Body Image 51 (2024) 101769

Contents lists available at ScienceDirect

Body Image

journal homepage: www.journals.elsevier.com/body-image

"You started working out to get a flat stomach and a fat a$$": A content analysis of fitspiration videos on TikTok

Samantha Pryde [a,b,*], Eva Kemps [a], Ivanka Prichard [b]

[a] Flinders University, Psychology, College of Education, Psychology & Social Work, Australia
[b] Flinders University, Caring Futures Institute and SHAPE Research Centre, Australia

ARTICLE INFO

Keywords:
Fitspiration
Social media
TikTok content analysis
Objectification theory

ABSTRACT

Fitspiration presents idealised bodies to viewers, emphasising a fit ideal to women and a muscular ideal to men. Previous content analyses have focused on images from Instagram, with research yet to examine video content on TikTok or verify the accuracy of the diet and exercise information posted by fitness influencers. This content analysis examined 200 videos from popular TikTok fitspiration hashtags (fitness, fitspo, gymtok, fittok). Two independent coders used a standardised codebook containing definitions and examples for coding. Overall, 78 % of videos showed only women, and 10 % of videos showed only men. Videos of women included both fit and thin idealised bodies, whole body and specific body part objectification, harmful themes, and promoted appearance-related reasons for exercise more frequently than videos containing men. Videos of men included muscular idealised bodies and objectification through face obscurity (excluding the face from view) more frequently than videos of women. Most videos were posted by fitness influencers, and 60 % of videos presented incorrect or harmful information. Findings suggest that fitspiration TikTok content contains characteristics known to negatively impact body image and highlights gendered differences in content themes. Further investigation is required on the promotion of appearance reasons to exercise, and the credibility of information and content creators.

1. Introduction

There has been a sharp increase in the popularity of health and fitness trends on social media in recent years, with young people turning to social media platforms such as Instagram and TikTok for guidance on effective diet and exercise behaviours (Goodyear et al., 2021; Rogers et al., 2022). Among the various trends, fitspiration has gained significant traction, with #fitspo exceeding 72 million posts on Instagram and TikTok's site-specific fitspiration hashtag #fittok exceeding 62 billion views. Fitspiration encompasses images and videos that aim to inspire individuals to live an active and healthy lifestyle through diet and exercise (Pryde & Prichard, 2022; Tiggemann & Zaccardo, 2015). It was originally thought that the presentation of a healthier 'fit ideal' within fitspiration would be less harmful than the thin ideal for female body image, as the fit ideal pictured individuals engaging in exercise and highlighted the importance of health and fitness. Nevertheless, the fit ideal is just as unrealistic and unattainable for most women as the thin ideal (Donovan et al., 2020; Uhlmann et al., 2018). In addition, research has established that exposure to viewing fitspiration content on Instagram leads to negative body image outcomes for both men and women, with increased body dissatisfaction, muscle dissatisfaction and negative mood among young men (Yee et al., 2020) and increased body dissatisfaction, negative mood, and appearance comparisons among young women (Prichard et al., 2018, 2020; Rounds & Stutts, 2021; Tiggemann & Zaccardo, 2015). Emerging research on the impact of fitspiration TikTok content among young women indicates a similar pattern of results (Pryde & Prichard, 2022) and suggests the need to examine TikTok fitspiration content further.

To date, most fitspiration research has focused on still images from Instagram, due to its popularity and the high volume of fitspiration content. However, TikTok has become increasingly popular globally, with users spending an average of six hours per week on the platform compared to three hours per week on Instagram (Kemp, 2023). While Instagram still has more global users than TikTok (2 billion vs 1 billion respectively), TikTok has been the fastest-growing social media platform in terms of application downloads in the last three years (Kemp, 2023). TikTok differs from Instagram in a number of ways. First, TikTok focuses solely on short-form videos, whereas Instagram was initially an

* Corresponding author at: Flinders University, Psychology, College of Education, Psychology & Social Work, Australia.
E-mail address: samantha.pryde@flinders.edu.au (S. Pryde).

https://doi.org/10.1016/j.bodyim.2024.101769
Received 19 October 2023; Received in revised form 10 June 2024; Accepted 6 July 2024
Available online 15 July 2024

image-based platform until it added the use of short videos after the increasing popularity of TikTok. The characteristics of videos posted to TikTok and Instagram are very similar. Videos vary from 30 s to 3 min and can be filmed live or contain a reel of photos that create a video. Users on both platforms can like, comment and share video content. However, despite using both image and video-based content, Instagram still contains a high proportion of still images. Another key difference between the platforms is target user behaviour. TikTok allows users to view a continuous feed of videos that does not require users to follow each other to view content (Dempster, 2020; Khattab, 2020; Liu, 2021). In contrast, Instagram focuses on connecting users to see their content. TikTok enables viewers to explore new hashtags and types of content. With this has come growing concerns about the extensive reach of fitspiration content on TikTok exposing viewers to a broader range of harmful content when interacting with fitspiration TikTok videos, including body shaming, excessive dieting and the glorification of eating disorders (Dempster, 2020; Khattab, 2020; Liu, 2021). Furthermore, TikTok users (12–17 year olds) are typically younger than Instagram users (18–24 year olds) and are at greater risk of developing body image disturbance (Depression and Bipolar Support Alliance, 2024).

To date, only one experimental study has examined the effect of fitspiration TikTok content on women's body image (Pryde & Prichard, 2022), which found that exposure to general fitspiration on TikTok led to increased negative mood and appearance comparisons. There is currently no experimental evidence of the impact of fitspiration TikTok content on men. In addition, minimal research has been conducted on the features and characteristics of fitspiration TikTok content, with only one content analysis of fitspiration and thinspiration videos on TikTok conducted. Hung (2022) focused on four hashtags, two related to 2 fitspiration (#fitspiration, #fitspo) and two related to thinspiration (#thinspo, #kcaltok). Results indicated that whilst fitspiration content had less of a focus on extreme thinness compared to thinspiration, comments on fitspiration TikTok videos were commonly related to negative body image and weight loss. However, Hung (2022) did not examine popular fitspiration TikTok hashtags, such as fittok, or analyse imagery themes and characteristics as extensively as previous Instagram content analyses of fitspiration, such as objectification, the type of actions/poses used and gender (Carrotte et al., 2017; Deighton-Smith & Bell, 2018; Tiggemann & Zaccardo, 2018). Furthermore, no research has explored male presentation in fitspiration TikTok videos despite 51 % of TikTok users in general identifying as male (Statista, 2023). As such, further examination that quantifies more specific themes and characteristics present in fitspiration TikTok videos is warranted.

The impact of idealised imagery on body image can be understood by Objectification Theory (Fredrickson & Roberts, 1997). Objectification Theory proposes that women in Western cultures tend to be objectified, commonly in a sexualised manner (i.e., showing high degrees of skin or posing in alluring, sexually explicit ways). This can result in women internalising a viewer's perspective of their own bodies. Consequently, some women may come to view their body as an 'object'. Further, objectification can lead to sexualisation through highlighting the sexual appeal and attractiveness of the individual (Fredrickson & Roberts, 1997). While objectification is commonly associated with women, literature suggests that men are exposed to objectified imagery in the media too, particularly the promotion of a male muscular-idealised body (Waling et al., 2018). Men also present themselves in an objectified manner on social media more frequently than in previous years (Heath et al., 2016). Exposure to same-gender idealised imagery is positively correlated with drive for thinness among women (Jiotsa et al., 2021) and drive for muscularity among men (Daniel & Bridges, 2010).

Previous content analyses of fitspiration images on Instagram (Carrotte et al., 2017; Deighton-Smith & Bell, 2018; Tiggemann & Zaccardo, 2018) have highlighted the potential harms associated with fitspiration content for young people. For example, the majority of posts depict young, Caucasian women with the fit ideal body type, posing in sexually objectifying ways (i.e., showing a high degree of skin and emphasising specific body parts). They also place a heavy emphasis on the appearance of women's bodies as well as frequently objectifying specific body parts such as the thighs and buttocks (Deighton-Smith & Bell, 2018; Tiggemann & Zaccardo, 2018). Interestingly, up to a third of fitspiration images depict men with average size bodies and visible or highly defined muscles (Deighton-Smith & Bell, 2018; Tiggemann & Zaccardo, 2018). However, there is limited research on the features of objectified male social media content, such as the inclusion of sexualisation, the portrayal of male appearance ideals, or the objectification of specific body parts, all of which contribute to body ideals for men.

