

SOCIAL COMPARISON AS A MODERATOR BETWEEN PERCEIVED SOCIAL RISK AND PURCHASE INTENTION

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ABSTRACT:

The study aims to analyse the moderator effect of social comparison, which influences the strength of the relationship between perceived social risk (independent variable) and purchase intention (dependent variable). Next to that, it aims to answer the question whether there are any differences in the effects of trust and perceived social risk on the intention to join a fitness centre when participants are exposed to advertising which depicts a slim model (desired end state) or to advertising portraying a heavy one (undesired end state). The results show that, on the one hand, social comparison influences the strength of the effect of perceived social risk on the intention to join a fitness centre. On the other hand, there is a significant difference and a higher influence of perceived social risk on the intention to join a fitness centre when participants are exposed to a desired end state via advertising.

KEY WORDS:

advertising, distance, fitness centre, intention, social comparison, social risk, trust

Introduction

The fitness centre industrial sector is highly competitive and the number of members joining fitness clubs has increased significantly. Figure 1 illustrates the increase in the number of members of such clubs in Germany between 2003 and 2017. In 2017, the total amount of members reached 10.61 million and there were 8,988 fitness centres in Germany. Worldwide there are more than 180,000 fitness centres visited by 145 million members.¹

¹ *Mitgliederzahl der Fitnessstudios in Deutschland von 2003 bis 2017 (in Millionen)*. [online]. [2018-08-07]. Available at: <<https://de.statista.com/statistik/daten/studie/5966/umfrage/mitglieder-der-deutschen-fitnessclubs/>>.



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Theoretical Outlines and Model Development

As a foundation for the present research the triangle relationship of risk-trust-purchase intention proposed by Groß will be used.⁷ In his study, Groß analyses the relationship of different types of risk and trust in terms of purchase intention in the sphere of mobile shopping. Extending his research model is mentioned as one of the possibilities for future research.⁸ The structural equation model of Groß will be extended by the moderator social comparison. The theoretical reflection on the given issues starts with a general understanding of the four terms which will be in the centre of our attention: “perceived social risk”, “trust”, “purchase intention” and “social comparison”.

The concept of “perceived risk” is used to describe the consumer’s behaviour in the process of decision-making.⁹ Cunningham defines six different types or dimensions of risk: performance, financial, opportunity/time, safety, social and psychological loss.¹⁰ Our research will focus on the social perceived risk, as this is not addressed in Groß’s study. Groß differentiates between internal and external risk, taking into consideration privacy, security and financial internal risk. Therefore, the present research will consider the internal perceived social risk in order to extend Groß’s research. “Perceived risk” can be defined as an uncertainty of the social consequences or outcome of a choice.¹¹ However, “perceived social risk” can be seen as the “*potential loss of status in one’s social group as a result of adopting a product or service, looking foolish or untrendy*”.¹² When somebody is joining a fitness centre, the consumer normally needs to sign in for a year or even longer. Because of this rather long contract duration the decision can be categorised as risky. In each risky decision trust is needed.¹³ Groß describes “trust” as the main driver and part of the risk reduction strategy applied by the consumer.¹⁴ Moreover, Mitchell points out that the development of trust will decrease the level of risk.¹⁵

As Mitchell further claims, “perceived risk” is a powerful tool to explain individual behaviour.¹⁶ A couple of theoretical and empirical studies have identified risk as a critical factor which influences consumer decision-making.¹⁷ However, it is important to point out that it is not the objective risk (real-world risk), but rather the subjective perceived risk, which motivates consumer behaviour.¹⁸ Considering the research findings

7 GROß, M.: Impediments to Mobile Shopping Continued Usage Intention: A Trust-Risk-Relationship. In *Journal of Retailing and Consumer Services*, 2016, Vol. 33, p. 109-119.
 8 GROß, M.: Impediments to Mobile Shopping Continued Usage Intention: A Trust-Risk-Relationship. In *Journal of Retailing and Consumer Services*, 2016, Vol. 33, p. 117.
 9 BAUER, R. A.: Consumer Behavior as Risk Taking. In HANCOCK, R. S. (ed.): *Dynamic Marketing for a Changing World. Conference of the American Marketing Association. Conference Proceedings*. Chicago: American Marketing Association, 1960, p. 389.
 10 See: FEATHERMAN, M. S., PAVLOU, P. A.: Predicting E-Services Adoption: A Perceived Risk Facets Perspective. In *International Journal of Human-Computer Studies*, 2003, Vol. 59, No. 4, p. 454; CUNNINGHAM, S. M.: The Major Dimensions of Perceived Risk. In COX, D. F. (ed.): *Risk Taking and Information Handling in Consumer Behavior*. Boston: Harvard University Press, 1967, p. 82-108.
 11 TAYLOR, J. W.: The Role of Risk in Consumer Behavior. In *Journal of Marketing*, 1974, Vol. 38, No. 2, p. 54.
 12 FEATHERMAN, M. S., PAVLOU, P. A.: Predicting E-Services Adoption: A Perceived Risk Facets Perspective. In *International Journal of Human-Computer Studies*, 2003, Vol. 59, No. 4, p. 455.
 13 MAYER, R. C. et al.: An Integrative Model of Organizational Trust. In *Academic Management Review*, 1995, Vol. 20, No. 3, p. 711.
 14 GROß, M.: Impediments to Mobile Shopping Continued Usage Intention: A Trust-Risk-Relationship. In *Journal of Retailing and Consumer Services*, 2016, Vol. 33, p. 112.
 15 MITCHELL, V. W.: Consumer Perceived Risk: Conceptualizations and Models. In *European Journal of Marketing*, 1999, Vol. 33, No. 1-2, p. 174.
 16 See: MITCHELL, V. W.: Consumer Perceived Risk: Conceptualizations and Models. In *European Journal of Marketing*, 1999, Vol. 33, No. 1-2, p. 163; LIAO, C. et al.: Predicting the Use of Pirated Software: A Contingency Model Integrating Perceived Risk with the Theory of Planned Behavior. In *Journal of Business Ethics*, 2010, Vol. 91, No. 2, p. 239.
 17 For more information, see: FEATHERMAN, M. S., PAVLOU, P. A.: Predicting E-Services Adoption: A Perceived Risk Facets Perspective. In *International Journal of Human-Computer Studies*, 2003, Vol. 59, No. 4, p. 451-474; FRAEDRICH, J. P., FERRELL, O. C.: The Impact of Perceived Risk and Moral Philosophy Type on Ethical Decision Making in Business Organizations. In *Journal of Business Research*, 1992, Vol. 24, No. 4, p. 283-295; JACOBY, J., KAPLAN, L. B.: The Components of Perceived Risk. In *Association for Consumer Research. Conference Proceedings*. Chicago: Association for Consumer Research, 1972, p. 382-393; MITCHELL, V. W.: ‘Understanding Consumers’ Behavior: Can Perceived Risk Theory Help?’ In *Management Decision*, 1992, Vol. 30, No. 3, p. 26-31; PAVLOU, P. A.: Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model. In *International Journal of Electronic Commerce*, 2003, Vol. 7, No. 3, p. 101-134.
 18 See: MITCHELL, V. W.: Consumer Perceived Risk: Conceptualizations and Models. In *European Journal of Marketing*, 1999, Vol. 33, No. 1-2, p. 164; BAUER, R. A.: Consumer Behavior as Risk Taking. In HANCOCK, R. S. (ed.): *Dynamic Marketing for a Changing World. Conference of the American Marketing Association. Conference Proceedings*. Chicago: American Marketing Association, 1960, p. 389-398.

