# Can Fitspiration Be As Inspiring As It Ought To Be?

Research into the influence of fitfluencers with different clothing sizes and the use of frames in fitspiration on women's intention to exercise

Ellen Smorenburg

SNR. 2049226

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Communication and Information Sciences

Specialization Business Communication and Digital Media

School of Humanities and Digital Sciences

Tilburg University, Tilburg

Supervisor: Dr. I. Vanwesenbeeck

Second Reader: Dr. D. Peeters

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## Abstract

Fitspiration content on social media aims to inspire people to live healthy lives. However, fitspiration has a negative impact on well-being, and little is known about how fitspiration can be used positively. Therefore, this study investigated to what extent the clothing size of fitfluencers affects women's intention to exercise and if state social comparison mediates this relationship. Trait social comparison and frame were investigated as potential moderators of this relationship. The study was based on several theoretical insights, including the body positivity movement, the self-determination theory, and the social comparison theory. The study consisted of a 3 (Clothing size of fitfluencers: size S vs. size M vs. size L) x 2 (Frame: health vs. appearance) between-subjects design. In the experiment, female participants between 18 and 25 years old ($N$ = 251) were randomly assigned to one condition. The proposed moderated moderated mediation model was partially confirmed. No direct effects were found between the clothing size of fitfluencers or frame on intention to exercise. However, frame moderated the relationship between the clothing size of fitfluencers and intention to exercise, as fitfluencers with sizes M or L with a health frame led to higher intentions to exercise compared to fitfluencers with size S with a health frame. State social comparison did not mediate the relationship between the clothing size of fitfluencers and intention to exercise and the level of state social comparison was equal for all clothing sizes. In conclusion, the findings of this study show that women's intention to exercise is higher for fitfluencers with sizes M or L with a health frame compared to fitfluencers with size S with a health frame. This entails that larger fitfluencers are credible fitfluencers to promote exercise behavior, especially when fitfluencers focus on the health benefits of exercising. Finally, the thesis ends with recommendations for future research regarding fitspiration and how to use it positively.


*Keywords:* fitspiration, clothing size, framing, social comparison, intention to exercise

**Can Fitspiration Be As Inspiring As It Ought To Be?**

In the Netherlands, women spend on average 102 minutes on social media platforms daily (van der Veer et al., 2020). On those platforms, women are often confronted with fitspiration (Carrotte et al., 2015). With fitspiration (i.e., the combination of the words fitness and inspiration), social media users try to inspire others to live healthy lives, which includes exercising regularly and consuming a healthy diet (Carrotte et al., 2017). Especially fitspiration of fitness influencers (i.e., influencers that focus on health and fitness content; hereafter called fitfluencers; Duplaga, 2020) may inspire, as fitfluencers are social media users who reach a substantial amount of other users with their content and can affect their decisions subsequently (Hudders et al., 2021). Often, influencers use their social media platforms to promote a product, service, or brand for which they receive compensation (i.e., influencer marketing; Campbell & Farrell, 2020). However, according to the social cognitive theory, influencers can also influence people's behavior (e.g., health behaviors), as certain behavior is learned by observing others (i.e., observational learning; Bandura, 1986).

Social media tend to particularly impact the health behaviors of women between 18 and 25 years old (Vaterlaus et al., 2015), which makes them important consumers of fitspiration. Especially because 25.6% of Dutch young adults (i.e., 18 till 25 years old) are overweight (CBS, 2021b). Instagram is one of the most frequently used social media platforms of young adults (van der Veer et al., 2020) and also the platform with the most fitspiration content (Carrotte et al., 2017). Currently, the hashtag fitspiration has been used 19.4 million times on Instagram (Instagram, 2021a) and is associated with content mainly focused on unrealistic aesthetic goals (e.g., women having thin, toned, and athletic bodies; Carrotte et al., 2017; Tiggemann & Zaccardo, 2018).

Although the goal of fitspiration is to inspire people to live healthy lives (Carrotte et al., 2017), research has confirmed that this content can also negatively affect someone's well-

being (Easton et al., 2018). Specifically, exposure to fitspiration may cause body dissatisfaction, a negative mood, lower self-esteem, and unhealthy eating behaviors of the followers of the content (Lewallen & Behm-Morawitz, 2016; Prichard et al., 2020; Rounds & Stutts, 2021; Tiggemann & Zaccardo, 2015). These negative effects may be explained by social comparison theory (Easton et al., 2018; Tiggemann & Zaccardo, 2015), as people evaluate their opinions, successes, and abilities by comparing them to others (Festinger, 1954). Here, social comparison is activated as a response to a specific event (i.e., state social comparison; e.g., response to a fitspiration image on Instagram; Tiggemann et al., 2013). Nevertheless, this response may vary, as some people are more prone to compare themselves to others (i.e., trait social comparison; Tiggemann et al., 2013). However, when women are exposed to fitspiration, which is mainly focused on fitfluencers' physique and obtaining a thin, toned, and athletic body (Carrotte et al., 2017; Tiggemann & Zaccardo, 2018), they may compare their looks to the women in the content, which leads to higher levels of body dissatisfaction and lower self-esteem (Robinson et al., 2017; Tiggemann & Zaccardo, 2015). That the purely psychical goal that is represented in fitspiration is unachievable and unrealistic could be the reason for this effect (Raggatt et al., 2018).

Besides having a negative impact on someone's well-being (Easton et al., 2018), fitspiration appears to not influence women's actual exercise behavior (Prichard et al., 2020; Robinson et al., 2017). Therefore, fitspiration may not be as inspiring as it ought to be. However, two functionality-focused media campaigns, "This Girl Can" and "#jointhemovement", portraying women with a variety of different body types and clothing sizes to stimulate them to move more had a positive effect on women's appearance satisfaction and intention to exercise compared to a control video (Mulgrew et al., 2018). Portraying women with diverse clothing sizes and appearances is in line with the body positivity movement (Cohen et al., 2019b). Instagram posts that focus on body positivity have

a more positive impact on women than fitspiration that solely focuses on women with a lean physique and a small clothing size (Cohen et al., 2019a) This suggests that more diversity of clothing sizes of fitfluencers may be needed to have a positive impact on women's well-being and intention to exercise.

On top of that, the framing of the message of fitspiration may also need to change to make fitspiration more inspiring (Aubrey, 2010). With framing, some aspects of a message are made more salient than others (Scheufele, 1999). Fitspiration and its messages mainly focus on (unrealistic) aesthetic goals (i.e., appearance frame; Carrotte et al., 2017; Tiggemann & Zaccardo, 2018). When people's motivation to exercise is purely for physical appearance, it could lead to worse body image, unhealthy food habits and behaviors, and an increased feeling of anxiety about food, weight, and shape (Panão & Carraça, 2020). However, when people's motivation to exercise is for pleasure, health, and well-being, the results may be more positive, as it leads to better body image and healthy food habits and behaviors (Panão & Carraça, 2020). When the focus is on health-related goals, including health awareness and health-oriented beliefs, a person's intrinsic motivation concerning exercise behavior can be positively influenced (Zhou & Krishnan, 2019). Therefore, a shift to (realistic) health-related goals (i.e., health frame) in fitspiration may be needed to intrinsically motivate women to exercise.

To date, little is known about how influencers can successfully promote healthy behaviors, such as exercising, via social media (Raggatt et al., 2018). This is especially relevant as healthy behaviors are less easily modeled than unhealthy behavior, such as consuming unhealthy foods and beverages (Coates et al., 2019; Smit et al., 2020). Additionally, only the negative effects (e.g., negative influence on well-being) of fitspiration are studied to a great extent (see, e.g., Rounds & Stutts, 2021) and research is lacking on how fitspiration can be used positively (e.g., increasing exercise behavior; Prichard et al., 2020).

To fill the abovementioned research gaps, this study aims to look at fitfluencers with different clothing sizes and the use of frames in fitspiration on Instagram, and how this affects women's intention to exercise. The following research questions will be studied:

RQ1: To what extent does the clothing size of fitfluencers (size S vs. size M vs. size L) affects women's intention to exercise and is this relationship mediated by state social comparison?

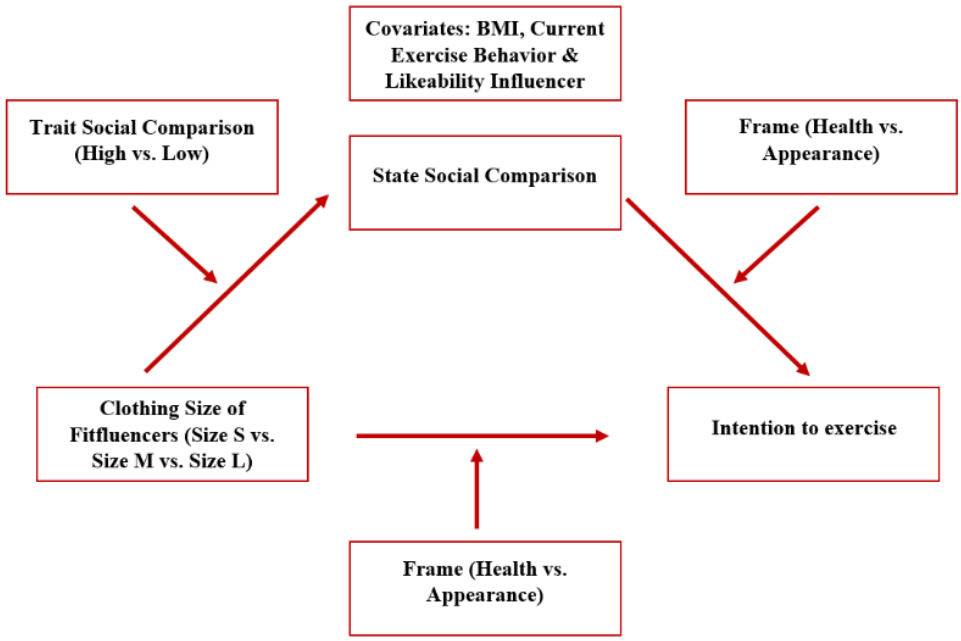
RQ2: In what way does the frame (health vs. appearance) affects the direct relationship between the clothing size of fitfluencers and women's intention to exercise and the relationship between someone's state social comparison and women's intention to exercise?

RQ3: And does someone's trait social comparison (high vs. low) moderates the relationship between the clothing size of fitfluencers and someone's state social comparison?

To answer these research questions, a conceptual model was developed (see Figure 1).

**Figure 1**

*Conceptual Model*



## Theoretical Framework

### Fitspiration, The Clothing Size of Fitfluencers, and Body Positivity

Social media influencers are influential and can affect their followers' decisions (Hudders et al., 2021; Vrontis et al., 2021). They have opinion leadership (i.e., are an expert in a certain domain), an authentic identity (i.e., have an identity that differentiates them from others), and an intimate bond with their followers (e.g., reacting to comments of followers; Hudders et al., 2021). Because of these characteristics of influencers, followers feel more similar to influencers, trust an influencer more, and feel higher levels of identification with influencers (Hudders et al., 2021; Schouten et al., 2020), which also makes them more influential endorsers than celebrities (Schouten et al., 2020). That influencers can affect their followers' decisions and are considered influential endorsers makes it important to look at what influencers promote on their social media.

Based on several content analyses (Carrotte et al., 2017; Tiggemann & Zaccardo, 2018), fitspiration focuses on three aspects. First, women with a small clothing size and thin, toned, and athletic bodies (Carrotte et al., 2017; Tiggemann & Zaccardo, 2015, 2018). Second, working out to improve physical appearance. Finally, images containing sexualized poses that objectify the bodies of women (e.g., static poses and wearing sexualized clothing; Carrotte et al., 2017; Tiggemann & Zaccardo, 2015, 2018). The effects of images portraying women with small clothing sizes (i.e., the thin and athletic ideal) have been studied to a great extent, with mostly negative effects on young women such as body dissatisfaction and a negative mood (see, e.g., Prichard et al., 2020; Rounds & Stutts, 2021). However, less is known about the effects of women with larger clothing sizes, including sizes M and L, and studies show mixed results with positive and negative outcomes.

Positive outcomes of exposure to women with larger clothing sizes in advertisements and Instagram images were found in three studies (Diedrichs & Lee, 2011; Tiggemann et al.,

2018, 2020). In two studies, women between 18 and 30 years old who were exposed to Instagram images containing average-size bodies (i.e., sizes M and L) experienced less body dissatisfaction and better body appreciation compared to women who were exposed to images containing thin bodies (i.e., size S; Tiggemann et al., 2018, 2020). Diedrichs and Lee (2011) found the same positive result in their study, as women who were exposed to average-size female models in advertisements experienced a more positive body image than those exposed to thin models. On the contrary, Betz and Ramsey (2017) conducted two studies where the curvy ideal (i.e., sizes M and L) did not increase the body appreciation or self-esteem of women. In both studies, Betz and Ramsey (2017) showed women a message with a thin, athletic, or curvy ideal or a control message with a focus on acceptance of all body types. The message containing body acceptance and athletic ideals were considered as most favorable, followed by curvy and thin ideals (Betz & Ramsey, 2017). Additionally, all messages that contained a thin, athletic, or curvy ideal resulted in higher levels of self-objectification than the message containing body acceptance (Betz & Ramsey, 2017).