With the popularity of fitspiration and the known ramifications of viewing this content on Instagram, it is evident that fitspiration has the potential to negatively influence body image outcomes while normalising objectification of the body. While some elements of fitspiration content provide diet and exercise inspiration, such as depicting individuals engaging in physical activity or promoting healthy eating, there is an overwhelming emphasis on engaging in these behaviours to alter one's appearance (Carrotte et al., 2017; Deighton-Smith & Bell, 2018; Tiggemann & Zaccardo, 2018) as opposed to improving one's health. This is of concern given that appearance-based reasons for exercise (e.g., exercising for weight control, toning, or attractiveness) have been associated with decreased exercise behaviours and negative body image outcomes, while health-related reasons (e.g., exercising to enhance fitness, mood, or enjoyment) are linked to increased exercise behaviours (Anić et al., 2022; Gonçalves & Gomes, 2012; Homan & Tylka, 2014).

Despite acknowledgement in the literature that men view and appear in fitspiration content, there is very limited research exploring the amount of fitspiration content that targets men and how this impacts their body image. Previous literature exploring general social media use and exposure to idealised imagery has found that men also experience increased body dissatisfaction at similar levels to women (Fioravanti et al., 2021; Frederick et al., 2007). To date, correlational research has found no association between viewing fitspiration and body dissatisfaction among young men (Fatt et al., 2019), while one experimental study found that exposure to male fitspiration images increased body dissatisfaction and muscle dissatisfaction (Yee et al., 2020). These findings support the argument that the typical fitspiration content viewed on social media may not depict relevant targets of comparison for males (Fatt et al., 2019), as they are more likely to see videos and images of women which may not impact their body image as much same-gender comparisons. Therefore, further research is needed to quantify the amount of fitspiration content targeted at men, and the features included in this content that could potentially impact their body image.

With the growing demand for online fitness-related content, there has also been a growth in the range of people creating such content. The predominant posters of fitspiration content are fitness influencers, who garner large followings on social media and thus have the ability to influence viewers' opinions, behaviours and product choices regarding diet and exercise (Aguilar & Arbaiza, 2021). However, anecdotal evidence highlights that fitness influencers typically do not hold relevant health or fitness qualifications (Hogan, 2021). Further, a recent examination of 500 fitspiration Instagram posts by Brazilian fitness influencers found that only 3 % were scientifically accurate (Marocolo et al., 2021). While branding themselves as 'experts' to their viewers (Pilgrim & Bohnet-Joschko, 2019), fitness influencers are reported to disseminate information that is based on opinion and motivated by product sponsorship rather than based in empirical evidence (Tiller, 2022). Despite this, people who follow or engage with fitness influencers perceive them as knowledgeable and trustworthy sources of health and fitness information (Aguilar & Arbaiza, 2021). The health credentials of individuals who post fitspiration content to social media has only been explored in one Instagram review of content posted by fitness influencers (Curtis et al., 2023), finding that less than half held a relevant health or fitness qualification. Research is yet to explore the accuracy of the health

information shared, including the potential for false or misleading information. This leaves a gap in our understanding of the credibility of fitness influencers and the information they share. As the information delivered from fitness content helps establish health and fitness norms surrounding what healthy people should look like and the behaviours that individuals should engage in to be seen as healthy, it is important to examine the credibility of fitspiration content and content creators on TikTok.

Thus, the present study aimed to provide a systematic examination of the themes and characteristics presented in fitspiration content posted to TikTok. In line with previous fitspiration content analyses (Carrotte et al., 2017; Deighton-Smith & Bell, 2018; Talbot et al., 2017), we endeavoured to explore the differences in the amount of content that contained images of men and women as well as any differences in body size and level of muscularity displayed in fitspiration TikTok videos. In this context, we expected that the majority of the videos containing women would conform to the thin and toned aesthetic of the fit ideal whereas the majority of videos of men would conform to the lean and muscled aesthetic, the ideal standard of male beauty (Fatt et al., 2019). We also assessed the degree of objectification present in the videos, which following Instagram content analyses (Carrotte et al., 2017; Tiggemann & Zaccardo, 2018) was predicted to be higher in videos containing women than those containing men. A secondary aim of the present study was to the explore the credibility of content creators who post videos using fitspiration hashtags on TikTok and the accuracy of the information they share. It was predicted that fitness influencers would be the predominant posters of fitspiration videos, and that their videos would contain more misleading, incorrect, or harmful health information than videos posted by qualified professionals. It was also predicted that fitness influencers would be less likely to hold a relevant degree in health, fitness, or nutrition than qualified professionals.

2. Method

2.1. Image selection

On TikTok, users can add hashtags to their posts in the caption section by prefacing a word or phrase with the hash tag symbol (#). When users click or search that hashtag or phrase, they are taken to a feed of videos that have used that hashtag, which are displayed from having the most views to the least views (TikTok Help Center, 2024). Following previous TikTok content analyses (Carter et al., 2021; Harriger et al., 2023; Hung, 2022), a "snapshot" approach to sampling was adopted whereby a sample of videos from one timepoint was taken for analysis. To determine what fitspiration-specific hashtags are commonly used on TikTok, the hashtag fitspiration was searched, and the first 10 videos collected were examined to determine other relevant hashtags. This produced an initial list of 52 possible hashtags for sampling. Among these hashtags were several that did not meet the definition of fitspiration (e.g., #fitcheck, #outfitinspo, #fashion that related to clothing and fashion) and were excluded from the potential sample. Gendered hashtags (e.g., #girlswholift, #gymbro) and weight-specific hashtags (e.g., #weightloss and #weightlosstransformation) were also removed to ensure the hashtags generated for the sample would provide an accurate representation of typical fitspiration content, and not other forms of idealised content (e.g., thinspiration). After this, given a large disparity in number of views among the remaining hashtags, the four hashtags with the highest number of views (fitness, gymtok, fittok and fitspo) were selected to portray popular trends at the time of collection.

Using the lead researcher's account, the four hashtags were searched and filtered using the 'hashtag' filter from the search results. Accordingly, only videos using each hashtag would appear, thereby eliminating the potential for the algorithm to suggest videos outside of the search. Following previous TikTok content analyses (Carter et al., 2021; Hung, 2022), a sample of 200 videos was selected from the filtered videos (the first 50 videos from each hashtag). As filtering videos by hashtags orders videos from the most to the least viewed (TikTok Help Center, 2024), this ensured that the 50 most viewed videos from each hashtag were included in the sample. See Table 1 for details of the inclusion and exclusion of hashtags. Videos were collected via the screen-record function, to avoid removal of videos that did not allow users to download them from TikTok.

2.2. Coding procedure

Following a deductive-approach to coding, the standardised codebook used by Tiggemann and Zaccardo (2018) in their content analysis of fitspiration images on Instagram was utilised in the present study, with the addition of several codes developed to capture video-specific variables such as audio. Only the visual (including captions on the screen) and audio elements of the videos sampled were coded, excluding any comments posted to the video or text used in the 'video description' below the video. Detailed descriptions of each coding category are presented in Table 2.

Videos were initially coded to determine the category of content: people, food, both or other. Coding of 'other' videos included content that did not contain food or people in shot, and videos coded as people and/or food underwent further analysis. Videos containing food were coded in terms of healthy/unhealthy food items, as described in the Australian Healthy Guide to Eating (National Health and Medical Research Council, 2013). Videos containing exclusively people were coded for the number, perceived gender, and estimated age of the individuals depicted. Body shape was coded in relation to adiposity (i.e., amount of body fat) and muscularity (i.e., amount of visible of muscles and tone), using figured rating scales created by Stunkard et al. (1983). The action performed by the depicted individuals (e.g., fitness related vs non fitness related) was also coded, along with the presence of objectifying features (e.g., focus on specific body parts, absence of the individual's face and/or head from view, posing in front of a mirror in a self-like fashion whilst recording).