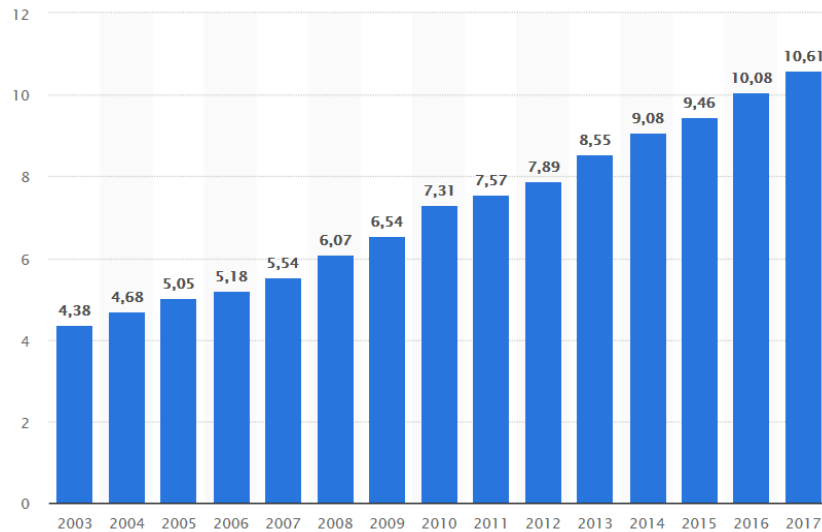


Figure 1: Number of members of fitness centres in Germany (in millions)
 Source: Mitgliederzahl der Fitnessstudios in Deutschland von 2003 bis 2017 (in Millionen). [online]. [2018-08-07]. Available at: <https://de.statista.com/statistik/daten/studie/5966/umfrage/mitglieder-der-deutschen-fitnessclubs/>.

The given market situation underlines the necessity for owners of fitness centres to figure out how they can eliminate or at least weaken their competitors by applying an appropriate communication strategy. The focus of our study will be on advertising strategies suitable for a fitness centre. The possibilities related to fitness centres can be categorised as a service that is offered to the consumer. Pickett et al. state that scholarly inquiry in the area of services is still needed and that most of the research on service advertising is rather conceptual than empirical.² Our research will be further limited to the models displayed in advertising related to a fitness centre. We would like to find out whether it is better to use an ideal (a slim model), which represents a desired end state, or an undesired end state marked by presence of a heavy model.

In general, it can be stated that people tend to compare themselves with other individuals present in their daily lives (friends, colleagues and/or actors), but also to models appearing in magazines or advertising.³ This tendency is defined as “social comparison”.⁴ Research on advertising effectiveness shows contrary results concerning the use of highly attractive models, which represent some kind of desired end state, compared to ‘normal’ attractive models.⁵

Bower and Landreth’s study suggests that it depends on the type or category of product whether an attractive model increases the ad’s effectiveness or not.⁶ That is why our research includes two different types of advertisements promoting a fitness centre: one fitness centre ad displaying a slim/muscular model, which represents an ideal end state, and a second ad that shows a heavy model, thus representing an undesired end state. The ads’ effectiveness will be measured by the willingness of consumers who are exposed to the ads to join the fitness centre by taking into account their perceived social risk and trust.

2 PICKETT, G. M. et al.: The Impact of Product Type and Parity on the Informational Content of Advertising. In *Journal of Marketing Theory and Practice*, 2001, Vol. 9, No. 3, p. 32.

3 LIN, C. H., TSAI, C. C.: Comparisons and Advertising: The Route from Comparison to Effective Advertising. In *Journal of Business and Psychology*, 2006, Vol. 21, No. 1, p. 23.

4 KLESSE, A. K. et al.: Repeated Exposure to the Thin Ideal and Implications for the Self: Two Weight Loss Program Studies. In *International Journal of Research in Marketing*, 2012, Vol. 29, No. 4, p. 356.

5 BOWER, A. B., LANDRETH, S.: Is Beauty Best? Highly versus Normally Attractive Models in Advertising. In *Journal of Advertising*, 2001, Vol. 30, No. 1, p. 1.

