org/10.1177/0033294118805003.

Trompeter, N., Bussey, K., Hay, P., Griffiths, S., Murray, S. B., Mond, J., & Mitchison, D. (2019). Fear of negative evaluation among eating disorders: the association with weight/shape concerns in adolescence. *International Journal of Eating Disorders*, *52*, 261–269. https://doi.org/10.1002/eat.23018.

Veale, D., & Matsunaga, H. Body dysmorphic disorder and olfactory reference disorder: proposals for ICD-11.Braz J Psychiatry, 36(1):14–20. doi: https://doi.org/10.1590/1516-4446-2013-1238.

Veale, D., Anson, M., Miles, S., Pieta, M., Costa, A., & Ellison, N. (2014). Efficacy of cognitive behaviour therapy versus anxiety management for body dysmorphic disorder: a randomised controlled trial. *Psychotherapy And Psychosomatics*, *83*(6), 341–353. DOI: https://doi.org/10.1159/000360740.

Waldorf, M., Vocks, S., Dusing, R., Bauer, A., & Cordes, M. (2019). Body oriented gaze behaviors in men with muscle dysmorphia diagnoses. *Journal of Abnormal Psychology, 150*. https://doi.org/10.1037/abn0000403

Waller, G., & Mountford, V. A. (2015). Weighing patients within cognitive-behavioural therapy for eating disorders: how, when and why. *Behaviour Research and Therapy*, *70*, 1–10. DOI: https://doi.org/10.1016/j.brat.2015.04.004.

Ward, B., Ward, M., Fried, O., & Paskhover, B. (2018). Nasal distortion in short-distance photographs: the selfie effect. *JAMA Facial Plast Surg*, *20*(4), 333–335. https://doi.org/10.1001/jamafacial.2018.0009

Williamson, D. A., White, M. A., Crowe, E. Y., & Stewart, T. M. (2004). Cognitive-behavioral theories of eating disorders. *Behavior Modification*, *28*, 711–738. https://doi.org/10.1177/0145445503259853

Zeeck, A., Welter, V., Alatas, H., Hildebrandt, T., Lahmann, C., & Hartmann, A. (2018). Muscle dysmorphic disorder inventory (MDDI): validation of a german version with a focus on gender. *PLoS One*, *13*(11), e0207535. https://doi.org/10.1371/journal.pone.0207535.

Zheng, D. X., Mulligan, K. M., & Scott, J. F. (2021). TikTok and dermatology: an opportunity for public health engagement. *Journal Of The American Academy Of Dermatology*, *85*(1), e25–e26. doi: https://doi.org/10.1016/j.jaad.2021.02.050.

Authors and Affiliations

Oqab Jabali[1] · Munther Saeedi[1] · Maha Rabayaa[2] · Nihad Othman[2]

✉ Oqab Jabali
oqab.jabali@najah.edu

Munther Saeedi
munther.saeedi@najah.edu

Maha Rabayaa
m.rabayaa@najah.edu

Nihad Othman
n.othman@najah.edu

[1]   Language Center, Faculty of Humanities, An-Najah National University, Nablus, Palestine

[2]   Faculty of Medicine and Health Sciences, An-Najah National University, Nablus, Palestine