In addition, videos were coded for the location at which the video was recorded, the use of product promotion within videos, and the presence of harmful themes, such as body shaming, excessive diet/exercise and eating disorder glorification. To account for potential themes in the video's audio, the audio tracks were coded on type (voiceover, music, live recorded audio) and whether the audio contained fitness-related inspiration, general inspiration, or harmful themes. Any video captions were coded as fitness-related inspirational, generally inspirational (i.e., no explicit relation to fitspiration), harmful or other. Audio and captions were coded as harmful if they involved encouraging unhealthy or excessive exercise and diet behaviours, or sexualisation of the body by highlighting sexual appeal or attractiveness of the individual. Finally, account handles of content creators were searched in TikTok (and if not available were also searched in Instagram), and the information provided in their biographies was used to code content creator type. Content creators could be coded as multiple creator types, depending on the information they supplied. An account was coded as a fitness professional if a relevant health, fitness or nutrition qualification was provided, and as a fitness model or non-fitness content creator based on their listed occupation (i.e., fitness model, fashion vlogger etc). Accounts were coded as fitness influencers if they had a large following (greater than 500), promoted products and lifestyles related to fitness and health but did not provide a qualification or clearly state their occupation. Credibility of information was determined by cross-checking information in each video with reliable health sources (i.e., Better Health Victoria, National Health and Medical Research Council) and coded discretely as either credible, misleading or harmful.

2.3. Coding reliability

Two independent coders used a standardised codebook, containing definitions and examples of the variables included for coding. Coder 1

Table 1
Codebook and coder agreement.

Code	Description	Definition	% Agreement	PABAK
Category	People, food, other	Videos with people featured 1 + person(s) and their perceived age: 5–14 15–24 25–34 35–44 45–54 55–64 65–74 75–84	91.56 %	0.83
		Videos with food included a food/drink item. Healthy food items (items that are endorsed by the Australian Healthy Eating Guide and shown in the correct moderation) Unhealthy food items (items that are not endorsed by the Australian Healthy Eating Guide or not shown in the correct moderation) All other videos were coded as 'other'.	95.44 %	0.92
Objectification	The presence or absence of objectification elements	Posing in a 'selfie' like manner. Individual's head and/or face absent or not clearly visible. Focussing on specific body parts (i.e., arms, legs, buttocks)	92.5 %	0.85
Adiposity	Physical appearance of an individual	Body size: Thin (slight frame with little to no visible fat stores). Average (medium frame with moderate level of visible fat) Large (overweight or high level of excess fat visible) Muscularity: Little/none (minimal visible muscles or toned body parts) Visible definition (visible muscles or toned body parts) Moderate to high level definition (highly visible and defined muscle or toned body parts)	93.75 %	0.87
Actions	Action performed in videos	Posing: Fitness related (e.g., in fitness clothes or at the gym, fitness modelling, before and after transformation) Fitness unrelated (e.g., posing in a self-viewing manner) Non-posing: Engaging in a fitness activity (e.g., lifting weights, doing yoga or cardio)	99.13 %	0.90
Content Creator Type	Content creator type based on the qualification held by content poster	Fitness professional (Relevant health or fitness qualification, e.g., personal trainer or nutritionist) Fitness influencer (individuals with > 500 followers who promote products and lifestyles related to fitness and health but have no publicly reported health, fitness or nutrition qualifications) Fitness model (individuals who participate in bodybuilding competitions or model for fitness magazines), Other content creators without health/fitness qualifications	94.76 %	0.93
Credibility	Accuracy of information shared	Credible (deemed factually correct by trusted sources). Misleading (information that is presented in a deceptive manner). Harmful (information had the potential to cause severe harm to viewer if followed).	92.03 %	0.91
Themes presented	Presence of different elements in video captions	Inspirational (fitness related): fitness motivation across three elements Exercise (e.g., *(video of a woman performing weight-based exercises)* "tips I wish I knew before I started lifting weights") Diet (e.g., *(video of a woman meal prepping and attending a gym)*	96.25 %	0.93

(*continued on next page*)

Table 1 (*continued*)

Code	Description	Definition	% Agreement	PABAK
		"day of eating. Sometimes more, sometimes less.") Appearance (e.g., *(video of a woman showing her poses to hide imperfections of her body)* "what fitness influencers show you on social media vs what's really there.") Inspirational (unrelated to fitness): might motivate viewer to improve or make changes in a general or non-fitness context (e.g., "people ask how I stay motivated. I don't, I stay consistent. when I hit the bottom or when things get tough… I keep going.") Harmful themes: content that could be taken 'too far' and cause harm to an individual if followed Sexualisation (e.g., *Short snippets of posing in sexy lingerie in front of a bed)* Body shaming (e.g., *(video of a woman demonstrating her diet and exercise routine for weight loss)* "how I went from thick (yuck emoji), to thick (Italian hand emoji) in five weeks") Promoting disordered eating (e.g., *(video of a woman promoting an idealised thin physique)* "What I'm doing to get more of an hourglass figure. Eat in straight calorie deficit. Build my upper body.") Excessive exercising (e.g., *(video of a woman going for long runs every day 4-12months post-partum)* "before getting pregnant vs 1 year after having baby. pregnancy/ motherhood doesn't mean the progress stops.") Excessive dieting (e.g., *(video of a woman promoting a Very Low Energy Deficit to lose weight)* "how I lost all my belly fat (80 pound weightloss.") Other		
Audio	The inclusion of music or speech with the video	General inspiration (music or speech that may increase motivation or improve mood that does not mention fitness or health) Fitness inspiration (music or speech that may increase motivation or improve mood that mentions fitness or health) Harmful themes (audio or speech that included sexualisation, pro-eating disorder, body shaming, excessive exercise and/or excessive dieting themes)	92.5 %	0.85

Table 2
Perceived physical characteristics of individuals within the TikTok videos.

	Women (N = 174)	Men (N = 50)
Age (years)		
15–24	(83) 48 %	(28) 56 %
25–34	(88) 50.3 %	(21) 42 %
35–44	(3) 1.7 %	(1) 2 %
Adiposity		
Thin	(135) 76.4 %*	(19) 38 %*
Average	(31) 18.4 %*	(30) 60 %*
Overweight	(8) 5.2 %	(1) 2 %
Muscularity		
Little or no definition	(79) 45.4 %*	(10) 20 %*
Visible definition	(73) 42 %	(24) 48 %
Moderate to high-level definition	(22) 12.6 %*	(16) 32 %*

* $p < .05$.

was a Caucasian female with experience in body image, health, and fitness. Coder 2 was an Asian female with experience in body image and health sciences. To assess inter-coder reliability, Prevalence Adjusted and Bias-unadjusted Kappa (PABAK) was calculated for each video and any disagreements were subject to consensus meetings between coders to resolve. Following Tiggemann and Zaccardo (2018), 20 % (40 videos) of the total sample of videos were coded by both coders, with the remaining videos coded by coder 1. PABAK interrater agreement is deemed as substantial at 0.61–0.80 and almost perfect at 0.81–1.00 (Landis & Koch, 1977). Total agreement across all videos was 0.90. As shown in Table 1, agreement was very high across all individual variables.

2.4. Analysis

Analyses were conducted used IBM SPSS version 28. Chi-square tests were used to analyse gender differences across sociodemographic variables, body adiposity, muscularity, actions, and objectification, as well as differences across content creator type and qualification, information credibility, and visual and audio themes. Chi-square analyses are suitable for data with different sample sizes because they compare observed frequencies with expected frequencies, which are based on the overall distribution of the data rather than the sample sizes themselves. For cells with a value of less than 5, Fisher's exact test was used to determine significant differences.

3. Results

3.1. Content characteristics

Nearly all videos were of people (91.9 %), followed by videos of both people and food (5.4 %), food only (1.2 %), and other (0.9 %). Of the videos containing food, most (83.4 %) depicted foods considered "healthy", including smoothies, protein bars or fruit and vegetables. Videos containing food and people often depicted the food item and the person separately (95.2 %). The one video coded as 'other' involved a virtual animation of a figure using gym equipment. Within videos containing people, the vast majority were of women (78 %), with a small number containing men (10 %) or both men and women (12 %). Videos of women were most likely to include a single person (73.6 %), while videos of men were most likely to include two people (40 %). Across gender, most videos were filmed in a gym setting (73 % women, 80 % men).