6 BOWER, A. B., LANDRETH, S.: Is Beauty Best? Highly versus Normally Attractive Models in Advertising. In *Journal of Advertising*, 2001, Vol. 30, No. 1, p. 6.

published by Featherman and Pavlou, it can be stated that each dimension of risk negatively co-varies with intention.¹⁹ However, Featherman and Pavlou underline the fact that social risk is the least important dimension of risk in the area of e-services,²⁰ but also the concept that is the most difficult to measure accurately.²¹

The notion of “trust” is seen as “*positive expectations in face of uncertainty*”²² and will be defined as a risky behaviour in terms of which the consumer trusts that the other party is benevolent (in our case the owner of the fitness centre) and that the provided service (the fitness centre) will fulfil its obligations.²³ Akrouf and Akrouf mention “purchase intention” as one of the economic consequences of trust. Studies of Doney and Cannon and Key and Xie confirm the positive influence that trust has on the purchase intention.²⁴ Furthermore, other studies in the area of online shopping show that lack of trust results in fewer purchases.²⁵

As noted above, the effect of perceived social risk and trust on the intention to join a fitness centre will be analysed. The “purchase intention” is defined as the recipients’ assessments of the likelihood that they will buy the product in the future or in the case of a service the likelihood that they will join the fitness club.²⁶ All of the aforementioned studies verify that trust can be positively correlated with purchase intention²⁷ and negatively correlates with perceived risk,²⁸ which in turn negatively correlates with purchase intention.²⁹

However, the consequences of social comparison and the effect of exposure to a desired versus an undesired end state on the relationship between perceived social risk, trust and intention to decide for a service require much more investigation.³⁰ Most of the studies in the area of advertising effectiveness or advertising attitude have focused on common repeat-purchase products or other types of products.³¹ Therefore it seems to be important to test the following hypotheses and analyse whether the effects differ for participants who are exposed to a desired versus an undesired end state.

19 FEATHERMAN, M. S., PAVLOU, P. A.: Predicting E-Services Adoption: A Perceived Risk Facets Perspective. In *International Journal of Human-Computer Studies*, 2003, Vol. 59, No. 4, p. 460.

20 FEATHERMAN, M. S., PAVLOU, P. A.: Predicting E-Services Adoption: A Perceived Risk Facets Perspective. In *International Journal of Human-Computer Studies*, 2003, Vol. 59, No. 4, p. 460.

21 MITCHELL, V. W.: Consumer Perceived Risk: Conceptualizations and Models. In *European Journal of Marketing*, 1999, Vol. 33, No. 1-2, p. 185.

22 GUSEVA, A., RONA-TAS, A.: Uncertainty, Risk, and Trust: Russian and American Credit Card Markets Compared. In *American Sociological Review*, 2001, Vol. 66, No. 5, p. 627.

23 AKROUT, W., AKROUT, H.: Trust in B-to-B: Toward a Dynamic and Integrative Approach. In *Recherche et Applications en Marketing*, 2011, Vol. 26, No. 1, p. 3.

24 AKROUT, W., AKROUT, H.: Trust in B-to-B: Toward a Dynamic and Integrative Approach. In *Recherche et Applications en Marketing*, 2011, Vol. 26, No. 1, p. 8.

25 For example: GAO, L. et al.: Understanding Consumers’ Continuance Intention towards Mobile Purchase: A Theoretical Framework and Empirical Study – A Case of China. In *Computers in Human Behavior*, 2015, Vol. 53, No. 12, p. 249-262; YANG, S. et al.: Understanding Consumers’ Web-Mobile Shopping Extension Behavior: A Trust Transfer Perspective. In *Journal of Computer Information Systems*, 2015, Vol. 55, No. 2, p. 78-87; KUMAR, A., MUKHERJEE, A.: Shop While You Talk: Determinants of Purchase Intentions through a Mobile Device. In *International Journal of Mobile Marketing*, 2013, Vol. 8, No. 1, p. 23-37; ZHOU, T.: An Empirical Examination of the Determinants of Mobile Purchase. In *Personal and Ubiquitous Computing*, 2013, Vol. 17, No. 1, p. 187-195.

26 LUTZ, R. J. et al.: Attitude toward the Ad as a Mediator of Advertising Effectiveness: Determinants and Consequences. In BAGOZZI, R. P., TYBOUT, A. M. ABOR, A. (eds.): *Advances in Consumer Research. Conference Proceedings*. Michigan: Association for Consumer Research, 1983, p. 533.

27 For more information, see: AKROUT, W., AKROUT, H.: Trust in B-to-B: Toward a Dynamic and Integrative Approach. In *Recherche et Applications en Marketing*, 2011, Vol. 26, No. 1, p. 1-21; DONEY, P. M., CANNON, J. P.: An Examination of the Nature of Trust in Buyer-Seller Relationships. In *Journal of Marketing*, 1997, Vol. 61, No. 2, p. 35-51; KEY, H. T., XIE, Y.: Corporate Reputation and Customer Behavioral Intentions: The Roles of Trust, Identification and Commitment. In *Industrial Marketing Management*, 2009, Vol. 38, No. 7, p. 732-742.

28 See: MITCHELL, V. W.: Consumer Perceived Risk: Conceptualizations and Models. In *European Journal of Marketing*, 1999, Vol. 33, No. 1-2, p. 163-195; GROB, M.: Impediments to Mobile Shopping Continued Usage Intention: A Trust-Risk-Relationship. In *Journal of Retailing and Consumer Services*, 2016, Vol. 33, p. 109-119.

29 FEATHERMAN, M. S., PAVLOU, P. A.: Predicting E-Services Adoption: A Perceived Risk Facets Perspective. In *International Journal of Human-Computer Studies*, 2003, Vol. 59, No. 4, p. 460.

30 See: PICKETT, G. M. et al.: The Impact of Product Type and Parity on the Informational Content of Advertising. In *Journal of Marketing Theory and Practice*, 2001, Vol. 9, No. 3, p. 32; BOWER, A. B., LANDRETH, S.: Is Beauty Best? Highly versus Normally Attractive Models in Advertising. In *Journal of Advertising*, 2001, Vol. 30, No. 1, p. 10.

31 See, for example: BOWER, A. B., LANDRETH, S.: Is Beauty Best? Highly versus Normally Attractive Models in Advertising. In *Journal of Advertising*, 2001, Vol. 30, No. 1, p. 7; BROWN, S. P., STAYMAN, D. M.: Antecedents and Consequences of Attitude toward the Ad: A Meta-Analysis. In *Journal of Consumer Research*, 1992, Vol. 19, No. 1, p. 34-51.

H1: A higher level of trust results in a higher intention to join a fitness centre.

H2: The higher the trust towards a fitness centre, the lower the perceived social risk.

H3: The relationship between perceived social risk and the intention to join a fitness centre is moderated by social comparison.