A focus on acceptance of all body types is in line with the body positivity movement (Cohen et al., 2020). In the study of Betz and Ramsey (2017), messages that focused on acceptance of all body types were considered as most favorable and resulted in lower levels of self-objectification. Instagram posts that focus on body positivity mainly comprises images containing women with diverse clothing sizes and appearances (e.g., size M to size XXL) and these images mostly contain a caption that focuses on body acceptance and looking at beauty as something that can be broadly defined (Cohen et al., 2019b). Furthermore, body positivity images focus on valuing the body's functionality and health over physical appearance (Sastre, 2014). In a study conducted by Cohen et al. (2019a) women between 18 and 30 years old were exposed to Instagram posts that were focused on body positivity, thin ideals, or appearance-neutral posts. Exposure to posts focused on body positivity resulted in an

increased positive mood, body satisfaction, and body appreciation compared to posts focused on thin ideals or appearance-neutral posts. A positive body image (i.e., body appreciation and satisfaction) relates to improved well-being (Swami et al., 2018) and an increase in physical activity and sports activities (Andrew et al., 2016).

Therefore, based on the body positivity movement, fitfluencers with sizes M and L have a stronger effect on women's intention to exercise as exposure to fitfluencers with more diverse bodies and larger clothing sizes will cause a more positive body image (Cohen et al., 2019a), which relates to an increase in physical activity (Andrew et al., 2016). Therefore, the following hypothesis is formulated:

**H1:** Fitfluencers with sizes M and L lead to higher intentions to exercise compared to fitfluencers with size S.

**Intention to Exercise, Framing, and Intrinsic Motivation**

People's intention to exercise is a direct predictor of actual exercise behavior, according to the theory of planned behavior (Ajzen & Madden, 1986). Increasing the intention to perform a behavior will increase the likelihood of performing this behavior (Ajzen & Madden, 1986). People's intention to perform a behavior can be increased through three components, namely attitude, subjective norm, and perceived behavioral control. Attitude comprises the general evaluation of the behavior (e.g., favorable or unfavorable), which is influenced by behavioral beliefs (e.g., when I work out regularly, I will improve my overall health; Ajzen & Madden, 1986). Subjective norm comprises the social influence we are aware of (i.e., do others perform the behavior and approve of me performing the behavior), which is influenced by normative beliefs (e.g., fitfluencer X works out regularly and stimulates me to do the same; Ajzen & Madden, 1986). Last, perceived behavioral control comprises the behavior being easy or difficult to perform, which is influenced by control beliefs, including resources that help to perform the behavior or obstacles that hinder performing the behavior

(e.g., fitfluencer X tells you exactly which workouts you should do; Ajzen & Madden, 1986). When these three components are strengthened, the intention to perform the behavior is also strengthened (Ajzen & Madden, 1986).

Someone's attitude towards a behavior is one component to increase someone's intention to perform a behavior (Ajzen & Madden, 1986). Thus, to increase someone's intention to exercise, their attitude towards this behavior should be favorable. Fitspiration promotes an attitude mainly focused on (unrealistic) aesthetic goals (Carrotte et al., 2017; Tiggemann & Zaccardo, 2018). The process of only promoting one facet of a message, in this case, the aesthetic goals of fitspiration, is also called framing (Scheufele, 1999). The framing theory proposes that several features of a message are made more salient than others (i.e., media frames), which can affect how people interpret the message themselves (i.e., individual frames; Scheufele, 1999). Thus, solely focusing on the aesthetic goals of fitspiration may influence how women interpret the message of fitspiration.

Based on content analyses (Aubrey, 2010; Willis & Knobloch-Westerwick, 2014), two frames are used in health communication, namely appearance frames and health frames. Appearance frames focus on living healthy lives by eating healthy and working out to look good (Aubrey, 2010; Willis & Knobloch-Westerwick, 2014), which is the focus of fitspiration. Health frames focus on performing health behaviors to increase health and feel better (Aubrey, 2010; Willis & Knobloch-Westerwick, 2014). In fitspiration, the appearance aspects of working out are made more salient, while there is no awareness for the health aspects, which can impact women's beliefs and behaviors (Scheufele, 1999).

Focusing on an appearance frame instead of a health frame can have several negative effects, such as a worse positive mood and more body shame (Aubrey, 2010; Binder et al., 2021). Additionally, when women are exposed to appearance frames, their motivation to exercise is more likely to be appearance-related (Aubrey, 2010). When people's motivation to

exercise is purely for physical appearance, it could lead to worse body image, unhealthy food habits and behaviors, and an increased feeling of anxiety about food, weight, and shape (Panão & Carraça, 2020). Exercise for physical appearance even results in a decrease in actual physical activity (Sebire et al., 2011). However, when people have an intrinsic motivation to exercise, including exercising for pleasure, health, and well-being, the results are more positive, as it leads to better body image and healthy food habits and behaviors (Panão & Carraça, 2020). When the focus is on health-related goals, including health awareness and health-oriented beliefs, a person's intrinsic motivation concerning exercise behavior can be positively influenced, which positively affects people's intention to exercise (Zhou & Krishnan, 2019).

These results are in line with the self-determination theory of Ryan and Deci (2000). This theory states that people will be more likely to perform a certain behavior they are interested in if they are intrinsically motivated to do so (Ryan & Deci, 2000). Ryan and Deci (2000) distinguish intrinsic and extrinsic motivation from each other. With intrinsic motivation, people undertake something because they find it innately fascinating or enjoyable. With extrinsic motivation, people undertake something because it leads to an additional outcome (Ryan & Deci, 2000). Here, intrinsic exercise goals (i.e., intrinsic motivation) include exercising for health, which relates to a health frame, whereas, extrinsic exercise goals (i.e., extrinsic motivation) include exercising for physical appearance, which relates to an appearance frame (Aubrey, 2010; Sebire et al., 2011; Willis & Knobloch-Westerwick, 2014).

Intrinsic exercise goals relate to autonomous motivations to exercise (Sebire et al., 2011). When people have autonomous motivation (i.e., self-determined), they participate in an activity because it challenges, interests, or satisfies them and because this activity contains a value or personal endorsement (Ryan & Deci, 2000). Extrinsic exercise goals relate more to

controlled motivations to exercise (Sebire et al., 2011). When people have controlled motivation, they participate in an activity because of self-inflicted punishments and to satisfy others or receive rewards from others (Ryan & Deci, 2000). Intrinsic exercise goals relate to higher levels of physical activity, mainly because these goals relate to autonomous motivations to exercise (Sebire et al., 2011).

Instead of focusing on an appearance frame to motivate women to exercise, fitspiration should focus on a health frame, as this relates to intrinsic motivation and intrinsic exercise goals, which results in higher intentions to exercise and higher levels of physical activity (Sebire et al., 2011; Zhou & Krishnan, 2019). Additionally, based on the body positivity movement and the self-determination theory, fitfluencers with sizes M and L in combination with a health frame will have a stronger effect on women's intention to exercise compared to fitfluencers with size S with a health frame. Therefore, the following hypotheses are formulated:

**H2:** An appearance frame results in lower intentions to exercise compared to a health frame.

**H3:** The effect of clothing size on intention to exercise is stronger when a health frame is used (compared to an appearance frame).

**Fitspiration, Social Comparison, and Intention to Exercise**

Fitspiration contains images with sexualized poses that objectify the bodies of women, which can cause self-objectification (Carrotte et al., 2017; Tiggemann & Zaccardo, 2018). The objectification theory proposes that society sees women as objects, where more emphasis is placed on women their bodies instead of their abilities (Fredrickson & Roberts, 1997). With self-objectification, women copy this view of society and see themselves as objects that can be judged based on their physical appearance (Fredrickson & Roberts, 1997). Self-objectification has several negative outcomes on someone's health (e.g., body shame;

Fredrickson & Roberts, 1997). According to the objectification theory, these negative outcomes of self-objectification may be a result of women constantly comparing their appearance to unrealistic thin ideals of women in the media (i.e., social comparison) and women failing to meet these thin ideals themselves (Fredrickson & Roberts, 1997).

Social media, such as Instagram, offer women the opportunity to socially compare themselves with others (Vogel et al., 2014). Social comparison is the process where people evaluate their opinions, successes, and abilities by comparing them to others (Festinger, 1954). People compare themselves with people with similar opinions, successes, and abilities (i.e., perceived similarity), and see, for instance, certain successes as something that can be achieved as the other person has achieved it already (Festinger, 1954). Besides comparing opinions, successes, and abilities, people also compare their physical appearance to others (Wheeler & Miyake, 1992). Appearance comparisons occur more often on social media than, for instance, through magazines (Fardouly et al., 2017). The reason for this is that the content presented on social media is mainly created by peers (West et al., 2009) and influencers. As peers and influencers are perceived as similar (Festinger, 1954; Schouten et al., 2020), social comparison with the women in fitspiration will likely occur, as people compare themselves with others who are similar (Festinger, 1954).

Social comparison can be upward or downward (Festinger, 1954). With upward social comparison (i.e., self-enhancement), people are evaluating their opinions or abilities to someone with high status. A positive outcome of upward social comparison can be that people are inspired to be like the person they are comparing themselves to (Festinger, 1954). However, upward social comparison can also lead to negative effects. According to Vogel et al. (2014), people who were exposed to social media content containing upward social comparison (e.g., healthy behaviors) experienced lower self-esteem and self-evaluations compared to people exposed to content containing downward social comparison (e.g.,

unhealthy behaviors). With downward social comparison (i.e., maintenance of positive self-evaluation), people are evaluating their opinions or abilities to someone with low status or someone who has problems (Festinger, 1954), which can cause people to see their situation as "better". People engage more often in upward social comparison than in downward social comparison (Gerber et al., 2018; Vogel et al., 2014). Instagram and other social media are perfect for upward social comparison, as people often only post the positive moments in their lives or share perfect pictures. Fitspiration also results in upward social comparison, as these images contain women with smaller clothing sizes, which is unachievable and unrealistic for most women (Raggatt et al., 2018).

Social comparison can be conceptualized in two ways, namely as a state variable or as a trait variable. As a state variable, social comparison entails a response to a specific event (Tiggemann et al., 2013). State social comparison has a mediating effect on women's body image when women view women with smaller clothing sizes (see, e.g., Tiggemann et al., 2009; Tiggemann & Zaccardo, 2015). Tiggemann and Zaccardo (2015) confronted 130 female students with fitspiration or travel images. Compared to travel images, fitspiration images led to higher levels of state social comparison, which subsequently led to greater body dissatisfaction and lower state appearance self-esteem (Tiggemann & Zaccardo, 2015). However, state social comparison not only occurs while viewing fitspiration but is also influenced by women with larger clothing sizes (Betz et al., 2019). Betz et al. (2019) confronted 200 women with a message of a thin, athletic, or curvy ideal or a message containing body acceptance. An increased level of state social comparison was found for all women who were confronted with a thin, athletic, or curvy ideal (Betz et al., 2019). However, the level of state social comparison can differ between different clothing sizes (Clayton et al., 2017).

Women experience higher levels of state social comparison when they are confronted with their ideal (i.e., upward social comparison; Clayton et al., 2017; Festinger, 1954). In a study by Clayton et al. (2017), women viewed images of plus-, average- or thin-size models. Women in the plus-size condition (i.e., size L) experienced the lowest levels of state social comparison, followed by women in the average-size condition (i.e., size M), and followed by the thin-size condition (i.e., size S; Clayton et al., 2017). In fitspiration, smaller clothing sizes are perceived as the ideal clothing size (Carrotte et al., 2017). Therefore, when women are confronted with women with smaller clothing sizes, they experience higher levels of state social comparison (Clayton et al., 2017). This can be explained by the actual-ideal body discrepancy, which is the difference between the actual looks of someone's body (i.e., actual self-state) and the looks of someone's desired or ideal body (i.e., ideal self-state; Bessenoff, 2006; Higgins, 1987). According to Higgins (1987), people have a desire to minimize discrepancies, as discrepancies can lead to discomforts, such as disappointment and sadness. When the actual-ideal body discrepancy between the woman and her ideal is the largest (i.e., size S), the highest level of state social comparison will occur (Clayton et al., 2017; Hendrickse et al., 2021). However, when the actual-ideal body discrepancy between the woman and her ideal is the smallest (i.e., size L), the lowest level of state social comparison will occur (Clayton et al., 2017; Hendrickse et al., 2021).

Therefore, based on the social comparison theory and actual-ideal body discrepancy, the highest level of state social comparison will occur when women view fitfluencers with size S. The second-highest level of state social comparison will occur when women view fitfluencer with size M. Last, the lowest level of state social comparison will occur when women view fitfluencers with size L. Following the abovementioned theoretical assumption, the following hypothesis is formulated:

**H4:** Fitfluencers with size S will lead to the highest level of state social comparison, followed by fitfluencers with size M, and followed by fitfluencers with size L, who will lead to the lowest level of state social comparison.