3.2. Sociodemographic characteristics

Table 2 presents the perceived sociodemographic characteristics for women and men in the videos. Videos containing multiple people were coded separately. A large proportion of women were perceived as between 25–34 years old (50.5 %), with men perceived as between 15–24 years old (56 %). There was no significant difference in perceived age across gender, χ^2 (3) = 2.28, p = .517. The majority of men (74 %) and women (83.3 %) were perceived to be Caucasian; however, there were more African men in the sample than African women, χ^2 (2) = 3.96, p = .047.

3.3. Body adiposity and muscularity

Table 2 presents the adiposity and muscularity characteristics for women and men. In terms of body adiposity, just over three quarters of videos depicted women as thin (76.4 %), with a small distribution across two other body types: average (18.4 %) and large (5.2 %). Conversely, men were most commonly depicted as being of average build (60 %), with some distribution across thin (38 %) and large (2 %) body types. There were significant differences in thin, χ^2 (2) = 321.55, p < .001, and average, χ^2 (1) = 36.54, p < .001, body types across gender whereby women were more likely to be depicted as thin and men were more likely to be depicted as average build. Regarding muscularity, most women were depicted with little to no definition (45.4 %) or visible definition (41.3 %), with only a small number depicted with moderate (12.6 %) or high-level (0.6 %) definition. In contrast, men were mostly depicted with visible muscle definition (48 %), with equal dispersion across moderate (16 %) and high-level (16 %) definition. One fifth of men were depicted with little to no muscle definition (20 %). Women were significantly more likely to be depicted with little to no definition than men, χ^2 (2) = 7.48, p = .024, while men were more likely to be depicted with moderate definition than women, χ^2 (1) = 28.87, p < .001.

3.4. Actions and objectification

Not surprisingly, given the nature of fitspiration, the most common action performed by both women (39.3 %) and men (55.6 %) was engagement in some form of physical activity, which was not significantly different across genders, χ^2 (2) = 1.59, p = .466 (see Table 3). There was, however, a significant difference between genders in self-viewing posing (akin to posing for a 'selfie' in a photo), with over a quarter of women (28.6 %) and only 11.7 % of men depicted posing in this manner, χ^2 (1) = 13.70, p < .001. Roughly an equal number of videos depicted before and after transformations for either gender (13.9 % women, 13.6 % men), χ^2 (1) = .424, p = .655, or were coded as performing 'other' actions (13.9 % women, 17.4 % men), which consisted of acting out a skit or recreating a conversation, and imagery of food or gym equipment, χ^2 (1) = .001, p = .971.

Regarding objectification, a high volume of videos containing women focused on a specific body part (77 %), while videos containing men presented an equal amount of footage focusing on the whole body and specific body parts (50 % each; see Table 3). The most objectified body parts for women were the buttocks (50.1 %) and legs (44.9 %), whereas it was the arms and chest (32 %) for men. Across both genders, over half of the videos did not depict or had obscured the subject's face from view; however, this occurred more frequently for men (76 %) than women (60 %). Chi square analyses revealed that results were significantly different across gender for all types of body part objectification: the whole body visible, χ^2 (1) = 13.75, p < .001, specific body parts, χ^2 (1) = 13.76, p < .001, and face obscured, χ^2 (1) = 13.75, p = .036.

Regarding type of content creator and objectification, 49 % of fitspiration videos posted by fitness influencers included some element of objectification, followed by non-fitness content creators (13.4 %), fitness professionals (5.4 %), and fitness models (1.8 %). Fisher's exact test showed that there was a significant difference across type of content creator and presence of objectification (p < .001), such that fitness influencers posted more objectified content than other content creators.

3.5. Content creator type

Nearly all the videos sampled were posted by individuals who did not provide qualifications or credentials in health, fitness, or nutrition in their TikTok biographies (94.6 %). Fitness influencers (60.7 %) contributed to over half of the videos in the sample, followed by everyday TikTok users and content creators who do not actively post fitspiration content (30.4 %) and fitness models (2.7 %). Of those who did disclose a qualification in their biographies (5.4 %), all were personal trainers or fitness professionals. A small amount of content was posted by individuals who held a relevant qualification while primarily working as a fitness influencer (1.4 %).

3.6. Credibility of information

Of the sample, 22 % of videos presented information, such as dieting

Table 3
Actions and objectification present within TikTok video sample by gender.

	Women (N = 174)	Men (N = 50)
Action		
Self-viewing posing	(74) 28.6 %*	(7) 11.7 %*
Transformative (before vs after)	(35) 13.9 %	(8) 13.6 %
Engaging in exercise	(99) 39.3 %	(33) 55.6 %
Other	(35) 13.9 %	(10) 17.4 %
Objectification		
Whole body in focus	(40) 23 %*	(25) 50 %*
Focus on specific body part(s)	(134) 77 %*	(25) 50 %*
Face obscured	(104) 60 %*	(38) 76 %*

* p < .05.

or exercise instructions. Of this content (see Table 4 for examples), 40 % of the information presented was deemed credible, with the rest deemed misleading (48 %) or harmful (12 %). Overall, 67 % of posts by qualified individuals were credible, with their remaining posts considered misleading. In contrast, many posts by individuals who had not disclosed any qualifications on their TikTok biography were misleading (49 %), with 38 % deemed credible and 13 % deemed harmful. However, Fisher's exact test indicated that there was no significant difference across type of content creator and the credibility of information provided ($p = .463$).

3.7. Themes presented

Table 1 displays the types of themes presented in the video captions and on-screen text. Of the videos sampled, 91.5 % used captions. Themes related to fitspiration appeared in 37.5 % of captioned videos. Of these, captions associated with exercise (i.e., "tips I wish I knew before I started lifting weights") were the most common (51.2 %), followed by captions pertaining to appearance (i.e., "how I got the body of my dreams"; 41.7 %) and captions pertaining to diet (i.e., "what I eat in a day (calorie deficit)"; 8.8 %). Videos with women as opposed to men were significantly more likely to contain appearance-related captions, χ^2 (1) = .8.80, $p = .003$, but not diet-related captions, χ^2 (1) = 3.17, $p = .075$, or exercise-related captions, χ^2 (1) = 3.94, $p = .139$.

Themes that were deemed harmful or dysfunctional occurred in 10.7 % of captioned videos. When looking at the type of harmful theme, over half of videos depicting women involved sexualisation (55.7 %), followed by body shaming (20 %) and eating disorder promotion (8.6 %). Body shaming was the only harmful theme to occur in video captions of men (4 %). Sexualisation was significantly more likely in video captions of women than men, χ^2 (1) = 9.57, $p = .002$. General inspiration, such as motivational quotes without specific mention of fitspiration, occurred in 2.4 % of captioned videos. Fisher's exact test showed that there was no difference between genders in how frequently motivational quotes occurred ($p = .900$). Similarly, captions coded as other occurred in 1.6 % and was similar across genders, ($p = .533$).

Over half of the videos with captions (58.9 %) contained content that promoted engaging in exercise for appearance reasons (i.e., "creating a body only he can touch"), while 15.6 % promoted health reasons ("i.e., if you're nervous about going to the gym, remember everyone is there to better themselves") and 25 % did not promote exercise at all (i.e., "I told myself I'd turn the tables, so I did"). Videos of women were significantly more likely to promote appearance reasons for exercise, χ^2 (1) = 8.60, $p = .003$, or contain no exercise components, χ^2 (1) = 9.30, $p = .002$, than videos of men. For type of content creator, fitness influencers posted a significantly greater number of videos promoting appearance reasons for exercise, χ^2 (3) = 15.86, $p = .003$, or containing no exercise components, χ^2 (3) = 12.10, $p = .016$, than all other content creators. There was no significant difference for gender, χ^2 (1) = .275, $p = .600$, or type of content creator, χ^2 (3) = 3.41, $p = .491$, for the promotion of health reasons for exercise (see Table 5).

Table 4
Information types.

Information type	Example
Credible	""I don't feel these in my back, just my arms!". step one: thumbless grip. step 2: line up your forearms with the pull of the cable, drive elbows back and pull bar to collarbone/upper chest"
Misleading	"how to actually lose all your body fat. gut health & caloric deficit. Cardio. weight lifting"
Harmful	"The secret to maintaining a small waist. apple cider vinegar, lime, water. helps with debloating, removes toxins from body, boosts immune system"

3.8. Audio themes

All the videos sampled included audio. Music was the most used audio (77 %), followed by voiceovers from television or movie scenes with or without accompanying music (27 %), and live audio recorded whilst the video was filmed (7.4 %). A small number of video audio pertained to fitspiration-related themes (10 %) or general inspiration (6 %), with 5 % of audio used containing harmful themes. Fisher's exact test indicated that fitness influencers used a significantly greater amount of fitspiration audio ($p = .003$), and audio containing harmful themes ($p = .021$) than other content creators, with no significant differences across gender.