The third hypothesis, which is derived from previous studies conducted by other authors, is extended by the element of moderator social comparison. The social comparison theory proposed by Festinger claims that consumers are driven to evaluate their abilities and options during a comparison process.³² Social comparison, which is also associated with looking at models displayed in ads,³³ can lead to certain consumer behaviour (such as purchase intention) in order to reduce the discovered discrepancy between the comparison standard and oneself.³⁴ The outcome of social comparison is not mentioned by Festinger; however, other studies on the topic note the consequences of social comparison on self-perception, self-esteem and satisfaction.³⁵ Therefore a new aspect should be analysed in the current study – whether social comparison as a moderator variable is able to strengthen the influence of perceived social risk on purchase intention related to a service. Based on the scholarly literature overview offered above, the underlying research model with its derived relationships between the constructs is visualised in Figure 2 below.

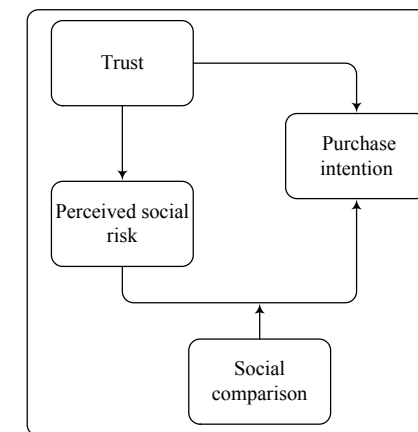


Figure 2: The influence of trust and perceived social risk, moderated by social comparison, on purchase intention
Source: GROB, M.: Impediments to Mobile Shopping Continued Usage Intention: A Trust-Risk-Relationship. In *Journal of Retailing and Consumer Services*, 2016, Vol. 33, p. 112.

Methodological Approach

Participants and procedure

In order to analyse the relationship shown in Figure 2 above an online survey was conducted in February, March and April 2017. The convenience sample method was used; the hypertext link to access the questionnaire form was posted multiple times online, on one of the authors’ Facebook and Xing timelines.

32 FESTINGER, L.: A Theory of Social Comparison Processes. In *Human Relations*, 1954, Vol. 7, No. 2, p. 117.

33 RICHINS, M. L.: Social Comparison and the Idealized Images of Advertising. In *Journal of Consumer Research*, 1991, Vol. 18, No. 1, p. 72.

34 FESTINGER, L.: A Theory of Social Comparison Processes. In *Human Relations*, 1954, Vol. 7, No. 2, p. 124.

35 See: RICHINS, M. L.: Social Comparison and the Idealized Images of Advertising. In *Journal of Consumer Research*, 1991, Vol. 18, No. 1, p. 71-83; MARTIN, M. C., GENTRY, J. W.: Stuck in the Model Trap: The Effects of Beautiful Models in Ads on Female Pre-Adolescents and Adolescents. In *Journal of Advertising*, 1997, Vol. 26, No. 2, p. 19-34; SMEESTERS, D., MANDEL, N.: Positive and Negative Media Image Effects on the Self. In *Journal of Consumer Research*, 2006, Vol. 32, No. 4, p. 576-582.

The respondents were asked to distribute the link further. Moreover, 298 students of Bachelor's and Master's study programmes at the *Fachhochschule für Oekonomie und Management (FOM)* received e-mails containing the given link. Next to that, similar e-mails were also sent to all German-speaking employees of the company *Serrala Group GmbH* (around 100 people) and to all employees of the company *Neusta Consulting* in Hamburg (around 600 people). Questionnaire forms with more than 20% missing values were excluded from further inquiry. At the end, 643 questionnaires were filled out with less than 20% missing values. Table 1 provides an overview of the samples' demographics.

Table 1: Demographic characteristics of both research samples

Demographic Criteria	Exposed to a Desired End State	Exposed to an Undesired End State
	428 (66.6%)	215 (33.4%)
Gender		
Male	189 (67.3%)	92 (32.7%)
Female	239 (66.0%)	123 (34.0%)
Age	Ø 33.87 years	Ø 33.95 years
	(S.D. = 11.65 years)	(S.D. = 11.56 years)
≤ 19 years old	6 (1.4%)	3 (1.4%)
20 – 29 years old	140 (32.7%)	63 (29.3%)
30 – 39 years old	153 (34.7%)	82 (38.1%)
40 – 49 years old	70 (16.4%)	40 (18.6%)
≥ 50 years old	46 (10.7%)	16 (7.4%)
Occupation		
Scholar	6 (1.4%)	3 (1.4%)
Student	55 (12.9%)	18 (8.4%)
Employed	339 (79.2%)	173 (80.5%)
Pensioner	5 (1.2%)	1 (0.5%)
Seeking a job	3 (0.7%)	5 (2.3%)
Parental leave	13 (3.0%)	3 (1.4%)
Housewife/- husband	5 (1.2%)	4 (1.9%)
Not answered	2 (0.5%)	8 (3.7%)

Source: own processing

A chi-square test for variance could not identify any statistical difference between both sample groups in the listed demographics (at a p-value of 0.05). Therefore both samples can be considered as more or less equal in relation to the mentioned demographics.

Questionnaire development and instrument

At the beginning of each questionnaire the participants had to select their gender. This selection was necessary as the participants were exposed to an advertising content displaying a woman (in case of a female participant) or a man (in case of a male participant). The underlying reason is that the participants should have compared their own BMI to the BMI of the displayed model in order to determine the distance. This social comparison takes place when

consumers are exposed to an advertisement,³⁶ in which the testimonial is similar to them.³⁷ Therefore men should have been exposed only to a male model and women just to a female model. The advertisement (the undesired or desired model image) to which an individual participant was exposed to was selected randomly.

In the second part of the questionnaire the participants had to answer questions related to their social risk perception (2 items), purchase intention (5 items), social comparison (3 items) and trust (5 items). At the end of the questionnaire some personal questions about e.g. the age and social status of the participants were included.

Operationalisation of constructs

Perceived social risk and trust are exogenous variables whereas purchase intention is an endogenous variable in the model; as all three constructs or latent variables. Therefore they cannot be observed directly. An operationalisation of the constructs by different items thus needs to take place. The used items have already been mentioned in various researches and studies, but we adjust them to comply with our research's context (e.g. 'product' is replaced by 'service' or 'fitness centre'). The approach based on using existing items helps us avoid a construct overflow.³⁸ Next to that, we use multiple items to measure the constructs. In contrast to a single item measure distortions of individual items are avoided by the use of multiple items.³⁹ Table 2 shows the items which are used to operationalise the perceived social risk, trust, social comparison and purchase intention, as well as the reference sources.