As a trait variable, social comparison is a characteristic of a person (Tiggemann et al., 2013), which entails that some people are more prone to compare themselves to others. On the one hand, trait social comparison can be a predictor, as it can directly affect state social comparison (Tiggemann & Brown, 2018). In a study by Tiggemann and Brown (2018), women between 18 and 30 years old were exposed to fashion advertisements with thin models. Women with greater trait comparison tendencies were more likely to compare themselves to the models in the advertisements (i.e., state social comparison; Tiggemann & Brown, 2018). On the other hand, trait social comparison can be a moderator (Betz et al., 2019). Betz et al. (2019) conducted a study where women were confronted with a message that idealizes thin, athletic, or curvy bodies. In the curvy-ideal condition, trait social comparison had a moderating effect on state social comparison, as women with higher levels of trait social comparison were more likely to compare themselves to the curvy ideal compared to women with lower levels of trait social comparison (Betz et al., 2019). This effect was not found in the other two conditions, as women experienced state social comparison regardless of their level of trait social comparison (Betz et al., 2019). The results of these studies show some inconsistencies in the effects of trait social comparison when women are confronted with thin models (i.e., size S). Additionally, little is known about the effects of trait social comparison when women are confronted with women with larger clothing sizes. Therefore, more research is needed in this area.

Hence, based on former research, women with greater trait comparison tendencies will be more likely to compare themselves to fitfluencers in Instagram posts (Tiggemann & Brown, 2018). The study of Betz et al. (2019) showed that this effect was only visible when

women were exposed to the curvy ideal (i.e., sizes M and L) and not for the thin and athletic ideal (i.e., size S). However, Tiggemann & Brown (2018) found this effect when women were exposed to thin models. Therefore, trait social comparison will moderate the relationship between clothing size of fitfluencers and state social comparison, but the effect will be stronger for fitfluencers with sizes M and L compared to fitfluencers with size S. The following hypotheses are formulated:

**H5:** Women scoring high on trait social comparison are more likely to compare themselves with fitfluencers in Instagram posts compared to women scoring low on trait social comparison.

**H6:** The effect of trait social comparison on the relationship between the clothing size of fitfluencers and state social comparison will be stronger for fitfluencers with sizes M and L compared to fitfluencers with size S.

The effect of state social comparison on women's intention to exercise may be influenced by the frame used in the Instagram post and the level of state social comparison of women. When fitfluencers use an appearance frame, they focus on appearance-related goals to exercise (Aubrey, 2010), which can cause a decrease in actual physical activity (Sebire et al., 2011). However, when fitfluencers use a health frame they focus on health-related goals to exercise (Aubrey, 2010), which relates to intrinsic motivation and intrinsic exercise goals and can cause higher intentions to exercise and higher levels of physical activity (Sebire et al., 2011; Zhou & Krishnan, 2019). Hence, a health frame may be more inspiring to motivate women to exercise than an appearance frame. Furthermore, the clothing size of fitfluencers may influence the level of state social comparison. Fitfluencers with size S will lead to the highest level of state social comparison, as the actual-ideal body discrepancy between the woman and the fitfluencer is the largest, whereas fitfluencers with size L will lead to the lowest level of state social comparison, as the actual-ideal body discrepancy between the

woman and the fitfluencer is the smallest (Clayton et al., 2017; Hendrickse et al., 2021). According to Hendrickse et al. (2021), smaller actual-ideal body discrepancies (i.e., size L fitfluencers) lead to more body satisfaction than larger actual-ideal body discrepancies (i.e., size S fitfluencers). When people have a more positive body image (i.e., body satisfaction), they experience an increase in physical activity and sports activities (Andrew et al., 2016). Hence, fitfluencers with size L may be more likely to inspire women to exercise than fitfluencers with size S.

Therefore, based on the self-determination theory, social comparison theory, and actual-ideal body discrepancy, only health frames will increase women's intention to exercise and not appearance frames, as health frames relate to intrinsic motivation to exercise (Sebire et al., 2011). Furthermore, lower levels of state social comparison with a health frame will have a stronger effect on women's intention to exercise than higher levels of state social comparison with a health frame, as smaller actual-ideal body discrepancies lead to more body satisfaction (Hendrickse et al., 2021), which in turn lead to an increase in physical activity (Andrew et al., 2016). Therefore, the following hypotheses are formulated:

**H7:** An appearance frame results in lower intentions to exercise compared to a health frame for all levels of state social comparison.

**H8:** A health frame results in higher intentions to exercise when the level of state social comparison is low compared to higher levels of state social comparison, which leads to lower intentions to exercise.

**The Current Study**

In summary, the current study proposes a moderated moderated mediation model. The direct effect of the model examines the relationship between the clothing size of fitfluencers (size S vs. size M vs. size L) and intention to exercise. Frame (health vs. appearance) is added as a moderator to examine the effect of frame on the relationship between the clothing size of

fitfluencers and intention to exercise. The indirect effect of the models examines if the relationship between the clothing size of fitfluencers and intention to exercise is mediated by state social comparison and if trait social comparison and frame influence this relationship. Last, Body Mass Index (BMI), current exercise behavior, and the likeability of the influencer are added as covariates.

## Method

### Experimental Design

The study consisted of a 3 (Clothing size of fitfluencers: size S vs. size M vs. size L) x 2 (Frame: health vs. appearance) between-subjects design. In the experiment, the impact of the clothing size of fitfluencers on intention to exercise was examined with the frame of the post as a moderating variable. The experiment had six experimental conditions, namely: size S fitfluencers with health frame (*condition 1),* size M fitfluencers with health frame (*condition 2),* size L fitfluencers with health frame (*condition 3),* size S fitfluencers with appearance frame (*condition 4),* size M fitfluencers with appearance frame (*condition 5),* and size L fitfluencers with appearance frame (*condition 6).*

### Participants

The experiment was completed by 257 female young adults, of which six participants were excluded as they did not have an Instagram account. Eventually, the sample consisted of 251 female young adults between 18 and 25 years old ($M$ = 22.35, $SD$ = 1.97). Most participants exercised weekly ($n$ = 223*)*. Of the participants who exercised weekly, 115 participants exercised 2 to 3 times a week, followed by 59 participants exercising 4 to 5 times a week. The highest level of education of most participants was a bachelor at a University of Applied Sciences ($n$ = 92), followed by high school ($n$ = 45). Instagram was used 31 to 60 minutes per day by 97 participants, followed by 77 participants using Instagram 61 to 90

minutes per day. Finally, most participants had a healthy weight ($n$ = 163), followed by 65 participants being overweight.

**Procedure**

The online survey tool Qualtrics was used to create an experimental study and to gather information about the participants. To reach the participants, social media was used, including WhatsApp, Facebook, Instagram, and LinkedIn. Before distributing the experimental study, five participants tested the study in Qualtrics to prevent unnecessary mistakes. Based on the evaluation of the test participants, several adjustments were made. First, some minor adjustments were made to the informed consent and the word “influencer” was removed from the survey. Additionally, some alterations were made to the stimulus material (e.g., likes and comments were removed to avoid distraction from the manipulation) and the timer (i.e., from 45 seconds to 30 seconds). Last, an introduction was added to mention it was the first or second Instagram post of justbe.fit. Then, the experimental study was distributed across social media between 19-11-2021 and 22-11-2021.

When the participant entered the experimental study, they were asked to provide informed consent to participate in the study. The participant could accept the informed consent by checking the box: “I hereby consent to participate in this study”. After accepting the informed consent, the participant received two control questions about their age and gender. When the participant was male or outside the age range (i.e., 18 to 25 years old) they could not participate and were directed to the end of the study. After the control questions, the participant received general information about the experimental study. Then, the participant was randomly assigned to one of the six conditions.

In each condition, the participant was confronted with two Instagram posts. The Instagram posts were presented one by one and every post was visible for 30 seconds to ensure the post would be looked at properly. Next, the participant had to complete statements

and questions related to the stimuli, including items about social comparison, intention to exercise, and the likeability of the fitfluencer. Additionally, the participant answered questions about their current exercise behavior, education, Instagram use, and BMI. Finally, the participants received the control question.

When the participant answered all the questions, they received a message that they completed the experimental study with a debriefing about the manipulated Instagram posts. The experimental study, including informed consent, questions, and debriefing, can be found in Appendix A (English) and Appendix B (Dutch).

**Materials**

The experiment consisted of six conditions, for which Instagram posts of a fitfluencer were created. For the Instagram posts, one existing fitfluencer was selected based on two criteria. First, the fitfluencer did not have to be the most popular fitfluencer on Instagram, as this could affect the response of the participants. For instance, influencers who have a lot of followers are considered more likable (De Veirman et al., 2017). Subsequently, a likable person can more easily persuade someone (Brock, 1965; Kelman, 1958). The participants could therefore be influenced by the fitfluencer because they know them, instead of being influenced by the clothing size and frame. Therefore, celebrity influencers (i.e., gained their fame outside of social media) and mega-influencers (i.e., one million followers or more) were not selected (Hudders et al., 2021). Additionally, the fitfluencer was not verified on Instagram, as this shows that the Instagram account is of someone who is a celebrity or a well-known person (Instagram, 2021b). Second, the fitfluencer had fitspiration content (e.g., images wearing workout clothes) on their Instagram page that could be manipulated for the experiment using the app “PrettyUp” (i.e., the manipulation had to look realistic; 立亚 林, 2021). Based on these criteria, the following influencer was selected: @savwright_.

Per condition, two Instagram posts were shown. To make sure all things were equal, the Instagram posts only differed in the clothing size of the fitfluencer and the frame of the post. See Figure 2 to Figure 7 for example Instagram posts in Dutch and see Appendix C for all stimuli.

**Figure 2**

*Instagram Post With a Health Frame - Size S*


**justbe.fit** BEN JE EIGENLIJK WEL GEZOND?!

Jarenlang was wat ik dacht dat gezond was eigenlijk helemaal niet gezond. Vooral social media heeft mij een vertekend beeld van gezondheid gegeven en liet mij geloven dat ik bepaalde dingen moest doen om gezond te zijn. Er zijn een paar dingen die iedereen moet weten over gezond zijn:
❌ Je hoeft geen voedselgroepen te schrappen. Het heeft een negatieve invloed op je relatie met voeding
❌ Je hoeft niet alleen onbewerkt voedsel te eten, zoals salades
❌ Je hoeft niet zo weinig mogelijk te eten of je eten te verdienen
❌ Sporten is geen straf omdat je iets hebt gegeten. Met sporten kan je vieren wat je lichaam allemaal kan doen
❌ Je hoeft niet te streven naar heel mager of slank zijn om gezond te zijn

Om echt gezond te zijn, moet je:
✅ Alles met mate eten
✅ Sporten om je gezondheid/kracht te verbeteren
✅ Gezonde gewoontes aanleren, zonder restricties
✅ Begrijpen dat gezondheid geen specifiek uiterlijk heeft
✅ Op een duurzame manier aan je mentale en fysieke gezondheid werken

9 October

**Figure 3**

*Instagram Post With a Health Frame – Size M*


**justbe.fit** BEN JE EIGENLIJK WEL GEZOND?!

Jarenlang was wat ik dacht dat gezond was eigenlijk helemaal niet gezond. Vooral social media heeft mij een vertekend beeld van gezondheid gegeven en liet mij geloven dat ik bepaalde dingen moest doen om gezond te zijn. Er zijn een paar dingen die iedereen moet weten over gezond zijn:
❌ Je hoeft geen voedselgroepen te schrappen. Het heeft een negatieve invloed op je relatie met voeding
❌ Je hoeft niet alleen onbewerkt voedsel te eten, zoals salades
❌ Je hoeft niet zo weinig mogelijk te eten of je eten te verdienen
❌ Sporten is geen straf omdat je iets hebt gegeten. Met sporten kan je vieren wat je lichaam allemaal kan doen
❌ Je hoeft niet te streven naar heel mager of slank zijn om gezond te zijn

Om echt gezond te zijn, moet je:
✅ Alles met mate eten
✅ Sporten om je gezondheid/kracht te verbeteren
✅ Gezonde gewoontes aanleren, zonder restricties
✅ Begrijpen dat gezondheid geen specifiek uiterlijk heeft
✅ Op een duurzame manier aan je mentale en fysieke gezondheid werken