4. Discussion

The current study was the first to conduct a content analysis of fitspiration videos on TikTok that explored the themes and characteristics of videos, the credibility of health and fitness information within videos, and the qualifications of individuals who post fitspiration videos on TikTok. Overall, the findings showed that fitspiration TikTok videos portray an idealised view of fitness that perpetuates gendered sociocultural standards of beauty (Heath et al., 2016; Tiggemann, 2011). As predicted, videos of women typically depicted body types that met the fit ideal, while videos containing men depicted body types meeting the muscular ideal. However, a large proportion of videos of women also presented the thin ideal, which has been found in other content analyses of fitness trends; including yoga (Hinz et al., 2021a; Hinz et al., 2021b) and fitspiration (Carrotte et al., 2017; Ratwatte & Mattacola, 2021). Fitspiration TikTok videos depicted women with thin idealised bodies typically associated with thinspiration content. The fit and thin ideals have conventionally been considered two separate beauty standards, despite thinness being a key element within both ideals (Boepple et al., 2016; Deighton-Smith & Bell, 2018). Previous cross-sectional research indicates that viewing fitspiration content is associated with drive for thinness, thin ideal internalisation, and behaviours (Donovan et al., 2020; Uhlmann et al., 2018; Wu, Harford, Petersen, & Prichard, 2022). This indicates that thinness is still a crucial element contributing to body image disturbance for women and may explain the negative impact of fitspiration content on young women's body image. However, the specific role of thinness on body image outcomes when presented in fitspiration content has not been explored, nor compared to the effect of thinness and visible tone presented together within fitspiration content and would be useful for future research to consider.

Gender differences also occurred in the portrayal of objectification in fitspiration TikTok videos. Consistent with previous Instagram fitspiration content analyses (Carrotte et al., 2017; Tiggemann & Zaccardo, 2018), videos containing women frequently involved objectification of specific body parts (e.g., the buttocks and thighs), as well as sexualisation (e.g., alluring poses that draw attention to specific body parts). Interestingly, objectification through face obscurity occurred more frequently in videos containing men, which that has not occurred in previous content analyses (Carrotte et al., 2017; Deighton-Smith & Bell, 2018; Tiggemann & Zaccardo, 2018). While male and female bodies are traditionally depicted differently in fitspiration content, there is a growing concern about the impact of fitspiration on male body image. Across traditional and social media platforms, there has been an increasing amount of muscular-idealised imagery being presented to male viewers, often in sexualised ways (i.e., appearing shirtless; Karsay et al., 2018). Results of a meta-analysis of self-objectification research found that there was no significant difference between men and women on the level of self-objectification, body esteem and body shame when exposed to same-sex idealised imagery; highlighting that both genders experience similar outcomes in response to objectified imagery. To date, the degree and type of objectification included in male fitspiration content has not been directly explored; but previous research shows that exposure to general fitspiration content increases weight loss and

Table 5
Reasons for exercise.

	Women (N = 174) (%)	Men (N = 50) (%)	Fitness influencer (N = 135) (%)	Fitness professional (N = 12) (%)	Fitness model (N = 6) (%)	Non-fitness content creators (N = 68) (%)
Health reasons for exercise	11.6	4	9.4	0	0.4	5.8
Appearance reasons for exercise	50[a]	8.9[b]	39.7[a]	4[b]	0.9[b]	12.9[b]
No exercise component	16.1[a]	8.5[b]	11.2[a]	1.8[b]	1.8[b]	11.6[a]

Difference superscripts denote significant differences for gender and type of content creator.

exercise behaviours among men (Yee et al., 2020) and is positively correlated to body dissatisfaction and appearance-based exercise motivation (Fatt et al., 2019). These findings provide further evidence of the continued gender differences in objectification within the context of fitspiration videos, and further research is needed to better understand the changing nature of objectification of men within fitspiration content and its influence on male body image.

An interesting gender difference was that videos of women were more likely to include a single person while videos of men were more likely to include two or more people. In the health/fitness context, exercising is typically an individual experience for women (Hardes, 2018), while men are more likely to take a collectivist approach by exercising with other people (Nuzzo & Deaner, 2023). Furthermore, literature on motivation for exercise suggests that extrinsic motivation provided by peers, such as support as well as competition, are key drivers for men to engage in exercise (Giallo et al., 2022), whereas women exercise more for intrinsic reasons, like self-enjoyment and improved wellbeing (Thøgersen-Ntoumani et al., 2016). In addition, the gender and number of people in the videos samples was also influenced by the type of activities that were engaged in. Specifically, men more frequently engage in weight-based exercises that may require a spotter while women more frequently engage in cardio-based activities that can be done alone (Coen et al., 2016; Jonason, 2007). Furthermore, women are more likely to engage in individual selfie-like posing that objectifies the body while exercising than men (Magladry et al., 2022; Saunders & Eaton, 2018; Shome et al., 2020). Objectification and sexualisation of women's bodies is often conducted on an individual level in society (Bernard et al., 2018; Thompson et al., 1999), and as such, it may be more socially acceptable for women to pose than men. Future research could further explore the normative behaviours of men and women whilst exercising and posting fitspiration content to social media.

Fitspiration-related themes were present in many captioned videos. However, of concern was the number of harmful themes (e.g., sexualisation, body shaming, pro-eating disorder, excessive exercising and/or excessive dieting) also present in a substantial number of videos. These harmful themes more commonly appeared in videos of women than in videos of men, suggesting the detrimental impact of this type of content on TikTok for women. It is common for female bodies to be objectified in a sexualised manner in Western society and become internalised self-objectification (Fredrickson & Roberts, 1997) Similar levels of dysfunctional themes (11 %) were found in previous content analyses of Instagram fitspiration images (Tiggemann & Zaccardo, 2018). Hence, it is plausible that viewing fitspiration content on any social media platform increases the likelihood of being exposed to harmful themes. This supports anecdotal evidence which suggests that TikTok users are exposed to harmful themes when viewing idealised videos (Dempster, 2020; Kaufman, 2020), like fitspiration. Research on sexualised imagery posted to Instagram (Prichard et al., 2023) and TikTok (Di Michele et al., 2023) found that viewing such content increases body dissatisfaction and appearance comparisons, while pro-diet content increases food restriction and appearance-based motivations for exercise (Fiuza & Rodgers, 2023). However, further research is needed on how sexualisation, pro-diet, and other harmful themes impact body image within fitspiration content specifically.

One of fitspiration's main motives is to inspire individuals to improve their health through diet and exercise, and research indicates young women find the ease of finding fitness information through fitspiration appealing and tend to follow workout advice provided (Bowles et al., 2021). Unsurprisingly, half of fitspiration TikTok videos with captions contained themes related to diet and exercise, and the most common action performed in videos was physical activity. However, a substantial amount of fitspiration content contained appearance-focused themes in the captions, and appearance-focused passive posing (e.g., selfie-like posing). Appearance-based reasons for exercise were also more likely to be promoted in content than health-based reasons. There has been growing criticism that fitspiration presents a 'distorted' image of health and fitness to its viewers, often through emphasising appearance and physical attractiveness over health or fitness to motivate engagement in diet and exercise behaviours (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015; Vandenbosch, Fardouly, & Tiggemann, 2022). Engaging in exercise for appearance-related reasons has been associated with body dissatisfaction, lower self-esteem, and lower body appreciation among young women (Gonçalves & Gomes, 2012; Homan & Tylka, 2014). As fitspiration intends to motivate viewers to achieve a fit-idealised body by exercising, it is important to understand if exposure to fitspiration content influences a viewer's reasons for exercising. Further, the impact this may have on body image outcomes whether those motivated to exercise for appearance related reasons might seek out fitspiration content should be investigated further.