Table 2: Operationalisation of the constructs

Construct	Item	Item wording	Reference source
Perceived social risk	RISK1	If your friends, relatives or associates are aware that you have joined this fitness centre, what is the probability that you will lose their respect?	Research inquiries conducted by Azize, Cemal and Hakan ⁴⁰ and Kemp, Bui and Chapa. ⁴¹
	RISK2	If your friends, relatives or associates are aware that you have joined this fitness centre, what is the probability that they will look down on you?	
Trust	TR1	This fitness club keeps its promises and commitments.	Research inquiries conducted by Azize, Cemal and Hakan, ⁴² Kim, Xu and Gupta ⁴³ and Seppänen, Blomqvist and Sundqvist. ⁴⁴
	TR2	This fitness club is trustworthy.	
	TR3	Offer me a service with constant quality level.	
	TR4	Help me solve any problem I could have with the service.	
	TR5	Value me as a customer of its fitness club.	

- 36 LIN, C. H., TSAI, C. C.: Comparisons and Advertising: The Route from Comparison to Effective Advertising. In *Journal of Business and Psychology*, 2006, Vol. 21, No. 1, p. 42.
- 37 MILKIE, M. A.: Social Comparisons, Reflected Appraisals, and Mass Media: The Impact of Pervasive Beauty Images on Black and White Girls' Self-Concepts. In *Social Psychology Quarterly*, 1999, Vol. 62, No. 2, Special Issue, p. 199.
- 38 WEIBER, R., MÜHLHAUS, D.: *Strukturgleichungsmodellierung*. Berlin Heidelberg: Springer Verlag, 2014, p. 105.
- 39 WEIBER, R., MÜHLHAUS, D.: *Strukturgleichungsmodellierung*. Berlin Heidelberg: Springer Verlag, 2014, p. 111.
- 40 AZIZE, S., CEMAL, Z., HAKAN, K.: Does Brand Communication Increase Brand Trust? The Empirical Research on Global Mobile Phone Brands. In *Social and Behavioral Science*, 2012, Vol. 58, p. 1365.
- 41 KEMP, E., BUI, M., CHAPA, S.: The Role of Advertising in Consumer Emotion Management. In *International Journal of Advertising*, 2012, Vol. 31, No. 2, p. 344.
- 42 AZIZE, S., CEMAL, Z., HAKAN, K.: Does Brand Communication Increase Brand Trust? The Empirical Research on Global Mobile Phone Brands. In *Social and Behavioral Science*, 2012, Vol. 58, p. 1365.
- 43 KIM, H. W., XU, Y., GUPTA, S.: Which is More Important in Internet Shopping, Perceived Price or Trust? In *Electronic Commerce Research and Applications*, 2012, Vol. 11, No. 3, p. 245.
- 44 SEPPÄNEN, R., BLOMQVIST, K., SUNDQVIST, S.: Measuring Inter-Organizational Trust – A Critical Review of the Empirical Research in 1990-2003. In *Industrial Marketing Management*, 2007, Vol. 36, No. 2, p. 263.

Social comparison	SCOM1	I often compare myself to men/women who are better off than me in terms of physical attractiveness.	Research inquiries conducted by Richins, ⁴⁵ Gibbons and Buunk, ⁴⁶ Brown and Stayman ⁴⁷ and Buunk et al. ⁴⁸
	SCOM2	When I see men/women in ads, I think about how well or how badly I look compared to the models.	
	SCOM3	I wish I looked more like the men/women in advertisements.	
Purchase intention	PINT1	The probability that I would consider joining this fitness centre is very high.	Research inquiries conducted by Sichtmann ⁴⁹ and Kim, Xu and Gupta. ⁵⁰
	PINT2	If I were to join a fitness centre, I would consider joining this one.	
	PINT3	The likelihood of me joining this fitness centre is high.	
	PINT4	My willingness to join this fitness centre is high.	
	PINT5	I will be a member of this fitness centre in the future.	

Source: own processing

In order to calculate the moderator effect the Product Indicator Approach is used. Therefore, a new latent variable that represents the interaction between the exogenous variable and the moderator variable is created. Each social comparison value of a specific person will be multiplied by the two items which measure the perceived risk. Following this approach, six values for the new interaction variable ("INTER") are computed.

Product selection and ad design (stimuli)

A pre-test with 105 participants, who were selected by the convenience sampling method, was conducted in order to select three different pictures of exercising women and three of exercising men from a couple of randomly selected pictures of this kind. The body types of models depicted in these three pictures differed from each other significantly, including the following types: muscular, heavy and slim. All model size categories were taken into account for the ads in order to avoid any side effects of the size of the model on the researched relationships.

In the main study three ads were displayed per gender (a muscular/slim/heavy man and a muscular/heavy/slim woman), but only one of these was shown to the individual participant. The ad was assigned randomly to each participant. The design of all three ads was the same – the picture of the model was situated on the left side, the background was black and no brand name was mentioned. The underlying reason was that the brand name influences people's attitudes towards the ad and related constructs.⁵¹ We wanted to exclude this influence. The advertising message was always the same: "Get a strong back – do something against or avoid issues with your back", and the following information was provided: "A 12-month contract for 25.90€/month". This information aimed to highlight that the customer was to be bound by contract for a longer period of time.

45 RICHINS, M. L.: Social Comparison and the Idealized Images of Advertising. In *Journal of Consumer Research*, 1991, Vol. 18, No. 1, p. 76.

46 GIBBONS, F. X., BUUNK, B. P.: Individual Differences in Social Comparison: The Development of a Scale of Social Comparison Orientation. In *Journal of Personality and Social Psychology*, 1999, Vol. 76, No. 1, p. 142.

47 BROWN, S. P., STAYMAN, D. M.: Antecedents and Consequences of Attitude Toward the Ad: A Meta-Analysis. In *Journal of Consumer Research*, 1992, Vol. 19, No. 1, p. 65.

48 BUUNK, B. P. et al.: Engaging in Upward and Downward Comparisons as a Determinant of Relative Deprivation at Work: A Longitudinal Study. In *Journal of Vocational Behavior*, 2003, Vol. 62, No. 2, p. 377.