9 October

**Figure 4**

*Instagram Post With a Health Frame – Size L*


**justbe.fit** BEN JE EIGENLIJK WEL GEZOND?!

Jarenlang was wat ik dacht dat gezond was eigenlijk helemaal niet gezond. Vooral social media heeft mij een vertekend beeld van gezondheid gegeven en liet mij geloven dat ik bepaalde dingen moest doen om gezond te zijn. Er zijn een paar dingen die iedereen moet weten over gezond zijn:
❌ Je hoeft geen voedselgroepen te schrappen. Het heeft een negatieve invloed op je relatie met voeding
❌ Je hoeft niet alleen onbewerkt voedsel te eten, zoals salades
❌ Je hoeft niet zo weinig mogelijk te eten of je eten te verdienen
❌ Sporten is geen straf omdat je iets hebt gegeten. Met sporten kan je vieren wat je lichaam allemaal kan doen
❌ Je hoeft niet te streven naar heel mager of slank zijn om gezond te zijn

Om echt gezond te zijn, moet je:
✅ Alles met mate eten
✅ Sporten om je gezondheid/kracht te verbeteren
✅ Gezonde gewoontes aanleren, zonder restricties
✅ Begrijpen dat gezondheid geen specifiek uiterlijk heeft
✅ Op een duurzame manier aan je mentale en fysieke gezondheid werken

9 October

**Figure 5**

*Instagram Post With an Appearance Frame – Size S*


**Figure 6**

*Instagram Post With an Appearance Frame – Size M*


**Figure 7**

*Instagram Post With an Appearance Frame – Size L*


For the Instagram posts, both the clothing size of the fitfluencer and the frame had to be manipulated. The clothing size of the fitfluencer was manipulated by using the app "PrettyUp". Two images were selected of the Instagram account of the chosen fitfluencer and

the app “PrettyUp” was used to transform the body of the fitfluencer in the images from a size S to a size M or L. The frame was manipulated by focusing on an appearance or a health frame in the Instagram posts. For the Instagram posts with an appearance frame, the image and caption were focused on altering someone’s physical appearance by exercising to look good, including getting a lean physique or a six-pack (Aubrey, 2010; Binder et al., 2021; Ratwatte & Mattacola, 2021). For the Instagram posts with a health frame, the image and caption were focused on feeling good after working out, getting stronger, enjoying working out, and the health benefits of exercising regularly, such as a reduced risk of depression and anxiety, better sleep, and a reduced health risk (Aubrey, 2010; Binder et al., 2021; CDC, 2021b; Ratwatte & Mattacola, 2021).

The content of the Instagram posts was based on content that fitfluencers currently promote on their Instagram account. Real captions of Instagram posts from fitfluencers were used to make the Instagram posts as realistic as possible and to improve the validity of the experiment. Finally, an Instagram post generator was used to complete the manipulation and to create two Instagram posts per condition. Every Instagram post included an image with a caption and the fictional name of the fitfluencer: @justbe.fit. The Instagram post generator ensured a realistic representation of the Instagram post of the fitfluencer.

**Pre-test**

To assess if the clothing size of the woman in the conditions was perceived as the intended clothing size, a pre-test was conducted among 40 women ($M_{age}$ = 23.05, $SD_{age}$ = 2.01). In the pre-test, participants were asked the following question: “What is the clothing size of the woman in the image?”, which could be answered with *size S, size M,* or *size L*. This pre-test was designed based on the study of Betz and Ramsey (2017). Betz and Ramsey (2017) investigated the effect of different body-ideal messages on body image. In the study, a pre-test was conducted to verify whether the chosen written messages and images matched the

body-ideal messages. Instead of verifying the body-ideal messages, the pre-test of the current study was used to verify the clothing size of the woman in the conditions.

In the pre-test of the current study, participants were presented with all six images of the woman, including two times sizes S, M, and L. The images were shown one by one and were randomized. For each image, the participant had to answer the same question. The complete pre-test can be found in Appendix D (English) and Appendix E (Dutch). The two images containing size S were perceived as a size S by most participants, $\chi 2(2) = 19.60$, $p < .001$ (image 1) and $\chi 2(2) = 22.50$, $p < .001$ (image 4). However, the images containing size M or L were less conclusive in their results. The second image containing size M was mostly perceived as a size M, $\chi 2(2) = 6.74$, $p = .009$ (image 5). This was not the case for the first image containing size M, $\chi 2(2) = 2.08$, $p = .150$ (image 2), as also a good number of participants perceived size M as a size S. Last, the two images containing size L were equally perceived as a size M and a size L, $\chi 2(2) = 0.68$, $p = .411$ (image 3) and $\chi 2(2) = 0.03$, $p = .873$ (image 6). All results of the pre-test are presented in Table 1.

**Table 1**

*Results of the Pre-Test*

| | S | M | L |
|---|---|---|---|
| Image 1 – Size S-1 | **34; 85.0%** | 6; 15.0% | 0; 0.0% |
| Image 2 – Size M-1 | 15; 37.5% | **24; 60.0%** | 1; 2.5% |
| Image 3 – Size L-1 | 3; 7.5% | **21; 52.5%** | 16; 40.0% |
| Image 4 – Size S-2 | **35; 87.5%** | 5; 12.5% | 0; 0.0% |
| Image 5 – Size M-2 | 11; 27.5% | **27; 67.5%** | 2; 5.0% |
| Image 6 – Size L-2 | 1; 2.5% | **20; 50.0%** | 19; 47.5% |

*Note*. The most frequently chosen answers are in **boldface**

Subsequently, the stimuli were adjusted. The woman in the images containing size S was kept the same. However, the woman in the images containing size M was adjusted, as sizes M and L were both perceived as a size M in the pre-test. The new size M was adjusted to be exactly between sizes M and L used as stimuli in the pre-test. The woman in the images containing size L was also adjusted, as size L was not by all participants perceived as a size L in the pre-test. Therefore, the new size L was adjusted to be bigger than the size L in the pre-test.

## Instrumentation

### *Intention to Exercise*

The intention to exercise was measured with two items from Jones et al. (2007). The first item was "I plan to exercise regularly over the next month" and the second item was "I plan to exercise at least three times a week over the next month". A 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*) was used to measure the items, and the scale was considered reliable, as the Spearman-Brown coefficient was .85. The mean score of both items was used to measure someone's intention to exercise.

### *State Social Comparison*

State Appearance Comparison was measured by a three-item scale designed by Tiggemann and McGill (2004). With this three-item scale, Tiggemann and McGill (2004) measured the level of social comparison and physical appearance processing of participants while viewing an advertisement using a 7-point Likert scale. To make the scale suitable for this study, the word advertisement was replaced with Instagram post. The first item was "To what extent do you think about your appearance when viewing the Instagram posts" (1 = *no thought about my appearance* to 7 = *a lot of thought about my appearance)*. The second item was "To what extent do you compare your overall appearance with those of the woman in the Instagram posts" (1 = *no comparison* to 7 = *a lot of comparisons)*. Finally, the last item was

"To what extent do you compare specific body parts with those of the woman in the advertisement" (1 = *no comparison* to 7 = *a lot of comparisons)*. The scale was considered reliable (α = .86) and the mean score of the three items was used to measure someone's state social comparison.

***Trait Social Comparison***

To measure trait social comparison, the Physical Appearance Comparison Scale-Revised (PACS-R) of Schaefer and Thompson (2014) was used. This scale has been considered reliable and valid for assessing women on their tendencies to compare their appearance to others (Schaefer & Thompson, 2014). The PACS-R scale comprises eleven items (e.g., "when I'm out in public, I compare my physical appearance to the appearance of others") on which participants had to indicate on a 5 point-Likert scale (1 = *never* to 5 = *always)* how often they would compare their physical appearance to that of others in different situations. The scale was considered reliable (α = .95) and the mean score of the eleven items was used to measure someone's trait social comparison.

***Likeability of the Fitfluencer***

The likeability of the fitfluencer was measured using three items of the semantic differential scale of Dimofte et al. (2003). Originally, this scale was used to measure people's attitudes toward an ad's spokesperson. However, this scale has already been used to measure influencer's likeability by De Veirman et al. (2017) and was therefore also used in this study. Participants had to indicate on a 5-point semantic differential scale if they perceived the fitfluencer as *cold* or *warm*, *unlikeable* or *likable,* and *unfriendly* or *friendly*. The scale was considered reliable (α = .90) and the mean score of the three items was used to measure the likeability of the fitfluencer.

### *Demographic Questions*

To acquire a general picture of the participants and to ensure only suitable participants were selected (i.e., women between 18 and 25 years old), demographic questions were asked. Participants were asked about their age, gender, and education. Additionally, participants had to give inside into their current exercise behavior (i.e., "how often do you exercise weekly?") and their Instagram use (e.g., "on average, how many minutes per day are you active on Instagram?").

### *BMI*

Participants were asked about their height (in cm) and their weight (in kg). With this information, the BMI of the participants was calculated to categorize them based on their body fatness (CDC, 2021a). The following formula was used: weight (kg) / [height (m)]$^2$. The participants were categorized into the following categories: underweight (BMI below 18.5), healthy weight (BMI between 18.5 and 24.9), overweight (BMI between 25.0 and 29.9), and obesity (BMI of 30.0 and above; CDC, 2021a).

### *Manipulation Check*

To measure if the clothing size of the fitfluencer matched the intended clothing size, participants were asked the same question as was asked in the pre-test. However, the question was adjusted to "What is the clothing size of the woman in the Instagram posts?". Participants could answer the question with *size S, size M,* or *size L.*

## Results

### Manipulation Check

A manipulation check was used to test if the participants perceived the clothing size of the fitfluencer the way it was intended. Most participants perceived the fitfluencer with size S as a size S, $\chi2(2) = 23.61$, $p < .001$. The same results were found for the fitfluencer with size M, $\chi2(2) = 47.09$, $p < .001$ (comparing size S with size M), and $\chi2(2) = 34.60$, $p < .001$

(comparing size M with size L). The fitfluencer with size L was most often perceived as a size L, however, the difference between sizes M and L was not significant, $\chi 2(2) = 0.29$, $p = .592$. In Table 2, all results of the manipulation check are presented.

**Table 2**

*Results of the Manipulation Check*

| | S | M | L |
|---|---|---|---|
| Size S | **63; 76.8%** | 19; 23.2% | 0; 0.0% |
| Size M | 6; 7.4% | **63; 77.8%** | 12; 14.8% |
| Size L | 1; 1.1% | 41; 46.6% | **46; 52.3%** |

*Note.* The most frequently chosen answers are in **boldface**

## Assumptions

Before conducting the analysis, two assumptions were checked, namely the assumption of normality and the assumption of homogeneity of variance. First, the assumption of normality was not met, as the Kolmogorov-Smirnov tests showed significance for five conditions, see Table 3. Furthermore, the Q-Q plots, histograms, and *z*-scores of skewness and kurtosis were checked. The conditions State Social Comparison Size M ($z\text{-score}_{kurtosis} = -2.24$), Intention to Exercise Size S ($z\text{-score}_{skewness} = -2.25$), Intention to Exercise Size M ($z\text{-score}_{skewness} = -4.12$), and Intention to Exercise Size L ($z\text{-score}_{skewness} = -3.84$) showed normality problems (they fell outside the range of -1.96 to 1.96). Therefore, the *p*-values was not fully reliable, and more weight was placed on the bootstrapped 95% confidence intervals that were provided. However, the assumption of homogeneity of variance was met, as Levene's Test showed no significance ($p < .05$) for all conditions.

**Table 3**

*Normality Test With Kolmogorov-Smirnov Test*

| | D | *df* | *p* |
|---|---|---|---|
| **State Social Comparison - Size S** | **.102** | **82** | **.036** |
| **State Social Comparison - Size M** | **.140** | **81** | **.000** |
| State Social Comparison - Size L | .083 | 88 | .189 |
| **Intention to Exercise - Size S** | **.189** | **82** | **.000** |
| **Intention to Exercise - Size M** | **.223** | **81** | **.000** |
| **Intention to Exercise - Size L** | **.236** | **88** | **.000** |

*Note.* Significant Kolmogorov-Smirnov test are in **boldface**.

**The Effect of Clothing Size and Frame on Intention to Exercise**

The overall moderated moderated mediation model was significant, and, therefore, an improvement over the null model ($R^2$ = .58, $F$(13, 237) = 25.34, $p$ < .001). The first hypothesis predicted that fitfluencers with sizes M and L would lead to higher intentions to exercise compared to fitfluencers with size S. The clothing size of fitfluencers did not affect intention to exercise when fitfluencers with size S were compared to fitfluencers with size M, $b$ = 0.81, $SE$ = .56, $p$ = .150, 95% BCa CI [-0.36, 1.98], and when fitfluencers with size M were compared to fitfluencers with size L, $b$ = 0.22, $SE$ = .56, $p$ = .689, 95% BCa CI [-0.67, 1.22]). Fitfluencers with size S ($M$ = 4.99, $SD$ = 1.79) led to equal intentions to exercise as fitfluencers with size M *(*$M$ = 5.53, $SD$ = 1.56), and fitfluencers with size L ($M$ = 5.42, $SD$ = 1.69). Therefore, the first hypothesis was not supported by the data from the Hayes model.