As anticipated, majority of fitspiration TikTok videos were posted by fitness influencers who did not claim to hold relevant health or fitness qualifications and presented misleading or harmful diet and exercise information. This supports previous findings that over half of the content posted in popular diet (Ramachandran et al., 2018) and fitness (Curtis et al., 2023) trends, such as fitspiration, tends to promote advice that is not evidence-based and deviates from Australian diet and physical activity recommendations. Despite these findings, fitness influencers are perceived by viewers to be credible sources of diet and fitness information, with large followings a predominant factor influencing perceived credibility (Aguilar & Arbaiza, 2021). This suggests that fitspiration viewers may base their decisions about trustworthy diet and exercise information on the popularity of the content creator, rather than their qualifications or accuracy of the information shared. This may explain why content created by reputable sources of diet and fitness information, such as government-run social media pages, has not appeared in fitspiration content analyses before (Boepple et al., 2016; Carrotte et al., 2017; Curtis et al., 2023; Deighton-Smith & Bell, 2018; Tiggemann & Zaccardo, 2018). One possible solution to improve the credibility of information shared within fitspiration could be the enlistment of fitness influencers by public health organisations to communicate evidence-based diet and exercise information to viewers. Hence, further research is required to investigate potential barriers which may prevent fitness influencers from aligning themselves with public health organisations, as well as strategies to encourage them to promote more evidence-based information.

To mitigate the impact of harmful and misleading information on social media, research has begun exploring the effectiveness of trigger warnings and warning labels on thinspiration on Instagram (Couture Bue & Harrison, 2020; Giorgianni et al., 2020; Tiggemann et al., 2019) and general misinformation on TikTok (Ling et al., 2022). However, results indicate that warning labels do not significantly influence

viewers' perspectives on the credibility of the information presented to them (Giorgianni et al., 2020; Tiggemann et al., 2017). Whilst warning labels have been proven ineffective, research by Tiggemann and Anderberg (2020) indicates that showing idealised or edited Instagram images alongside realistic images (otherwise known as "Instagram vs Reality") can reduce body dissatisfaction and appearance comparison. Further, exposure to parody images of thin-ideal celebrities posted by average-sized social media influencers, such as Celeste Barber (Slater et al., 2019), appears to protect against negative body image and further highlights the positive role influencers can play in the body image outcomes of viewers without sacrificing their brand or image. A similar approach could be taken toward diet and exercise information presented in fitspiration content. This could be done by presenting correct information alongside misleading or harmful information in a humorous way, to shift perspectives about the credibility of information shared in fitspiration content in a way that may incentivise fitness influencers to use these on their platforms. Future research could benefit from further exploring the presentation of information from fitness influencers vs fitness professionals in changing fitspiration viewers' ability to recognise and engage positively with credible information.

It is also important to interpret the present results within the context of some study limitations. First, using a 'snapshot' approach to TikTok video sampling was beneficial to capture the trending videos for each hashtag at the time of sampling; however, it did not capture changes in trends over time. Previous TikTok content analyses on other topics (Minadeo & Pope, 2022) have utilised a longitudinal sampling approach where videos from hashtags have been sampled from various points in time. Future fitspiration content analyses could benefit from adopting this approach. This study used the hashtag search filter to eliminate the need to create a new account to collect fitspiration videos. This resulted in creating a data set of the 200 most popular fitspiration TikTok videos at the time of data collection. However, this approach would likely produce a different set of videos than what users may typically see in their TikTok feeds as the TikTok algorithm would impact what users are exposed to. The exclusion of gendered hashtags limits our ability to understand how the role of gender-specific fitspiration content may interact with the themes presented, compared to general fitspiration hashtags. Second, TikTok videos present a unique storytelling element that is not present in image-based social media platforms like Instagram. Themes presented within the TikTok videos were coded quantitatively using a deductive method to assess the presence of themes associated with fitspiration and body image. Discrete categories were used to code credibility of information. However, this may not have captured the unique features of videos, including the narrative of each video which may contain elements of body image or diet and fitness information that may have met more than one category, that could be captured by an inductive approach to coding. Such an approach could then inform ongoing investigation, which is particularly important in relatively new areas of research, such as fitspiration TikTok content. Future research could usefully examine fitspiration videos qualitatively with an inductive coding methodology to capture specific trends within videos that cannot be captured quantitatively.

To conclude, fitspiration content on TikTok promotes gendered body image ideals that objectify both male and female bodies. Video captions persistently promote appearance-based reasons for exercise, along with several harmful themes known to negatively impact body image. Further, information presented was often not credible and was not posted by someone with a relevant health or fitness qualification. These findings extend previous Instagram fitspiration content analyses (Carrotte et al., 2017; Deighton-Smith & Bell, 2018; Tiggemann & Zaccardo, 2018) and highlight the need to further explore gender differences within fitspiration content and outcomes for both men and women across social media platforms. The consequences of exposure to fitspiration content from Instagram are well established, and continual monitoring of newer platforms and sources who post fitspiration content and the credibility of information shared is needed to reduce the impact on viewer's body image.

Declarations of interest

None.

CRediT authorship contribution statement

Ivanka Prichard: Writing – review & editing, Writing – original draft, Supervision, Methodology. **Eva Kemps:** Writing – review & editing, Writing – original draft, Supervision, Methodology. **Samantha Pryde:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

References

Aguilar, D., & Arbaiza, F. (2021). The role of fitness influencers in building brand credibility through distorted imagery of healthy living on instagram. In *Proceedings of the 2021 16th Iberian conference on information systems and technologies (CISTI)*.

Anić, P., Pokrajac-Bulian, A., & Mohorić, T. (2022). Role of sociocultural pressures and internalization of appearance ideals in the motivation for exercise. *Psychological Reports, 125*(3), 1628–1647. https://doi.org/10.1177/00332941211000659

Bernard, P., Gervais, S. J., & Klein, O. (2018). Objectifying objectification: When and why people are cognitively reduced to their parts akin to objects. *European Review of Social Psychology, 29*(1), 82–121. https://doi.org/10.1080/10463283.2018.1471949

Boepple, L., Ata, R. N., Rum, R., & Thompson, J. K. (2016). Strong is the new skinny: A content analysis of fitspiration websites. *Body Image, 17*, 132–135. https://doi.org/10.1016/j.bodyim.2016.03.001

Bowles, A. K., Walsh, S. M., & Andre, T. L. (2021). Is fitspiration truly an inspiration? Relationships between fitspiration, exercise, and body image. *Health Behavior Research, 4*(2), 9. https://doi.org/10.4148/2572-1836.1101

Carrotte, E. R., Prichard, I., & Lim, M. S. C. (2017). "Fitspiration" on social media: A content analysis of gendered images. *Journal of Medical Internet Research, 19*(3), 1–9. https://doi.org/10.2196/jmir.6368

Carter, P. N., Hall, E. E., Ketcham, C. J., & Ahmed, O. H. (2021). Not just for dancing? A content analysis of concussion and head injury videos on tiktok. *Frontiers in Sports and Active Living, 3*. https://doi.org/10.3389/fspor.2021.692613 (692613-692613).

Coen, S. E., Subedi, R. P., & Rosenberg, M. W. (2016). Working out across Canada: Is there a gender gap? *Canadian Geographies/Géographies canadiennes, 60*(1), 69–81. https://doi.org/10.1111/cag.12255

Couture Bue, A. C., & Harrison, K. (2020). Visual and cognitive processing of thin-ideal instagram images containing idealized or disclaimer comments. *Body Image, 33*, 152–163. https://doi.org/10.1016/j.bodyim.2020.02.014

Curtis, R. G., Prichard, I., Gosse, G., Stankevicius, A., & Maher, C. A. (2023). Hashtag fitspiration: Credibility screening and content analysis of instagram fitness accounts. *Bmc Public Health, 23*(1), 421. https://doi.org/10.1186/s12889-023-15232-7

Daniel, S., & Bridges, S. K. (2010). The drive for muscularity in men: Media influences and objectification theory. *Body Image, 7*(1), 32–38. https://doi.org/10.1016/j.bodyim.2009.08.003

Deighton-Smith, N., & Bell, B. T. (2018). Objectifying fitness: a content and thematic analysis of# fitspiration images on social media. *Psychology of Popular Media Culture, 7*(4), 467. https://doi.org/10.1037/ppm0000143

Dempster, A. (2020). *Tiktok weight-loss videos fuelling eating disorders amid coronavirus lockdowns, health experts say*. The Australian Broadcasting Corperation. ⟨https://www.abc.net.au/news⟩.