49 SICHTMANN, C.: An Analysis of Antecedents and Consequences of Trust in a Corporate Brand. In *European Journal of Marketing*, 2007, Vol. 41, No. 9-10, p. 1006.

50 KIM, H. W., XU, Y., GUPTA, S.: Which Is More Important in Internet Shopping, Perceived Price or Trust? In *Electronic Commerce Research and Applications*, 2012, Vol. 11, No. 3, p. 245.

51 MOORE, D. L., HUTCHINSON, W. J.: The Effects of Ad Affect on Advertising Effectiveness. In BAGOZZI, R. P., TYBOUT, A. M., ABOR, A. (eds.): *Advances in Consumer Research. Conference Proceedings*. Michigan: Association for Consumer Research, 1983, p. 526-531.

Statistical technique

The present research used a quantitative research method as the hypotheses derived from the theory should have been tested by many participants to ensure statistical validity. It can be classified as an applied research study as it tries to solve a practical problem, which is to give marketers recommendations about the best ways of influencing consumers' purchase intention based on the gender of the target group. As own data was collected the study is empirical (primary data is obtained). The cognitive interest is explanatory as the already derived hypotheses should be tested. The location of the study was the field. Field studies are also conducted by questionnaires filled online, which was also the case of the current study.⁵² The questionnaire was used only once, which is characteristic for independent measure designs. Last, a group design was chosen, which means a sample of the population was asked to participate in the questionnaire.

For the estimation of the SEM it was decided to use PLS as a variance based estimation method. The study aimed at identifying the reasons for selecting the variance based in contrast to the co-variance based estimation method. In other words, the goal was to give advertising managers specific recommendations what type of advertising is able to influence trust and perceived social risk in such a way that one's intention to join a fitness club can be increased.

Research Model Results

In the following part of the study, the evaluation of the measurement model and structural model takes place. The measurement model is also called the outer model, whereas the structural model can also be defined as the inner model.⁵³ In order to test the derived hypotheses the inner model needs to be assessed. However, it is important to evaluate the outer model first, in order to obtain useful results.

Evaluation of the measurement model

First, the internal consistency reliability and convergent validity are assessed by Cronbach's alpha, the composite reliability, the average variance extracted (AVE) and the indicator reliability for each construct.⁵⁴ Table 3 shows the results of the reliability and validity analysis.

Table 3: Reliability and validity analysis

Variable	Items	Indicator Reliability	Cronbach's Alpha	Composite Reliability	AVE
Perceived Social Risk			0.823	0.917	0.847
	RISK1	0.897			
	RISK2	0.943			
Trust			0.879	0.911	0.673
	TR1	0.848			
	TR2	0.874			
	TR3	0.748			
	TR4	0.780			
	TR5	0.845			

52 For more information, see: DÖRING, N., BROTZ, J.: *Forschungsmethoden und Evaluation in den Sozial- und Humanwissenschaften*. Auflage: Springer Verlag, 2016.

53 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks: SAGE, 2017, p. 44.

54 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks: SAGE, 2017, p. 132.

Purchase Intention			0.930	0.947	0.780
	PINT1	0.987			
	PINT2	0.885			
	PINT3	0.847			
	PINT4	0.884			
	PINT5	0.857			
Social Comparison			0.865	0.915	0.782
	SCOM1	0.897			
	SCOM2	0.918			
	SCOM3	0.835			
Inter			0.887	0.906	0.620
	INTER1	0.750			
	INTER2	0.864			
	INTER3	0.715			
	INTER4	0.845			
	INTER5	0.649			
	INTER6	0.785			

Source: own processing

The threshold value for Cronbach's Alpha is above 0.6, which is the case of all constructs. For the composite reliability values of above 0.70 are judged as satisfactory. The composite reliability for all constructs is above this threshold value. To sum up, the internal consistency reliability is present. Based on Hair et al., the indicator reliability, which is also called the outer loading, should be 0.708 or higher. This applies to all items which measure the construct of perceived social risk, trust and purchase intention. Last, the AVE is above the threshold value of 0.5 for all constructs.⁵⁵ Therefore it can be stated that the convergent validity is given. It can be summarised that all constructs show adequate internal consistency reliability and convergent validity. The discriminant validity is checked by the Fornell-Larcker criterion and the cross loadings. According to Fornell and Larcker, the discriminant validity is present if the root of the AVE is higher than any correlation with any other construct.⁵⁶ Table 4 shows the analysis of the Fornell-Larcker criterion.

Table 4: Fornell-Larcker criterion

Latent variable	(1)	(2)	(3)	(4)
(1) Inter	0.787 (0.620)			
(2) Purchase intention	0.141	0.883 (0.780)		
(3) Perceived social risk	0.045	0.095	0.920 (0.847)	
(4) Trust	0.033	0.572	-0.103	0.820 (673)

Notes: The diagonal contains $\sqrt{\text{AVE}}$ and AVE values in brackets, and the correlations outside the diagonal. For discriminant validity the $\sqrt{\text{AVE}}$ values should exceed off-diagonal correlations.

Source: own processing

55 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 112-115.
56 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 117.

All roots of the AVE values are higher than any other correlation with any other construct. Therefore, the discriminant validity is given. Next to the Fornell-Larcker criterion the cross loading should be analysed. Table 5 below visualizes these for all indicators and constructs.

Table 5: Cross loadings

	Purchase Intention	Perceived Social Risk	Trust	Inter
PINT1	0.905	0.054	0.569	0.057
PINT2	0.887	0.079	0.546	-0.025
PINT3	0.862	0.077	0.460	0.022
PINT4	0.893	0.079	0.489	0.009
PINT5	0.867	0.137	0.443	0.066
RISK1	0.069	0.897	-0.085	0.016
RISK2	0.102	0.943	-0.103	0.061
TR1	0.401	-0.114	0.848	0.057
TR2	0.500	-0.135	0.874	-0.023
TR3	0.324	-0.150	0.748	0.022
TR4	0.450	-0.036	0.780	0.009
TR5	0.598	-0.022	0.845	0.066
INTER1	0.060	0.051	0.002	0.766
INTER2	0.135	0.061	0.035	0.882
INTER3	0.096	-0.013	0.034	0.729
INTER4	0.153	0.032	0.052	0.863
INTER5	0.029	0.034	-0.065	0.662
INTER6	0.099	0.049	0.008	0.801

Source: own processing

The loading of the indicators should be the highest to the associated construct and not to the other ones.⁵⁷ This is the case for the indicators used for perceived social risk, purchase intention and trust, as well as for the interaction variable "inter".