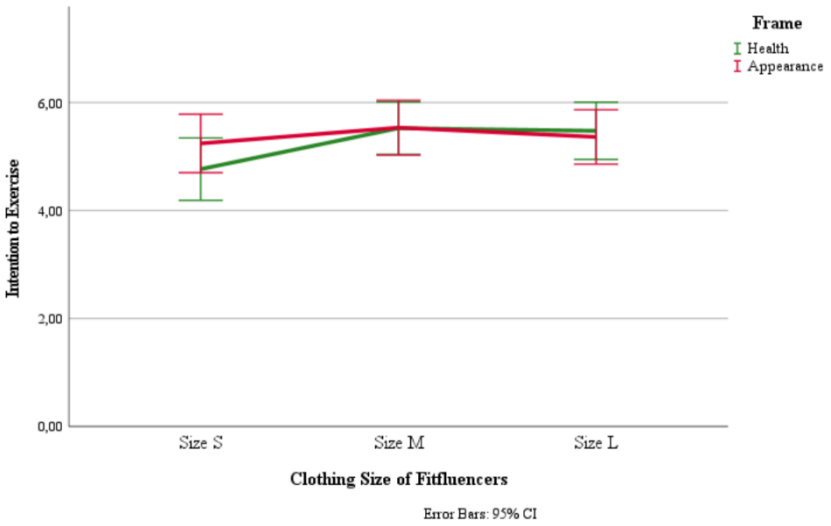
The second hypothesis predicted that an appearance frame would result in lower intentions to exercise compared to a health frame. Contrary to our expectations, frame did not affect intention to exercise, $b$ = 0.52, $SE$ = .25, $p$ = .039, 95% BCa CI [-0.09, 1.12]. An

appearance frame (*M* = 5.38, *SD* = 1.64) resulted in equal intentions to exercise as a health frame (*M* = 5.25, *SD* = 1.74). Therefore, the second hypothesis was not supported.

The third hypothesis predicted that the effect of clothing size on intention to exercise would be stronger when a health frame was used (compared to an appearance frame). The model showed no significant effect of the clothing size of fitfluencers on intention to exercise with an appearance frame as a moderator when fitfluencers with size S were compared to fitfluencers with size M, *b* = -0.30, *SE* = .36, *p* = .395, 95% BCa CI [-1.02, 0.41], and with a health and appearance frame as a moderator when fitfluencers with size M were compared to fitfluencers with size L, *b* = -0.18, *SE* = .35, *p* = .616, 95% BCa CI [-0.81, 0.40]. As predicted, a significant difference between size S (*M* = 4.77, *SD* = 1.88) and size M fitfluencers (*M* = 5.53, *SD* = 1.50) with a health frame was found, IE = .51, *SE* = .25, *p* = .045, CI [0.01, 1.00]. Therefore, fitfluencers with size M with a health frame led to higher intentions to exercise than fitfluencers with size S with a health frame. No significant difference was found between size M and size L fitfluencers (*M* = 5.48, *SD* = 1.74) with a health frame, IE = .20, *SE* = .25, *p* = .425, CI [-0.30, 0.70]. Thus, fitfluencers with sizes M and L with a health frame led to equal intentions to exercise. Additionally, no significant difference between size S (*M* = 5.24, *SD* = 1.67) and size M fitfluencers (*M* = 5.54, *SD* = 1.63) with an appearance frame was found, IE = .05, *SE* = .25, *p* = .852, CI [-0.44, 0.54]. Therefore, fitfluencers with size S and M with an appearance frame led to equal intentions to exercise. Last, also no significant difference between size M and size L fitfluencers (*M* = 5.36, *SD* = 1.66) with an appearance frame was found, IE = -.13, *SE* = .25, *p* = .599, CI [-0.61, 0.36]. Thus, fitfluencers with sizes M and L with an appearance frame also led to equal intentions to exercise.

**Figure 8**

*Intention to Exercise by Clothing Size of Fitfluencers Divided by Frame*




In conclusion, although no direct effects were found for the clothing size of fitfluencers or frame on intention to exercise, results revealed a moderating effect of frame on the relationship between the clothing size of fitfluencers and intention to exercise. This moderating effect was only visible when a health frame was used, as fitfluencers with size S with a health frame led to lower intentions to exercise compared to fitfluencers with sizes M and L with a health frame (see Figure 8). Therefore, hypothesis 3 was partially supported by the data. Another significant effect was found of the covariate current exercise behavior on intention to exercise (all bootstrapped 95% confidence intervals did not cross zero; [0.42, 1.66]; [2.19, 3.33]; [3.20, 4.32]; [3.27, 4.39]). Thus, women who exercised more often also had higher intentions to exercise.

**The Effect of Clothing Size and Trait Social Comparison on State Social Comparison**

The fourth hypothesis predicted that fitfluencers with size S would lead to the highest level of state social comparison, followed by fitfluencers with size M, and followed by fitfluencers with size L, who would lead to the lowest level of state social comparison. Contrary to our expectations, the model showed no significant effect of the clothing size of

fitfluencers on state social comparison when fitfluencers with size S were compared to fitfluencers with size M, $b$ = 0.07, $SE$ = .20, $p$ = .736, 95% BCa CI [-0.33, 0.46], and when fitfluencers with size M were compared to fitfluencers with size L, $b$ = -0.19, $SE$ = .19, $p$ = .325, 95% BCa CI [-0.56, 0.19]. Exposure to fitfluencers with size S ($M$ = 3.93, $SD$ = 1.70) resulted in equal levels of social comparison as exposure to fitfluencers with size M ($M$ = 3.98, $SD$ = 1.73), and fitfluencers with size L ($M$ = 3.85, $SD$ = 1.40). Therefore, hypothesis 4 was not supported by the data.

The fifth hypothesis predicted that women scoring high on trait social comparison would be more likely to compare themselves with fitfluencers in Instagram posts compared to women scoring low on trait social comparison. Additionally, the sixth hypothesis predicted that the effect of trait social comparison on the relationship between the clothing size of fitfluencers and state social comparison would be stronger for fitfluencers with sizes M and L compared to fitfluencers with size S. As expected, the model showed a significant effect of trait social comparison on state social comparison, $b$ = 1.15, $SE$ = .14, $p$ < .001, 95% BCa CI [0.89, 1.40]. Women who scored high on trait social comparison also scored high on state social comparison. However, the effect of trait social comparison on the relationship between the clothing size of fitfluencers and state social comparison did not differ between fitfluencers with size S compared to fitfluencers with size M, $b$ = -0.15, $SE$ = .20, $p$ = .453, 95% BCa CI [-0.56, 0.26], and between fitfluencers with size M compared to fitfluencers with size L, $b$ = -0.09, $SE$ = .20, $p$ = .651, 95% BCa CI [-0.47, 0.31]. Therefore, hypothesis 5 was supported by the data, as trait social comparison affected state social comparison. However, hypothesis 6 was not supported by the data, as trait social comparison had the same moderating effect for fitfluencers with sizes S, M, and L.

**The Effect of State Social Comparison and Frame on Intention to Exercise**

The seventh hypothesis predicted that an appearance frame would result in lower intentions to exercise compared to a health frame for all levels of state social comparison. Additionally, the eighth hypothesis predicted that a health frame would result in higher intentions to exercise when the level of state social comparison was low compared to higher levels of state social comparison, which would lead to lower intentions to exercise. The model showed no significant direct effect of state social comparison on intention to exercise, $b$ = -0.09, $SE$ = .14, $p$ = .526, BCa CI [-0.39, 0.20], nor of state social comparison on intention to exercise with frame as moderator, $b$ = 0.09, $SE$ = .09, $p$ = .319, 95% BCa CI [-0.10, 0.28]. An appearance frame did not lead to lower intentions to exercise compared to a health frame for all levels of state social comparison (see table 4), and, therefore, hypothesis 7 was not supported by the data. Furthermore, there were no differences visible between high and low levels of state social comparison on intention to exercise when a health frame was used. Therefore, hypothesis 8 was also not supported by the data.

**Table 4**

*Mean Intention to Exercise for Different Levels of State Social Comparison Divided by Frame*

| State Social Comparison | *Frame* | Mean |
|---|---|---|
| -1.604 (-1SD) | Health | 5.18 |
| -1.604 (-1SD) | Appearance | 5.29 |
| 0.000 (Mean) | Health | 5.19 |
| 0.000 (Mean) | Appearance | 5.44 |
| 1.604 (+1SD) | Health | 5.19 |
| 1.604 (+1SD) | Appearance | 5.60 |

**The Moderated Moderated Mediation Model**

The model showed no significant moderated moderated mediation when fitfluencers with size S were compared to fitfluencers with size M, index: -.01, *SE* = .03, 95% BCa CI [-0.09, 0.04] and when fitfluencers with size M were compared to fitfluencers with size L, index: -.01, *SE* = .03, 95% BCa CI [-0.08, 0.05]. The relative conditional indirect effects of X on Y were also not significant when fitfluencers with size S were compared to fitfluencers with size M and when fitfluencers with size M were compared to fitfluencers with size L, as all bootstrapped 95% confidence intervals did not cross zero (see Table 5 and 6). Therefore, state social comparison did not mediate the relationship between the clothing size of fitfluencers and intention to exercise with trait social comparison and frame as moderators. The direct effects of the moderated moderated mediation model are visually represented in Figure 9.

**Table 5**

*Relative Conditional Indirect Effects of X on Y When Comparing Size S With Size M*

| Trait Social Comparison | *Frame* | 95% BCa CI |
|---|---|---|
| -1.009 (-1SD) | Health | [-0.05, 0.05] |
| -1.009 (-1SD) | Appearance | [-0.04, 0.11] |
| 0.000 (Mean) | Health | [-0.03, 0.03] |
| 0.000 (Mean) | Appearance | [-0.04, 0.06] |
| 1.009 (+1SD) | Health | [-0.05, 0.05] |
| 1.009 (+1SD) | Appearance | [-0.09, 0.06] |

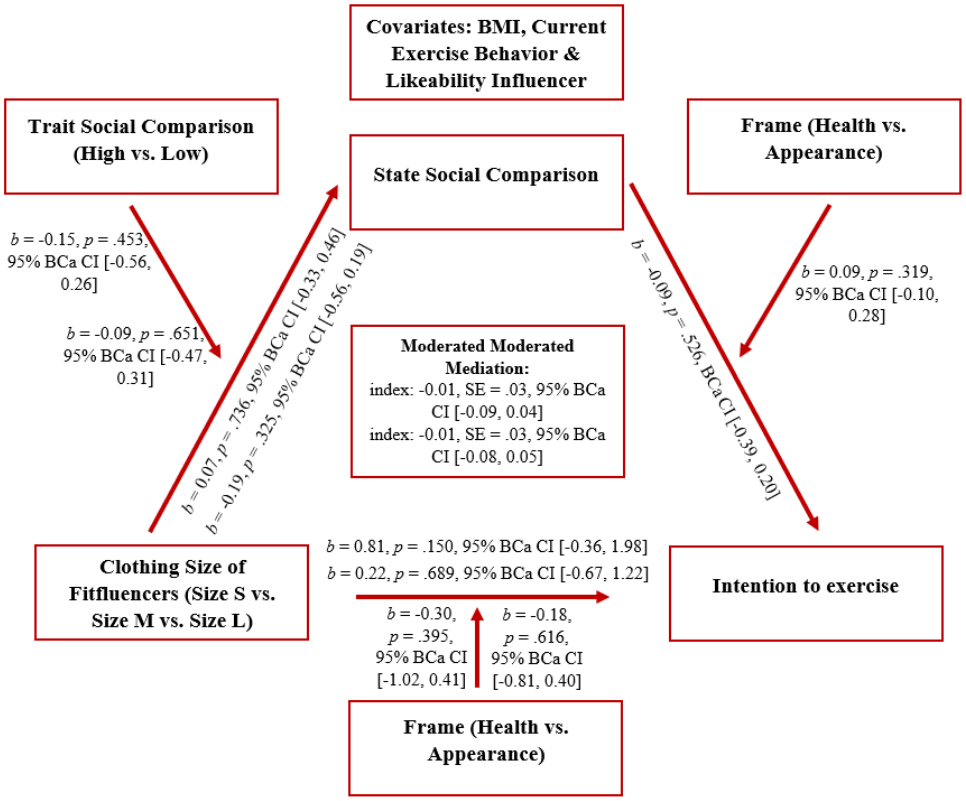
**Table 6**

*Relative Conditional Indirect Effects of X on Y When Comparing Size M With Size L*

| Trait Social Comparison | *Frame* | 95% BCa CI |
|---|---|---|
| -1.009 (-1SD) | Health | [-0.04, 0.04] |
| -1.009 (-1SD) | Appearance | [-0.08, 0.05] |
| 0.000 (Mean) | Health | [-0.04, 0.04] |
| 0.000 (Mean) | Appearance | [-0.08, 0.02] |
| 1.009 (+1SD) | Health | [-0.06, 0.06] |
| 1.009 (+1SD) | Appearance | [-0.12, 0.04] |

**Figure 9**

*Direct Effects of the Moderated Moderated Mediation Model*



## Discussion

This study aimed to discover how fitfluencers with different clothing sizes and the use of frames in fitspiration in Instagram posts affect women's intention to exercise and if state and trait social comparison influence this effect. The most important finding of this study was that frame moderates the relationship between the clothing size of fitfluencers and intention to exercise. This moderating effect was only visible when a health frame was used, as fitfluencers with sizes M or L with a health frame in their Instagram posts led to higher intentions to exercise than fitfluencers with size S with a health frame. These results are in line with the self-determination theory and the body positivity movement (Cohen et al., 2019b, 2020; Ryan & Deci, 2000). Specifically, a health frame may increase someone's intention to exercise, as exercising for health and focusing on health-related goals are related to intrinsic exercise goals, which increases a person's intrinsic motivation to exercise (Sebire et al., 2011; Zhou & Krishnan, 2019). According to the self-determination theory, people will be more likely to perform a certain behavior they are interested in if they are intrinsically motivated to do so (Ryan & Deci, 2000). Because of higher levels of intrinsic motivation, a health frame will lead to higher intentions to exercise. This increase in intention to exercise only occurred with fitfluencers with sizes M and L. Exposure to body-positive content, including diverse clothing sizes and appearances (i.e., sizes M and L), results in increased body satisfaction and body appreciation (i.e., body image; Cohen et al., 2019a), which is related to an increase in physical activity (Andrew et al., 2016). These two reasons may explain why the combination of fitfluencers with sizes M and L and a health frame resulted in higher intentions to exercise compared to fitfluencers with size S and a health frame. However, future research should focus on the theoretical explanation for this effect.