Depression and Bipolar Support Alliance. (2024). *Tiktok and youth mental health: Weighing the Pros and Cons*. Retrieved March 11 from ⟨https://www.dbsalliance.org/education/newsletters/tiktok-and-youth-mental-health/⟩.

Di Michele, D., Guizzo, F., Canale, N., Fasoli, F., Carotta, F., Pollini, A., & Cadinu, M. (2023). #Sexybodypositive: When sexualization does not undermine young women's body image. *International Journal of Environmental Research and Public Health, 20*(2), 991. ⟨https://www.mdpi.com/1660-4601/20/2/991⟩.

Donovan, C. L., Uhlmann, L. R., & Loxton, N. J. (2020). Strong is the new skinny, but is it ideal?: A test of the tripartite influence model using a new measure of fit-ideal

internalisation. *Body Image, 35*, 171–180. https://doi.org/10.1016/j.bodyim.2020.09.002
Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body image, 13*, 38–45. https://doi.org/10.1016/j.bodyim.2014.12.002
Fatt, S. J., Fardouly, J., & Rapee, R. M. (2019). #Malefitspo: Links between viewing fitspiration posts, muscular-ideal internalisation, appearance comparisons, body satisfaction, and exercise motivation in men. *New Media & Society, 21*(6), 1311–1325. https://doi.org/10.1177/1461444818821064
Fioravanti, G., Svicher, A., Ceragioli, G., Bruni, V., & Casale, S. (2021). Examining the impact of daily exposure to body-positive and fitspiration instagram content on young women's mood and body image: An intensive longitudinal study [Fitspiration longitudinal]. *New Media & Society*. https://doi.org/10.1177/14614448211038904 (14614448211038904).
Fiuza, A., & Rodgers, R. F. (2023). The effects of brief diet and anti-diet social media videos on body image and eating concerns among young women. *Eating Behaviors, 51*, Article 101811. https://doi.org/10.1016/j.eatbeh.2023.101811
Frederick, D. A., Buchanan, G. M., Sadehgi-Azar, L., Peplau, L. A., Haselton, M. G., Berezovskaya, A., & Lipinski, R. E. (2007). Desiring the muscular ideal: Men's body satisfaction in the United States, Ukraine, and Ghana. *Psychology of Men & Masculinity, 8*(2), 103–117. https://doi.org/10.1037/1524-9220.8.2.103
Fredrickson, B. L., & Roberts, T.-A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly, 21*(2), 173–206. https://doi.org/10.1111/j.1471-6402.1997.tb00108.x
Giallo, R., Williams, L. A., Seymour, M., Jillard, C., Peace, R., O'Brien, J., Evans, K., Brown, S., & Wood, C. (2022). 'Working out dads' to promote men's mental and physical health in early fatherhood: A mixed-methods evaluation. *Journal of Family Studies, 28*(2), 438–459. https://doi.org/10.1080/13229400.2020.1729838
Giorgianni, F., Danthinne, E., & Rodgers, R. F. (2020). Consumer warning versus systemic change: The effects of including disclaimer labels on images that have or have not been digitally modified on body image. *Body Image, 34*, 249–258. https://doi.org/10.1016/j.bodyim.2020.07.007
Gonçalves, S. F., & Gomes, A. R. (2012). Exercising for weight and shape reasons vs. health control reasons: The impact on eating disturbance and psychological functioning. *Eating Behaviors, 13*(2), 127–130. https://doi.org/10.1016/j.eatbeh.2011.11.011
Goodyear, V. A., Boardley, I., Chiou, S. Y., Fenton, S. A. M., Makopoulou, K., Stathi, A., Wallis, G. A., Veldhuijzen van Zanten, J., & Thompson, J. L. (2021). Social media use informing behaviours related to physical activity, diet and quality of life during covid-19: A mixed methods study. *Bmc Public Health, 21*(1), 1333. https://doi.org/10.1186/s12889-021-11398-0
Hardes, J. J. (2018). Women, 'madness' and exercise. *Medical Humanities, 44*(3), 181–192. https://doi.org/10.1136/medhum-2017-011379
Harriger, J. A., Wick, M. R., Sherline, C. M., & Kunz, A. L. (2023). The body positivity movement is not all that positive on Tiktok: A content analysis of body positive Tiktok videos. *Body Image, 46*, 256–264. https://doi.org/10.1016/j.bodyim.2023.06.003
Heath, B., Tod, D. A., Kannis-Dymand, L., & Lovell, G. P. (2016). The relationship between objectification theory and muscle dysmorphia characteristics in men. *Psychology of Men & Masculinity, 17*(3), 297–308. https://doi.org/10.1037/men0000022
Hogan, K. (2021). *Social media influencers not qualified to give health advice, experts say*. The Daily Telegraph. Retrieved 23 Aug from ⟨https://www.dailytelegraph.com.au/news/nsw/social-media-influencers-not-qualified-to-give-health-advice-experts-say/news-story/c4b65ca0f43c14403adb9a0832fb4017⟩.
Homan, K. J., & Tylka, T. L. (2014). Appearance-based exercise motivation moderates the relationship between exercise frequency and positive body image. *Body Image, 11*(2), 101–108. https://doi.org/10.1016/j.bodyim.2014.01.003
Hung, M. (2022). A content analysis on fitspiration and thinspiration posts on Tiktok. *Cornell Undergraduate Research Journal, 1*(1), 55–62. https://doi.org/10.1609/icwsm.v17i1.22168
Jiotsa, B., Naccache, B., Duval, M., Rocher, B., & Grall-Bronnec, M. (2021). Social media use and body image disorders: Association between frequency of comparing one's own physical appearance to that of people being followed on social media and body dissatisfaction and drive for thinness. *International Journal of Environmental Research and Public Health, 18*(6), 2880. ⟨https://www.mdpi.com/1660-4601/18/6/2880⟩.
Jonason, P. K. (2007). An evolutionary psychology perspective on sex differences in exercise behaviors and motivations. *The Journal of Social Psychology, 147*(1), 5–14. https://doi.org/10.3200/SOCP.147.1.5-14
Karsay, K., Knoll, J., & Matthes, J. (2018). Sexualizing media use and self-objectification: A meta-analysis. *Psychology of Women Quarterly, 42*(1), 9–28. https://doi.org/10.1177/0361684317743019
Kaufman, S. (2020). 'It's not worth it': Young women on how tiktok has warped their body image. *NBC News* (Retrieved 16 March from ⟨https://www.nbcnews.com/tech/tech-news/it-s-not-worth-it-young-women-how-tiktok-has-n1234193⟩).
Kemp, S. (2023). *Digital 2023 Australia: 1 in 3 Australians use social networks for brand research. We are social*. Retrieved September 20 from ⟨https://wearesocial.com/au/blog/2023/02/digital-2023-australia-1-in-3-australians-use-social-networks-for-brand-research/⟩.
Khattab, M. (2020). Synching and performing: Body (re)-presentation in the short video app Tiktok. *Widerscreen, 21*(1-2), 1–16. http://widerscreen.fi/numerot/2019-1-2/synching-and-performing-body-re-presentation-in-the-short-video-app-tiktok/.
Landis, J. R., & Koch, G. G. (1977). An application of hierarchical kappa-type statistics in the assessment of majority agreement among multiple observers. *Biometrics*, 363–374.
Liu, J. (2021). The influence of the body image presented through Tiktok trend-videos and its possible reasons. In *Proceedings of the 2nd international conference on language, art and cultural exchange* (Iclace 2021).
Magladry, M., Toffoletti, K., & Thorpe, H. (2022). Fitness influencers and their digital communities: Kayla itsines and the (re)making of fit femininity. In. *Deakin university*. ⟨https://dro.deakin.edu.au/articles/chapter/Fitness_Influencers_and_their_Digital_Communities_Kayla_Itsines_and_the_Re_Making_of_Fit_Femininity/21132064⟩.
Marocolo, M., Meireles, A., de Souza, H. L. R., Mota, G. R., Oranchuk, D. J., Arriel, R. A., & Leite, L. H. R. (2021). Is social media spreading misinformation on exercise and health in Brazil? *International Journal of Environmental Research and Public Health, 18*(22). https://doi.org/10.3390/ijerph182211914
Minadeo, M., & Pope, L. (2022). Weight-normative messaging predominates on Tiktok – A qualitative content analysis. *Medrxiv, 2022*. https://doi.org/10.1101/2022.04.21.22274130 (2004.2021.22274130).
National Health and Medical Research Council. (2013). *Australian dietary guidelines*. Retrieved 29 Jan 2024 from ⟨https://www.eatforhealth.gov.au/guidelines/australian-guide-healthy-eating⟩.
Nuzzo, J. L., & Deaner, R. O. (2023). Men and women differ in their interest and willingness to participate in exercise and sports science research. *Scandinavian Journal of Medicine & Science in Sports, 33*(9), 1850–1865. https://doi.org/10.1111/sms.14404
Pilgrim, K., & Bohnet-Joschko, S. (2019). Selling health and happiness how influencers communicate on instagram about dieting and exercise: Mixed methods research. *Bmc Public Health, 19*(1), 1054. https://doi.org/10.1186/s12889-019-7387-8
Prichard, I., Kavanagh, E., Mulgrew, K. E., Lim, M. S. C., & Tiggemann, M. (2020). The effect of instagram #fitspiration images on young women's mood, body image, and exercise behaviour. *Body Image, 33*, 1–6. https://doi.org/10.1016/j.bodyim.2020.02.002
Prichard, I., McLachlan, A. C., Lavis, T., & Tiggemann, M. (2018). The impact of different forms of #fitspiration imagery on body image, mood, and self-objectification among young women. *Sex Roles, 78*(11), 789–798. https://doi.org/10.1007/s11199-017-0830-3
Prichard, I., Taylor, B., & Tiggemann, M. (2023). Comparing and self-objectifying: The effect of sexualized imagery posted by instagram influencers on women's body image. *Body Image, 46*, 347–355. https://doi.org/10.1016/j.bodyim.2023.07.002
Pryde, S., & Prichard, I. (2022). Tiktok on the clock but the #fitspo don't stop: The impact of Tiktok fitspiration videos on women's body image concerns. *Body Image, 43*, 244–252. https://doi.org/10.1016/j.bodyim.2022.09.004
Ramachandran, D., Kite, J., Vassallo, A. J., Chau, J. Y., Partridge, S., Freeman, B., & Gill, T. (2018). Food trends and popular nutrition advice online – Implications for public health. *Online Journal of Public Health Informatics, 10*(2), Article e213. https://doi.org/10.5210/ojphi.v10i2.9306
Rogers, A., Wilkinson, S., Downie, O., & Truby, H. (2022). Communication of nutrition information by influencers on social media: A scoping review. *Health Promotion Journal of Australia, 33*(3), 657–676. https://doi.org/10.1002/hpja.563
Rounds, E. G., & Stutts, L. A. (2021). The impact of fitspiration content on body satisfaction and negative mood: An experimental study. *Psychology of Popular Media, 10*(2), 267. https://doi.org/10.1037/ppm0000288
Saunders, J. F., & Eaton, A. A. (2018). Snaps, selfies, and shares: How three popular social media platforms contribute to the sociocultural model of disordered eating among young women. *Cyberpsychology, Behavior, and Social Networking, 21*(6), 343–354. https://doi.org/10.1089/cyber.2017.0713
Shome, D., Vadera, S., Male, S. R., & Kapoor, R. (2020). Does taking selfies lead to increased desire to undergo cosmetic surgery. *Journal of Cosmetic Dermatology, 19*(8), 2025–2032. https://doi.org/10.1111/jocd.13267
Slater, A., Cole, N., & Fardouly, J. (2019). The effect of exposure to parodies of thin-ideal images on young women's body image and mood. *Body Image, 29*, 82–89.
Statista. (2023). *Distribution of Tiktok users worldwide as of october 2023, by gender*. Retrieved Dec 19 from ⟨https://www.statista.com/statistics/1299785/distribution-tiktok-users-gender/⟩.
Stunkard, A., Sørensen, T., & Schulsinger, F. (1983). Use of the Danish adoption register for the study of obesity and thinness. *Research Publications-Association for Research in Nervous and Mental Disease, 60*, 115–120.
Talbot, C. V., Gavin, J., van Steen, T., & Morey, Y. (2017). A content analysis of thinspiration, fitspiration, and bonespiration imagery on social media. *Journal of Eating Disorders, 5*(1), 40. https://doi.org/10.1186/s40337-017-0170-2
Thøgersen-Ntoumani, C., Shepherd, S. O., Ntoumanis, N., Wagenmakers, A. J., & Shaw, C. S. (2016). Intrinsic motivation in two exercise interventions: Associations with fitness and body composition. *Health Psychology, 35*(2), 195–198. https://doi.org/10.1037/hea0000260
Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). Sociocultural theory: The media and society. In *Exacting beauty: Theory, assessment, and treatment of body image disturbance* (pp. 85–124). American Psychological Association. https://doi.org/10.1037/10312-003.
Tiggemann, M. (2011). Sociocultural perspectives on human appearance and body image. In *Body image: A handbook of science, practice, and prevention, 2nd Ed.* (pp. 12–19). The Guilford Press.
Tiggemann, M., & Anderberg, I. (2020). Social media is not real: The effect of 'instagram vs reality' images on women's social comparison and body image. *New Media & Society, 22*(12), 2183–2199. https://doi.org/10.1177/1461444819888720
Tiggemann, M., Brown, Z., & Anderberg, I. (2019). Effect of digital alteration information and disclaimer labels attached to fashion magazine advertisements on women's body dissatisfaction. *Body Image, 30*, 221–227. https://doi.org/10.1016/j.bodyim.2019.07.008
Tiggemann, M., Brown, Z., Zaccardo, M., & Thomas, N. (2017). "Warning: This image has been digitally altered": The effect of disclaimer labels added to fashion magazine