Evaluation of the structural model and hypotheses testing

The hypothesised relationships are tested by the structural model. The structural model includes path coefficients, p-values (or t-values) and the coefficient of determination (R^2), which measures the model's predictive power.⁵⁸ Next to that the predictive relevance will be assessed by the Stone-Geisser criterion (Q^2).

R^2 values are ranging from 0 to 1 and explain the level of predictive accuracy. There is no generally valid categorisation explaining which R^2 value is considered as high, moderate and weak. In some disciplines a R^2 value of 0.2 is considered as high, whereas in others 0.25 is weak, 0.5 moderate and 0.75 is high.⁵⁹ Next,

57 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 115.
58 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 198.
59 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 199.

the path coefficients (direct effects) and total effects for all participants are analysed. Path coefficients are in the range of -1 to 1, where values higher than 0.1 or below -0.1 have an influence that cannot be undervalued, as stated by Lohmöller.⁶⁰ Figure 3 shows the path coefficients between the constructs for all participants. The highest one is between trust and purchase intention, followed by the one between perceived risk and purchase intention. All three path coefficients are significant at a significant level of 1% or 5%.

Next to that, the coefficients of determination (R^2), which is measuring the model's predictive power, are shown in Figure 3.⁶¹ The R^2 values, which are ranging from 0 to 1, explain the level of predictive accuracy. As mentioned above, there is no valid categorisation of R^2 values into high, moderate and weak. A R^2 value of 0.2 is considered as high in some disciplines, whereas in others 0.25 is weak, 0.5 moderate and 0.75 is high.⁶²

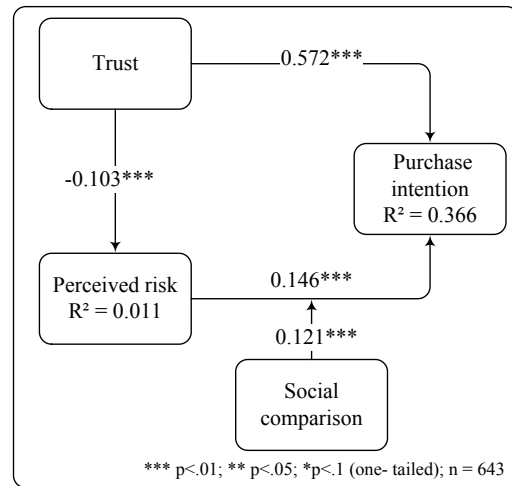


Figure 3: Path coefficients for all participants
Source: own processing

It can be summarised that there is a strong positive effect between trust and purchase intention. This result is in line with the results reached by Groß. Groß focused on two different groups of consumers, *Amazon* versus *eBay* shoppers, and in both groups there was a strong positive effect of trust on purchase intention.⁶³ Next to that, there is a medium strong negative effect between trust and perceived social risk. The higher the trust level, the lower the perceived social risk. This medium strong negative effect of trust on the overall risk was also identified by Groß's study.⁶⁴ Furthermore, there is a medium strong positive effect between perceived social risk and purchase intention. The direction of this effect is surprising as it is in contrast to the findings of Groß. Groß reported a negative effect of perceived risk on purchase intention.⁶⁵ Last, the analysis shows that there is a significant moderator effect of social comparison, which influences the strength of the relationship between perceived social risk (independent variable) and purchase intention (dependent variable). This verifies the hypothesis H3.

60 LOHMÖLLER, J. B.: *Latent Variable Path Modeling with Partial Least Squares*. Heidelberg : Physica-Verlag, 1989, p. 60.
61 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 198.
62 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 199.
63 GROB, M.: Impediments to Mobile Shopping Continued Usage Intention: A Trust-Risk-Relationship. In *Journal of Retailing and Consumer Services*, 2016, Vol. 33, p. 115.
64 GROB, M.: Impediments to Mobile Shopping Continued Usage Intention: A Trust-Risk-Relationship. In *Journal of Retailing and Consumer Services*, 2016, Vol. 33, p. 116.
65 GROB, M.: Impediments to Mobile Shopping Continued Usage Intention: A Trust-Risk-Relationship. In *Journal of Retailing and Consumer Services*, 2016, Vol. 33, p. 115.

The R^2 value of perceived social risk is weak, whereas it is medium to high for purchase intention. Last, the Stone-Geisser criterion (Q^2) is evaluated, which is used to assess the predictive relevance.⁶⁶ A lack of predictive relevance is indicated by Q^2 values of zero or below.⁶⁷ The blindfolding procedure is used to calculate the Q^2 values. The omission distance (D) is set to 7, as D should be between 5 and 10.⁶⁸ The cross-validated redundancy approach is used, not the cross-validated communality approach, as the second one does not include the structural model information.⁶⁹ Table 6 shows the Q^2 values.

Table 6: Stone-Geisser criterion

	Q^2
Perceived social risk	0.007
Purchase intention	0.264

Source: own processing

Both Q^2 values are above zero. Therefore it can be stated that the model has predictive relevance. However, the predictive relevance is higher for the construct purchase intention than for the perceived social risk.

Multi-group analysis (MGA)

In the following text, the path coefficients are analysed for both experimental groups, which means separately for the participants who were exposed to a desired end state and for the ones who were exposed to an undesired one. Figure 4 depicts the path coefficients for both groups.