Contrary to our expectations, only an interaction effect between the clothing size of fitfluencers and frame on intention to exercise was found. No direct effect of clothing size on

intention to exercise was visible, as fitfluencers with sizes S, M, and L on their own led to equal intentions to exercise. Furthermore, no effect of the moderator frame on intention to exercise was found. A health frame on its own led to equal intentions to exercise as an appearance frame on its own. Yet, the covariate current exercise behavior did directly affect the intention to exercise. Women who currently exercise more often had higher intentions to exercise than women who exercise less often. These results are in line with the study of Sokolova and Perez (2021) where people who were already physically active were more motivated to exercise than people who were not physically active. Future research may focus on people who are not physically active and investigate how to motivate them to exercise.

Another major finding of this study was that state social comparison did not explain the relationship between the clothing size of fitfluencers and intention to exercise. This entails that the clothing size of fitfluencers did not affect state social comparison, which in turn did not affect intention to exercise. Additionally, the level of state social comparison was equal after exposure to fitfluencers with sizes S, M, and L. Women are more likely to compare themselves with their ideal (i.e., upward social comparison; Clayton et al., 2017; Festinger, 1954). Based on the social comparison theory and actual-ideal body discrepancy, size S fitfluencers would lead to the highest level of state social comparison, while size L fitfluencers would lead to the lowest level of state social comparison. However, these results were not found. Furthermore, an appearance frame resulted in equal intentions to exercise as a health frame for all levels of state social comparison. Additionally, a health frame did not result in more intentions to exercise for women scoring low on state social comparison compared to fewer intentions to exercise for women scoring high on state social comparison.

Last, higher levels of trait social comparison led to higher levels of state social comparison for all clothing sizes of fitfluencers. Based on former research, this result was expected, as women with greater trait comparison tendencies would be more likely to

compare themselves with the fitfluencer in the Instagram post (Betz et al., 2019; Tiggemann & Brown, 2018). However, the assumption was made that the effect of trait social comparison would be stronger for fitfluencers with sizes M and L compared to fitfluencers with size S. Yet, the current study proves the opposite. Women who have lower (or higher) tendencies to compare themselves with others in general, will also have lower (or higher) tendencies to compare themselves with others in specific situations, no matter the size of the woman in the Instagram post. Future research should focus more on the moderating role of trait social comparison on state social comparison, to get more clarity about this moderating effect.

**Implications of Results**

The findings from the current study have important theoretical and practical implications. First, the findings are a contribution to the literature on social comparison, fitfluencers, and fitspiration. Especially, the results show that the social comparison theory is less appropriate for fitfluencers, as equal levels of state social comparison were found for all clothing sizes. Former research shows that larger clothing sizes are related to lower levels of social comparison, whereas smaller clothing sizes are related to higher levels of social comparison (Clayton et al., 2017). However, the fitfluencers in the Instagram posts still represented an ideal, which could explain why these results were not found (Betz et al., 2019). Additionally, the results showed an interaction effect between the clothing size of fitfluencers and frame. These results provide support for theoretical frameworks, including the self-determination theory and the body positivity movement (Cohen et al., 2019b, 2020; Ryan & Deci, 2000), which propose intrinsic motivation and a positive body image as crucial drivers to increase intentions to exercise (Andrew et al., 2016; Sebire et al., 2011; Zhou & Krishnan, 2019).

Practically, the findings have implications for fitfluencers, health and fitness brands, and policymakers. Women’s intention to exercise was equal when fitfluencers with different

clothing sizes used an appearance frame. However, women's intention to exercise increased when fitfluencers with sizes M or L used a health frame compared to fitfluencers with size S with a health frame. Therefore, fitfluencers with larger clothing sizes (i.e., sizes M and L) can be seen as credible fitfluencers to inspire women to exercise more often, especially when their content is focused on the health benefits of exercising. This is mainly relevant as studies show that exposure to women with larger clothing sizes instead of the thin ideal can have a positive impact on someone's well-being, such as less body dissatisfaction, better body appreciation, and a more positive body image (Diedrichs & Lee, 2011; Tiggemann et al., 2018, 2020). Furthermore, well-known health and fitness brands (e.g., Gymshark) can corporate with fitfluencers with larger clothing sizes. These fitfluencers can promote the products of the brands on their Instagram page (i.e., influencer marketing) to inspire their followers to exercise more often. Additionally, health and fitness brands can organize events (e.g., fitfluencers teaching fitness classes) or create campaigns (e.g., fitfluencer challenges people to do a healthy activity every day in January) with fitfluencers with larger clothing sizes focusing on inspiring women to exercise more often. Last, as 25.6% of Dutch young adults are overweight (CBS, 2021b), policymakers should focus on interventions with fitfluencers with sizes M and L with an emphasis on the health benefits of exercising to inspire young adults to exercise more often.

### *Rethinking Fitspiration*

All things considered, the current fitspiration focuses mainly on women with small clothing sizes and appearance-related goals, with solely negative effects on well-being and no influence on actual exercise behavior (Easton et al., 2018; Prichard et al., 2020; Robinson et al., 2017). Therefore, a different type of fitspiration content is needed. The body positivity movement contains content with women with diverse clothing sizes and appearances and focuses on valuing the body's functionality and health over physical appearance (Cohen et al.,

2019b; Sastre, 2014). This movement has positive effects on well-being, including an increased positive mood, body satisfaction, and body appreciation (Cohen et al., 2019a). Nevertheless, this movement does not focus on increasing exercise behavior and is not the solution to inspire women to exercise more often. Therefore, fitspiration should also include women with more diverse clothing sizes and health-related goals to create a more positive environment and to make fitspiration as inspiring as it ought to be.

**Limitations and Future Research**

Although this study was meticulously planned, the current study also has some limitations. First, the results are based on short-term exposure to two health and fitness Instagram posts. Therefore, no longitudinal results are available, which limits the findings of this study, as in reality, women are exposed to multiple health and fitness Instagram posts every day. Future research could focus on performing longitudinal studies to investigate the long-term effects of exposure to health and fitness Instagram posts on intention to exercise. In these longitudinal studies, participants' baseline on intention to exercise, state social comparison, and trait social comparison could be measured to investigate how these variables change over time. Second, women's intention to exercise was measured instead of their actual exercise behavior. According to the theory of planned behavior (Ajzen & Madden, 1986), the intention to perform a behavior is a predictor of actually performing that behavior. However, the theory of planned behavior is a rational model, and human behavior is not completely rational, as intention only explains 28% of the behavior (Sheeran, 2002). Therefore, instead of focusing on intention to exercise, future research should focus on measuring actual exercise behavior with, for instance, a smartwatch or an app.

Third, the manipulation check showed that size L fitfluencers were most often perceived as a size L. However, these results were not conclusive, as a lot of participants also perceived it as a size M. This could have affected the results, as this could have led to a

smaller chance to obtain differences between conditions. Fourth, most participants were highly educated, as 66% completed at least a bachelor at a University of Applied Sciences. This could restrict the generalizability of the findings, as in reality, 13.6% of Dutch women between 15 and 25 years old completed at least a bachelor at a University of Applied Sciences (CBS, 2021a). Future research could include participants with different levels of education. Fifth, to make sure all things were equal, one woman was used in the Instagram posts and her body was made larger to represent a size M and a size L. However, this woman, even in the size M and size L condition, still had lean arms, a flat stomach, and no cellulite, and could, therefore, still represent an ideal. Future research should focus on showing real women with more fat or cellulite (e.g., "Getting Real" or "Instagram vs. Reality" posts) and investigate the effects on state social comparison, and subsequently on women's exercise behavior.

Last, the caption of the Instagram post contained the manipulation of the frame. However, the experiment did not contain any measure to investigate if the participant read the caption carefully. In former research, the suggestion was made that the visual image is the most prominent feature of an Instagram post, instead of an accompanying text (i.e., caption; Tiggemann & Barbato, 2018). Therefore, participants may have paid more attention to the image of the Instagram post instead of the caption, which could explain why no direct effect of frame was found. Future research could include eye-tracking to test if the participant paid attention to the caption.

**Conclusion**

In conclusion, former research mainly focused on the negative effects of fitspiration on well-being. However, the current study focused on the positive effects of fitspiration and the use of fitfluencers in promoting exercise behavior. Therefore, this study is a novel contribution to the current scientific literature of fitspiration. The findings show that women's intention to exercise is equal when fitfluencers with different clothing sizes use an appearance

frame. However, women's intention to exercise is higher for fitfluencers with sizes M or L with a health frame compared to fitfluencer with size S with a health frame. Hence, larger fitfluencers can be seen as credible fitfluencers to promote exercise behavior, especially when fitfluencers focus on the health benefits of exercising. Fitspiration should therefore include more women with larger clothing sizes and health-related content to create a more positive and healthy environment on Instagram.

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# Appendix A

## Informed Consent

Dear participant,

Thank you for participating in this study! This experimental study has been developed by a student from the Master Business Communication and Digital Media of Tilburg University.

For this study, I am interested in your view on health and fitness Instagram posts. With the use of this informed consent, I want to ask you to provide your consent to take part in this study. Your participation is voluntary and your answers will remain anonymous and will be reported without any identification. Before you participate in this study, I ask for your consent to save your anonymous data on the data server of Tilburg University for 5 years.

Only the researcher and the thesis supervisor can access the anonymous data. If you have any questions about this study you can contact Ellen Smorenburg, e.n.smorenburg@tilburguniversity.edu.

Do you consent to participate in this study?

- ☐ I hereby consent to participate in this study
- ☐ I hereby do not consent to participate in this study

## Control questions

- What gender do you identify as?
    - *Male*
    - *Female*

    - *Other*
- What is your age?

**Instructions**

In the first part of the study, you will be shown two health and fitness Instagram posts of justbe.fit. These Instagram posts consist of an image with a caption. You are expected to look closely at the image and read the caption carefully. Every Instagram post will be presented for at least 30 seconds before you can continue to the next page. After viewing the Instagram posts, you will be asked to give your opinion on several statements and questions regarding the Instagram posts and regarding yourself. Then, you are asked to complete six questions. These questions will be about your weight, height, education, exercise behavior, and Instagram use. Completing the study will take about 5 to 10 minutes.

**Stimuli**

Two Instagram posts of the experimental condition the participant is in.

With regards to the Instagram posts, you have to give your opinion on the following statements.

*Statements #1 (State Social Comparison)*

Rate the following statement, where **(1)** is equal to "no thought about my appearance" and **(7)** is equal to "a lot of thought about my appearance"

- To what extent do you think about your appearance when viewing the Instagram posts
    - Likert scale: 1 = *no thought about my appearance* to 7 = *a lot of thought about my appearance.*

Rate the following 2 statements, where **(1)** is equal to “strongly disagree’ and **(7)** is equal to “strongly agree”

- To what extent do you compare your overall appearance with those of the woman in the Instagram posts
    - Likert scale: 1 = *no comparison* to 7 = *a lot of comparison.*
- To what extent do you compare specific body parts with those of the woman in the Instagram posts
    - Likert scale: 1 = *no comparison* to 7 = *a lot of comparison.*

*Statements #2 (Intention to exercise)*

Rate the following 2 statements, where **(1)** is equal to “strongly disagree” and **(7)** is equal to “strongly agree”

- I plan to exercise regularly over the next month
    - Likert scale: 1 = *strongly disagree* to 7 = *strongly agree.*
- I plan to exercise at least three times a week over the next month
    - Likert scale: 1 = *strongly disagree* to 7 = *strongly agree.*

*Statements #3 (Likeability of the fitfluencer)*

- Do you rate justbe.fit as…
    - Cold 0 0 0 0 0 Warm *(5-point semantic differential scale)*
    - Unlikeable 0 0 0 0 0 Likeable *(5-point semantic differential scale)*
    - Unfriendly 0 0 0 0 0 Friendly *(5-point semantic differential scale)*

With regards to yourself, you have to give your opinion on the following statements.