shoots on women's body dissatisfaction. *Body Image, 21*, 107–113. https://doi.org/10.1016/j.bodyim.2017.04.001

Tiggemann, M., & Zaccardo, M. (2015). "Exercise to be fit, not skinny": The effect of fitspiration imagery on women's body image. *Body Image, 15*, 61–67. https://doi.org/10.1016/j.bodyim.2015.06.003

Tiggemann, M., & Zaccardo, M. (2018). 'Strong is the new skinny': A content analysis of#fitspiration images on instagram. *Journal of Health Psychology, 23*(8), 1003–1011.

TikTok Help Center. (2024). *Discover and search*. Retrieved April 2 from ⟨https://support.tiktok.com/en/using-tiktok/exploring-videos/discover-and-search⟩.

Tiller, N. (2022). *Social Media Fitness Influencers: From Pseudoscience to Psychopathology*. Skeptical Inquirer. https://skepticalinquirer.org/exclusive/socialmedia-fitness-influencers-from-pseudoscience-to-psychopathology.

Uhlmann, L. R., Donovan, C. L., Zimmer-Gembeck, M. J., Bell, H. S., & Ramme, R. A. (2018). The fit beauty ideal: A healthy alternative to thinness or a wolf in sheep's clothing? *Body Image, 25*, 23–30. https://doi.org/10.1016/j.bodyim.2018.01.005

Vandenbosch, L., Fardouly, J., & Tiggemann, M. (2022). Social media and body image: Recent trends and future directions. *Current opinion in psychology, 45*, 101289. https://doi.org/10.1016/j.copsyc.2021.12.002

Waling, A., Duncan, D., Angelides, S., & Dowsett, G. W. (2018). Men and masculinity in men's magazines: A review. *Sociology Compass, 12*(7), Article e12593. https://doi.org/10.1111/soc4.12593

Wu, Y., Harford, J., Petersen, J., & Prichard, I. (2022). Eat clean, train mean, get lean": Body image and health behaviours of women who engage with fitspiration and clean eating imagery on Instagram. *Body image, 42*, 25–31. https://doi.org/10.1016/j.bodyim.2022.05.003

Yee, Z. W., Griffiths, S., Fuller-Tyszkiewicz, M., Blake, K., Richardson, B., & Krug, I. (2020). The differential impact of viewing fitspiration and thinspiration images on men's body image concerns: An experimental ecological momentary assessment study. *Body Image, 35*, 96–107. https://doi.org/10.1016/j.bodyim.2020.08.008