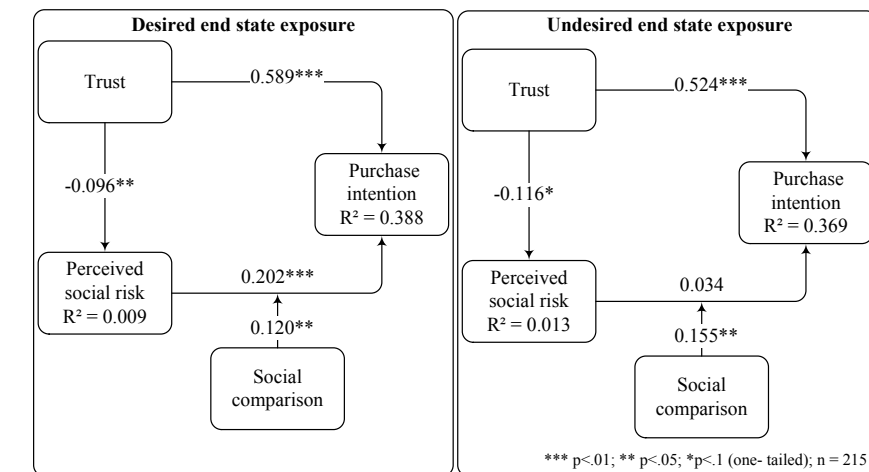


Figure 4: Path coefficients of participants exposed to a desired and those exposed to an undesired end state
Source: own processing

Nearly all coefficients are significant. The only path coefficient, which is not significant, is the influence of perceived social risk on purchase intention for the group which was exposed to an undesired end state.

66 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 202.
67 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 207.
68 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 204.
69 HAIR, J. F. et al.: *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks : SAGE, 2017, p. 207.

The highest effect has trust on purchase intention for both experimental groups, followed by the influence of perceived social risk on purchase intention for the participants who were exposed to a desired end state. There are differences between the experimental groups in the path coefficients. Whether these are significant is checked below through the MGA. Table 7 shows the results of the MGA.

Table 7: MGA for participants exposed to a desired versus an undesired end state

	Path coefficient difference	p-value
Perceived social risk -> Purchase intention	0.168	0.008
Trust -> Purchase intention	0.065	0.149
Trust -> Perceived social risk	0.019	0.399
Moderator effect -> Purchase intention	0.035	0.684

Source: own processing

It can be stated that the influence of perceived social risk on purchase intention is significantly higher for the experimental group exposed to a desired than to the undesired end state. This is shown by the path coefficient for the desired end state experimental group of $\gamma = 0.202^{***}$ compared to the undesired one of $\gamma = 0.034$ and the significant difference ($p = 0.168$). All other differences in the group-specific path coefficients are not significant. The difference in the moderator effect of social comparison on the relationship between perceived social risk and purchase intention is not statistically significant, either.

Discussion and Conclusions

The objective of this study was, on the one hand, to analyse the moderator effect of social comparison that influences the strength of the relationship between perceived social risk (independent variable) and purchase intention (dependent variable). On the other hand, we tested whether there are differences in the effect of trust and perceived social risk on purchase intention for a service between participants who were exposed to a desired versus an undesired end state, which means to a slim/muscular model depicted in an advertisement or to a heavy model.

In accordance with the results of Groß, trust influences purchase intention in a positive way. The significant and positive path coefficient between trust and purchase intention supports the hypothesis H1 which stated: *"A higher level of trust is resulting in a higher intention to join the fitness centre."* The results show that this positive relationship is valid for services as well. Next to that, a higher level of trust results in a lower perceived social risk. This is also in line with the findings of Groß and verifies the H2. Last and surprisingly, the third hypothesis (H3), which stated that *"The relationship between perceived social risk and intention to join a fitness centre is moderated by social comparison"* can be confirmed; however, the influence between perceived social risk and purchase intention is a positive one. This is in contradiction with the results of Groß's study. On the other hand, it needs to be pointed out that perceived social risk was not part of the risk construct researched by Groß.

In order to check whether there is any significant difference between the two subgroups, which were exposed to either a desired or an undesired end state, a multi-group analysis (MGA) was conducted. The MGA confirms that there is a significant difference between the two subgroups concerning the relationship between perceived social risk and purchase intention. Perceived social risk has a significant and higher positive influence on purchase intention for the participants who were exposed to a desired end state compared to the participants who were exposed to an undesired end state. The effect of perceived social risk on purchase intention is not significant for the group which was exposed to an undesired end state. It seems that these participants are still willing to join a fitness centre, even if their friends and family would look down on them because of their intention to reach their goal (to look like the model that represents a desired end state in the advertising), when they are exposed to a desired end state.

Theoretical and managerial implications

Based on the results, it is advisable for advertising companies to focus on activities that are building trust as it has a significant influence on purchase intention, if they strive to advertise services effectively. This is the case for consumers who are exposed to a desired end state depicted by an advertisement and also for the ones who are exposed to an undesired end state.

On the other hand, advertising companies should create advertisements that show a desired end state, which the consumer wants to reach; in order to influence the intention in a positive way by perceived social risk. It needs to be pointed out that in contrast to previous research, which focused on risk as a whole or on other types of risk, perceived social risk has a positive influence on the intention to join a fitness club. However, this is just the case for consumers exposed to a desired end state. The influence of perceived social risk on purchase intention is not significant when consumers are exposed to an undesired end state.

Limitations and outlook for future research

In contrast to other studies, our research focused on advertising strategies in the area of services, not on products. Furthermore, the moderator social comparison was taken into account. Social comparison effects have been extensively studied in the area of consequences for self-esteem, self-perception and satisfaction,⁷⁰ but not as a moderator in the relationship between perceived social risk and purchase intention. Mitchell claims that the majority of studies have focused on overall risk and have therefore measured it as unidimensional. However, the author advises to measure each type of risk separately as this would increase the accuracy of the measurement.⁷¹ Therefore, just one type of risk, the perceived social risk, was measured in the current study. Future research might go into more detail in the area of perceived social risk. It may be interesting to figure out whether there are differences in perceived social risk towards friends in comparison to relatives or associates. The items to measure the construct of perceived social risk might be split even further to analyse each social group individually. On the other hand, it can also be analysed whether other types of perceived risk (privacy, security and financial risk, as analysed by Groß) are moderated by social comparison in their effect on purchase intention.

Based on Bower and Landreth's study, it depends on the type or category of product whether an attractive model increases the ad's effectiveness or not.⁷² Future research could use other services (next to a fitness centre membership) and products as well to evaluate whether social comparison moderates the strength of the effect of perceived social risk on purchase intention. It seems to be interesting to figure out whether the results are also applicable to other services (and products) as the present research is limited to the industrial sector of fitness clubs.

A further limitation of the study that offers opportunity for future research is that the respondents participating in this study were selected by the convenience sampling method and therefore the results are just applicable for this specific group. Future research should use other data collection techniques and other consumer samples in order to be able to generalise the results even further.

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