*Statements #4 (State Social Comparison)*

Rate the following 11 statements, where **(1)** is equal to “never” and **(5)** is equal to “always”

- When I'm out in public, I compare my physical appearance to the appearance of others
    - Likert scale: 1 = *never* to 5 = *always.*
- When I meet a new person (same-sex), I compare my body size to his/her body size
    - Likert scale: 1 = *never* to 5 = *always.*
- When I'm at work or school, I compare my body shape to the body shape of others
    - Likert scale: 1 = *never* to 5 = *always.*
- When I'm out in public, I compare my body fat to the body fat of others
    - Likert scale: 1 = *never* to 5 = *always.*
- When I'm shopping for clothes, I compare my weight to the weight of others
    - Likert scale: 1 = *never* to 5 = *always.*
- When I'm at a party, I compare my body shape to the body shape of others
    - Likert scale: 1 = *never* to 5 = *always.*
- When I'm with a group of friends, I compare my weight to the weight of others
    - Likert scale: 1 = *never* to 5 = *always.*
- When I'm out in public, I compare my body size to the body size of others
    - Likert scale: 1 = *never* to 5 = *always.*
- When I'm with a group of friends, I compare my body size to the body size of others
    - Likert scale: 1 = *never* to 5 = *always.*
- When I'm eating in a restaurant, I compare my body fat to the body fat of others
    - Likert scale: 1 = *never* to 5 = *always.*
- When I'm at the gym, I compare my physical appearance to the appearance of others
    - Likert scale: 1 = *never* to 5 = *always.*

Next, you have to provide some personal information

- What is your height (in cm)?

- What is your weight (in kg)?
- What is the highest degree or level of education you have completed?
    - *Primary education*
    - *High school*
    - *Community college*
    - *University of Applied Sciences, Bachelor*
    - *University of Applied Sciences, Master*
    - *University, Bachelor*
    - *University, Master*
    - *PhD or higher*
    - *Other, ….*
- How often do you exercise weekly?
    - *Not*
    - *Once a week*
    - *2 till 3 times a week*
    - *4 till 5 times a week*
    - *6 times or more a week*
- Do you have an Instagram account?
    - *Yes*
    - *No*
- On average, how many minutes per day are you active on Instagram?
    - *0 – 30 minuten per dag*
    - *31 – 60 minuten per dag*
    - *61 – 90 minuten per dag*
    - *91 – 120 minuten per dag*

- *121 – 150 minuten per dag*
- *Meer dan 151 minuten per dag*

*Manipulation check*

Finally, I would like to ask you to answer this last question about the woman in the Instagram posts

**Based on the participant's condition, two individual photos of the fitfluencer from the Instagram posts will be shown*.*

You can use these images when answering the question below

- What is the clothing size of the woman in the Instagram posts?
  - Size S
  - Size M
  - Size L

**Debriefing**

End of the study.

I want to thank you again for participating in this study. Both Instagram posts were manipulated. The goal of this study was to look at influencers with different clothing sizes (size S vs. size M vs. size L) and different types of content (focus on health vs. focus on physique) and see if these differences affected people's intention to exercise. Be careful! Instagram often displays an ideal image; the perfect picture. This can cause negative feelings and decreased well-being. If you want to know how you could deal with this, visit the following websites on media literacy:

https://netwerkmediawijsheid.nl/

https://www.weekvandemediawijsheid.nl/

If there are any further questions, please contact Ellen Smorenburg,

e.n.smorenburg@tilburguniversity.edu

# Appendix B

## Informed Consent

Beste deelnemer,

Bedankt voor uw deelname aan dit onderzoek! Dit onderzoek is ontwikkeld door een student van de Master Business Communication and Digital Media van Tilburg Universiteit.

Voor dit onderzoek ben ik geïnteresseerd in uw mening over health en fitness Instagram posts. Door middel van dit formulier wil ik u vragen om uw toestemming te geven om deel te nemen aan dit onderzoek. Uw deelname is vrijwillig en uw antwoorden zullen anoniem blijven en zullen niet aan uw identiteit gekoppeld worden. Voordat u deelneemt aan dit onderzoek, vraag ik uw toestemming om uw anonieme gegevens gedurende 5 jaar op te slaan op de dataserver van Tilburg Universiteit.

Alleen de onderzoeker en de scriptiebegeleider hebben toegang tot de anonieme gegevens. Als u vragen heeft over dit onderzoek kunt u contact opnemen met Ellen Smorenburg, e.n.smorenburg@tilburguniversity.edu.

Geeft u toestemming om deel te nemen aan dit onderzoek?

☐ Ik geef hierbij toestemming om deel te nemen aan dit onderzoek

☐ Ik geef hierbij GEEN toestemming om deel te nemen aan dit onderzoek

## Controle vragen

- Met welk geslacht identificeert u zich?
    - *Man*

  - *Vrouw*
  - *Anders*
- Wat is uw leeftijd?

**Instructies**

In het eerste deel van het onderzoek krijgt u twee health en fitness Instagram posts te zien van justbe.fit. Deze Instagram posts bestaan uit een afbeelding met een bijschrift. Er wordt verwacht dat u goed naar de afbeelding kijkt en het bijschrift zorgvuldig doorleest. Elke Instagram post wordt ten minste 30 seconden aan u gepresenteerd, voordat u door kunt gaan naar de volgende pagina. Nadat u de Instagram posts heeft bekeken, wordt u gevraagd om uw mening te geven over verschillende stellingen en vragen met betrekking tot de Instagram posts en met betrekking tot uzelf. Vervolgens wordt u gevraagd om zes vragen te beantwoorden. Deze vragen zullen gaan over uw gewicht, lengte, opleiding, sportgedrag en Instagram gebruik. Het onderzoek duurt ongeveer 5 tot 10 minuten.

**Stimuli**

Twee Instagram posts van de experimentele conditie waarin de participant zich bevindt.

**Vragen van de experimentele studie**

Met betrekking tot de Instagram posts wil ik u vragen om uw mening te geven over de volgende stellingen.

*Stellingen #1 (State Social Comparison)*

Beoordeel de volgende stelling, waarbij **(1)** gelijk staat aan “geen gedachtes over mijn uiterlijk” en **(7)** aan “veel gedachtes over mijn uiterlijk”

- In welke mate denkt u aan uw uiterlijk bij het bekijken van de Instagram posts?

    - Likert schaal: 1 = *geen gedachtes over mijn uiterlijk* tot 7 = *veel gedachtes over mijn uiterlijk.*

Beoordeel de volgende 2 stellingen, waarbij **(1)** gelijk staat aan "geen vergelijking" en **(7)** aan "veel vergelijking"

- In welke mate vergelijkt u uw algehele uiterlijk met dat van de vrouw in de Instagram posts?
    - Likert schaal: 1 = *geen vergelijking* tot 7 = *veel vergelijking.*
- In welke mate vergelijkt u specifieke lichaamsdelen met die van de vrouw in de Instagram posts?
    - Likert schaal: 1 = *geen vergelijking* tot 7 = *veel vergelijking.*

*Stellingen #2 (Intention to exercise)*

Beoordeel de volgende 2 stellingen, waarbij **(1)** gelijk staat aan "sterk mee oneens" en **(7)** aan "sterk mee eens"

- Ik ben van plan om de komende maand regelmatig te gaan sporten
    - Likert schaal: 1 = *sterk mee oneens* tot 7 = *sterk mee eens.*
- Ik ben van plan om de komende maand minstens drie keer per week te gaan sporten
    - Likert schaal: 1 = *sterk mee oneens* tot 7 = *sterk mee eens.*

*Stellingen #3 (Likeability of the fitfluencer)*

- Vindt u justbe.fit…
    - Koud 0 0 0 0 0 Warm *(5-punts semantische differentialen schaal)*
    - Onsympathiek 0 0 0 0 0 Sympathiek *(5-punts semantische differentialen schaal)*
    - Onvriendelijk 0 0 0 0 0 Vriendelijk *(5-punts semantische differentialen schaal)*

Met betrekking tot uzelf, wil ik u vragen om uw mening te geven over de volgende stellingen.

*Stellingen #4 (State Social Comparison)*

Beoordeel de volgende 11 stellingen, waarbij **(1)** gelijk staat aan “nooit” en **(5)** aan “altijd”

- Wanneer ik in het openbaar ben, vergelijk ik mijn uiterlijk met dat van anderen
    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*
- Wanneer ik een nieuw persoon (van hetzelfde geslacht) ontmoet, vergelijk ik mijn lichaamsgrootte met die van haar
    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*
- Wanneer ik op het werk of op school ben, vergelijk ik mijn lichaamsvorm met die van anderen
    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*
- Wanneer ik in het openbaar ben, vergelijk ik mijn lichaamsvet met dat van anderen
    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*
- Als ik ga winkelen voor kleding, vergelijk ik mijn gewicht met dat van anderen
    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*
- Als ik op een feestje ben, vergelijk ik mijn lichaamsvorm met die van anderen
    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*
- Als ik met een groep vrienden ben, vergelijk ik mijn gewicht met dat van anderen
    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*
- Wanneer ik in het openbaar ben, vergelijk ik mijn lichaamsgrootte met die van anderen
    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*
- Wanneer ik met een groep vrienden ben, vergelijk ik mijn lichaamsgrootte met die van anderen
    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*
- Wanneer ik in een restaurant eet, vergelijk ik mijn lichaamsvet met dat van anderen

    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*

- Als ik in de sportschool ben, vergelijk ik mijn uiterlijk met dat van anderen
    - Likert schaal: 1 = *nooit* tot 5 = *altijd.*

Nu wil ik u vragen om enkele persoonlijke gegevens te verstrekken.

- Wat is uw lengte (in cm)?
- Wat is uw gewicht (in kg)?
- Wat is uw hoogst genoten opleiding die u heeft afgerond?
    - *Basisonderwijs*
    - *Middelbare school*
    - *MBO*
    - *HBO, bachelor*
    - *HBO, master*
    - *Universiteit, bachelor*
    - *Universiteit, master*
    - *PhD of hoger*
    - *Anders, ….*
- Hoe vaak sport u wekelijks?
    - *Niet*
    - *Eén keer per week*
    - *2 tot 3 keer per week*
    - *4 tot 5 keer per week*
    - *6 keer of meer per week*
- Heeft u een Instagram account?
    - *Ja*

  - *Nee*

- Hoeveel minuten per dag bent u gemiddeld actief op Instagram?
  - *0 – 30 minuten per dag*
  - *31 – 60 minuten per dag*
  - *61 – 90 minuten per dag*
  - *91 – 120 minuten per dag*
  - *121 – 150 minuten per dag*
  - *Meer dan 151 minuten per dag*

*Manipulation check*

Tot slot wil ik u vragen om deze laatste vraag te beantwoorden over de vrouw in de Instagram posts

**Op basis van de conditie van de participant worden twee losse foto's van de fitfluencer uit de Instagram posts laten zien**

Deze afbeeldingen kunt u gebruiken bij het beantwoorden van onderstaande vraag

- Welke kledingmaat heeft de vrouw in de Instagram posts?
  - Maat S
  - Maat M
  - Maat L

**Debriefing**

Einde van de studie.

Ik wil u nogmaals bedanken voor uw deelname aan dit onderzoek. Beide Instagram posts waren gemanipuleerd. Het doel van dit onderzoek is om te kijken naar influencers met verschillende kledingmaten (maat S vs. maat M vs. maat L) en verschillende soorten content (focus op gezondheid vs. focus op uiterlijk) en te zien of deze verschillen invloed hebben op de intentie van mensen om te gaan sporten. Let wel op! Instagram toont vaak een ideaal beeld; het perfecte plaatje. Dit kan leiden tot negatieve gevoelens en een verminderd welzijn. Wilt u weten hoe u hier beter mee om kan gaan, bezoek dan de volgende websites over mediawijsheid:

https://netwerkmediawijsheid.nl/

https://www.weekvandemediawijsheid.nl/

Als er verder nog vragen zijn, neem dan contact op met Ellen Smorenburg, e.n.smorenburg@tilburguniversity.edu

# Appendix C

## Figure C1

*Instagram Post 1 With a Health Frame - Size S*


**justbe.fit** BEN JE EIGENLIJK WEL GEZOND?!

Jarenlang was wat ik dacht dat gezond was eigenlijk helemaal niet gezond. Vooral social media heeft mij een vertekend beeld van gezondheid gegeven en liet mij geloven dat ik bepaalde dingen moest doen om gezond te zijn. Er zijn een paar dingen die iedereen moet weten over gezond zijn:
❌ Je hoeft geen voedselgroepen te schrappen. Het heeft een negatieve invloed op je relatie met voeding
❌ Je hoeft niet alleen onbewerkt voedsel te eten, zoals salades
❌ Je hoeft niet zo weinig mogelijk te eten of je eten te verdienen
❌ Sporten is geen straf omdat je iets hebt gegeten. Met sporten kan je vieren wat je lichaam allemaal kan doen
❌ Je hoeft niet te streven naar heel mager of slank zijn om gezond te zijn

Om echt gezond te zijn, moet je:
✅ Alles met mate eten
✅ Sporten om je gezondheid/kracht te verbeteren
✅ Gezonde gewoontes aanleren, zonder restricties
✅ Begrijpen dat gezondheid geen specifiek uiterlijk heeft
✅ Op een duurzame manier aan je mentale en fysieke gezondheid werken

9 October

## Figure C2

*Instagram Post 1 With a Health Frame – Size M*


**justbe.fit** BEN JE EIGENLIJK WEL GEZOND?!

Jarenlang was wat ik dacht dat gezond was eigenlijk helemaal niet gezond. Vooral social media heeft mij een vertekend beeld van gezondheid gegeven en liet mij geloven dat ik bepaalde dingen moest doen om gezond te zijn. Er zijn een paar dingen die iedereen moet weten over gezond zijn:
❌ Je hoeft geen voedselgroepen te schrappen. Het heeft een negatieve invloed op je relatie met voeding
❌ Je hoeft niet alleen onbewerkt voedsel te eten, zoals salades
❌ Je hoeft niet zo weinig mogelijk te eten of je eten te verdienen
❌ Sporten is geen straf omdat je iets hebt gegeten. Met sporten kan je vieren wat je lichaam allemaal kan doen
❌ Je hoeft niet te streven naar heel mager of slank zijn om gezond te zijn

Om echt gezond te zijn, moet je:
✅ Alles met mate eten
✅ Sporten om je gezondheid/kracht te verbeteren
✅ Gezonde gewoontes aanleren, zonder restricties
✅ Begrijpen dat gezondheid geen specifiek uiterlijk heeft
✅ Op een duurzame manier aan je mentale en fysieke gezondheid werken

9 October

## Figure C3

*Instagram Post 1 With Health Frame – Size L*


**justbe.fit** BEN JE EIGENLIJK WEL GEZOND?!

Jarenlang was wat ik dacht dat gezond was eigenlijk helemaal niet gezond. Vooral social media heeft mij een vertekend beeld van gezondheid gegeven en liet mij geloven dat ik bepaalde dingen moest doen om gezond te zijn. Er zijn een paar dingen die iedereen moet weten over gezond zijn:
❌ Je hoeft geen voedselgroepen te schrappen. Het heeft een negatieve invloed op je relatie met voeding
❌ Je hoeft niet alleen onbewerkt voedsel te eten, zoals salades
❌ Je hoeft niet zo weinig mogelijk te eten of je eten te verdienen
❌ Sporten is geen straf omdat je iets hebt gegeten. Met sporten kan je vieren wat je lichaam allemaal kan doen
❌ Je hoeft niet te streven naar heel mager of slank zijn om gezond te zijn

Om echt gezond te zijn, moet je:
✅ Alles met mate eten
✅ Sporten om je gezondheid/kracht te verbeteren
✅ Gezonde gewoontes aanleren, zonder restricties
✅ Begrijpen dat gezondheid geen specifiek uiterlijk heeft
✅ Op een duurzame manier aan je mentale en fysieke gezondheid werken

9 October

**Figure C4**

*Instagram Post 2 With a Health Frame - Size S*


**Figure C5**

*Instagram Post 2 With a Health Frame – Size M*


**Figure C6**

*Instagram Post 2 With a Health Frame – Size L*

**Figure C7**

*Instagram Post 1 With an Appearance Frame – Size S*


**justbe.fit** HOE WORD JE SLANK?!

Jarenlang was wat ik dacht dat ik moest doen om slank te worden helemaal niet de manier om dit te doen. Vooral social media heeft mij een vertekend beeld gegeven over hoe ik slank moest worden en liet me geloven dat ik bepaalde dingen moest doen om slank te worden. Er zijn een paar dingen die iedereen moet weten over slank worden:
❌ Je hoeft niet zo weinig mogelijk te eten of je eten te verdienen
❌ Je hoeft niet elke week je trainingsplan te wijzigen
❌ Je hoeft niet overdreven veel cardio te doen om vet te verliezen
❌ Je hoeft geen honderden crunches of buikspieroefeningen te doen om een six-pack te krijgen
❌ Je hoeft niet koolhydraten te vermijden, omdat ze je 'dik' maken

Om echt slank te worden, moet je:
✅ Eten in een klein en duurzaam calorietekort
✅ Consistentie is key! Niet elke week van trainingsplan wisselen en focussen op progressive overload
✅ Focussen op krachttraining in combinatie met wat cardio
✅ Meerdere spiergroepen tegelijkertijd trainen door compound lifts te doen
✅ Koolhydraten eten, waaronder fruit, groenten en volkoren granen. Koolhydraten zijn niet de vijand!

9 October

**Figure C8**

*Instagram Post 1 With an Appearance Frame – Size M*


**justbe.fit** HOE WORD JE SLANK?!

Jarenlang was wat ik dacht dat ik moest doen om slank te worden helemaal niet de manier om dit te doen. Vooral social media heeft mij een vertekend beeld gegeven over hoe ik slank moest worden en liet me geloven dat ik bepaalde dingen moest doen om slank te worden. Er zijn een paar dingen die iedereen moet weten over slank worden:
❌ Je hoeft niet zo weinig mogelijk te eten of je eten te verdienen
❌ Je hoeft niet elke week je trainingsplan te wijzigen
❌ Je hoeft niet overdreven veel cardio te doen om vet te verliezen
❌ Je hoeft geen honderden crunches of buikspieroefeningen te doen om een six-pack te krijgen
❌ Je hoeft niet koolhydraten te vermijden, omdat ze je 'dik' maken

Om echt slank te worden, moet je:
✅ Eten in een klein en duurzaam calorietekort
✅ Consistentie is key! Niet elke week van trainingsplan wisselen en focussen op progressive overload
✅ Focussen op krachttraining in combinatie met wat cardio
✅ Meerdere spiergroepen tegelijkertijd trainen door compound lifts te doen
✅ Koolhydraten eten, waaronder fruit, groenten en volkoren granen. Koolhydraten zijn niet de vijand!

9 October

**Figure C9**

*Instagram Post 1 With an Appearance Frame – Size L*


**justbe.fit** HOE WORD JE SLANK?!

Jarenlang was wat ik dacht dat ik moest doen om slank te worden helemaal niet de manier om dit te doen. Vooral social media heeft mij een vertekend beeld gegeven over hoe ik slank moest worden en liet me geloven dat ik bepaalde dingen moest doen om slank te worden. Er zijn een paar dingen die iedereen moet weten over slank worden:
❌ Je hoeft niet zo weinig mogelijk te eten of je eten te verdienen
❌ Je hoeft niet elke week je trainingsplan te wijzigen
❌ Je hoeft niet overdreven veel cardio te doen om vet te verliezen
❌ Je hoeft geen honderden crunches of buikspieroefeningen te doen om een six-pack te krijgen
❌ Je hoeft niet koolhydraten te vermijden, omdat ze je 'dik' maken

Om echt slank te worden, moet je:
✅ Eten in een klein en duurzaam calorietekort
✅ Consistentie is key! Niet elke week van trainingsplan wisselen en focussen op progressive overload
✅ Focussen op krachttraining in combinatie met wat cardio
✅ Meerdere spiergroepen tegelijkertijd trainen door compound lifts te doen
✅ Koolhydraten eten, waaronder fruit, groenten en volkoren granen. Koolhydraten zijn niet de vijand!

9 October

**Figure C10**

*Instagram Post 2 With an Appearance Frame – Size S*


**Figure C11**

*Instagram Post 2 With an Appearance Frame – Size M*


**Figure C12**

*Instagram Post 2 With an Appearance Frame – Size L*

## Appendix D

**Informed consent**

Dear participant,

Thank you for participating in this study!

With the use of this informed consent, I want to ask you to provide your consent to take part in this study. Your participation is voluntary and your answers will remain anonymous and will be reported without any identification. Before you participate in this study, I ask for your consent to save your anonymous data on the data server of Tilburg University for 5 years.

Only the researcher and the thesis supervisor can access the anonymous data. If you have any questions about this study you can contact Ellen Smorenburg, e.n.smorenburg@tilburguniversity.edu.

Do you consent to participate in this study?

- ☐ I hereby consent to participate in this study
- ☐ I hereby do not consent to participate in this study

**Instructions**

In this study, you will be shown six images of a woman. For each image, you will be asked about the clothing size of the woman in the image. You are expected to look closely at the woman in the image so that you can make a good estimate of her clothing size. It is not possible to go back to the previous image once you have clicked through. After you have

viewed and reviewed the images, you will be asked to answer two questions. These questions will be about your age and gender. The study will take approximately 1 to 2 minutes.

**Questions with stimuli (randomized)**

*Stimuli #1*

- What is the clothing size of the woman in the image?
    - Size S
    - Size M
    - Size L

*Stimuli #2*

- What is the clothing size of the woman in the image?
    - Size S
    - Size M
    - Size L

*Stimuli #3*

- What is the clothing size of the woman in the image?
    - Size S
    - Size M
    - Size L

*Stimuli #4*

- What is the clothing size of the woman in the image?
    - Size S
    - Size M
    - Size L

*Stimuli #5*

- What is the clothing size of the woman in the image?
    - Size S
    - Size M
    - Size L

*Stimuli #6*

- What is the clothing size of the woman in the image?
    - Size S
    - Size M
    - Size L

Next, you have to provide some personal information

- What gender do you identify as?
    - *Male*
    - *Female*
    - *Other*
- What is your age?

# Appendix E

## Informed consent

Beste deelnemer,

Bedankt voor uw deelname aan dit onderzoek!

Door middel van dit formulier wil ik u vragen om uw toestemming te geven om deel te nemen aan dit onderzoek. Uw deelname is vrijwillig en uw antwoorden zullen anoniem blijven en zullen niet aan uw identiteit gekoppeld worden. Voordat u deelneemt aan dit onderzoek, vraag ik uw toestemming om uw anonieme gegevens gedurende 5 jaar op te slaan op de dataserver van Tilburg Universiteit.

Alleen de onderzoeker en de scriptiebegeleider hebben toegang tot de anonieme gegevens. Als u vragen heeft over dit onderzoek kunt u contact opnemen met Ellen Smorenburg, e.n.smorenburg@tilburguniversity.edu.

Geeft u toestemming om deel te nemen aan dit onderzoek?

- ☐ Ik geef hierbij toestemming om deel te nemen aan dit onderzoek
- ☐ Ik geef hierbij GEEN toestemming om deel te nemen aan dit onderzoek

## Instructies

In dit onderzoek krijgt u zes afbeeldingen van een vrouw te zien. Per afbeelding wordt aan u gevraagd welke kledingmaat de vrouw in de afbeelding heeft. Er wordt verwacht dat u goed naar de vrouw in de afbeelding kijkt, zodat u een goede inschatting kan maken van haar kledingmaat. Het is niet mogelijk om terug te gaan naar de vorige afbeelding als u eenmaal

heeft doorgeklikt. Nadat u de afbeeldingen heeft bekeken en beoordeeld, wordt u gevraagd om twee vragen te beantwoorden. Deze vragen zullen gaan over uw leeftijd en geslacht. Het onderzoek duurt ongeveer 1 tot 2 minuten.

**Vragen met stimuli (in willekeurige volgorde)**

*Stimuli #1*

- Welke kledingmaat heeft de vrouw in bovenstaande afbeelding?
    - Maat S
    - Maat M
    - Maat L

*Stimuli #2*

- Welke kledingmaat heeft de vrouw in bovenstaande afbeelding?
    - Maat S
    - Maat M
    - Maat L

*Stimuli #3*

- Welke kledingmaat heeft de vrouw in bovenstaande afbeelding?
    - Maat S
    - Maat M
    - Maat L

*Stimuli #4*

- Welke kledingmaat heeft de vrouw in bovenstaande afbeelding?
    - Maat S
    - Maat M
    - Maat L

*Stimuli #5*

- Welke kledingmaat heeft de vrouw in bovenstaande afbeelding?
    - Maat S
    - Maat M
    - Maat L

*Stimuli #6*

- Welke kledingmaat heeft de vrouw in bovenstaande afbeelding?
    - Maat S
    - Maat M
    - Maat L

Nu wil ik u vragen om enkele persoonlijke gegevens te verstrekken.

- Met welk geslacht identificeert u zich?
    - *Man*
    - *Vrouw*
    - *Anders*
- Wat is uw leeftijd?