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**The Influence of Shame in the Relation Between Social Comparison and Body Image
Dissatisfaction**

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Abstract

Body image dissatisfaction (BID) occurs in the clinical and non-clinical population and leads to a reduced quality of life, depression or eating disorders. There are different factors involved in the development of BID which might differ between cultures, for example, social comparison (SC) or shame. The aim of this study is to investigate if SC is positively associated with BID.

Additionally, it is examined if shame has a moderating effect on the relation between SC and BID when considering cultural differences. To test those hypotheses a multiple regression analysis with a moderated moderation model was conducted. The results showed that both SC and shame are positively associated with BID. However, no moderating effect of shame on the relation between SC and BID were found. Similarly, when investigating if cultural differences have an influence on the moderating effect of shame on the relation between SC and BID no significant results were found. Nevertheless, against the expectation that the Turkish sample will have higher levels of shame, the results indicate that the Irish sample has higher levels of shame. Further research is needed to investigate what factors contribute to the development of BID and more specifically, which influence cultural differences might have.

Keywords: body image dissatisfaction, shame, social comparison

The Influence of Shame in the Relation Between Social Comparison and Body Image Dissatisfaction

Body image dissatisfaction (BID) could be influenced by different factors that vary between cultures (e.g., collectivism vs. individualism, traditional vs. modern values, being westernized and affluent or not) (Becker, 2004; Bessenoff & Snow, 2006; Holmqvist & Frisé, 2010; Padgett & Biro, 2003; Tsai et al., 2003). BID is defined as a negative evaluation of the own body (Kluck, 2010). Moreover, BID can occur in a clinical, as well as in a non-clinical population (Babio et al., 2007). Generally, BID is more prevalent in women than in men and it can lead to a reduced quality of life, depression and is considered as a risk factor or symptom of eating disorders, like anorexia nervosa (AN), or bulimia nervosa (BN) (Babio et al., 2007; Keel & Klump, 2003; Mooney et al., 2009). Understanding the different factors that influence BID is important to help decreasing the dissatisfaction and thereby, hinder the development of eating disorders.

Socio-cultural factors are important predictors of BID (Babio et al., 2007). The society we live in forms a body ideal which is represented, e.g., in the media (Rodgers et al., 2015). Additionally, there is a perceived pressure to fulfill this ideal which is influenced by social comparison (SC) (Babio et al., 2007). SC is defined as evaluation of the self, based on the perception of how they perform in comparison to others (Festinger, 1954). Social Comparison Theory states that there is a drive to compare oneself to others to gain self-evaluations and thereby, reduce uncertainties about the self in particular domains, for example, their marriage or their causal understanding of events (Butzer & Kuiper, 2006). Furthermore, SC can be divided in upward and downward comparisons (Scully et al., 2020). In upward comparisons individuals compare themselves to others who are perceived as superior or more attractive, thus it is associated with lower self-esteem and higher BID (Scully et al., 2020). During downward

comparisons individuals compare themselves to others who are perceived as inferior or less attractive and therefore, might buffer against developing BID (Locke, 2005; Pinkasavage et al., 2015). Social Comparison Theory can be applied to BID because individuals gather information about their level of attractiveness by comparing themselves to others (Myers et al., 2009). If this comparison is unfavorable, then BID can develop as a result (Myers et al., 2009). Thus, BID can develop through the awareness of the self-discrepancy between the own body and the societal body ideal to which people often compare themselves, for example, in the media (Bessenoff & Snow, 2006; Holland & Tiggemann, 2016; Rodgers et al., 2015).

Because not everyone who compares themselves with others develop BID there might be other factors involved that contribute or strengthen the effect of SC on BID (Myers & Crowther, 2009; Pinkasavage et al., 2015). One possible approach could be to investigate if shame might play a role because shame is a socially focused emotion that can develop through a competition for social attractiveness, a process closely related to SC (Matos et al., 2014). Shame is defined as a negative and painful state that can arise after failing to live up to certain socially defined standards, norms or ideal (Maibom, 2010). Moreover, through SC an individual could recognize that the societal body ideal is not reached and thereby, experience a discrepancy between the societal body ideal and the own body which is a risk for developing BID (Bessenoff & Snow, 2006; Holland & Tiggemann, 2016). Shame could strengthen this effect because if someone is prone to feelings of shame, the shame felt because of not reaching the societal standard could interact with the self-discrepancy, experienced after SC and thus, increase the risk of developing BID (Bessenoff & Snow, 2006; Holland & Tiggemann, 2016; Maibom, 2010).

Because shame is a socially focused emotion it is somewhat different in every culture. In collectivistic cultures, like Turkey, emotions are associated with how personal behavior reflects

on others (Gilbert et al., 2007). Collectivistic individuals have more interdependence and thus, a greater obligation to fulfil responsibilities towards group members (Lewandowska-Tomaszczyk & Wilson, 2014). In individualistic cultures, like Ireland, emotions are related to self-reflection and individuals have more independence (Gilbert et al., 2007). Therefore, it might be the case that in collectivistic cultures, like Turkey, individuals experience more shame because of the pressure from closed ones to fulfill the expectations and ideals from society (Holmqvist & Frisé, 2010; Yakeley, 2018). Individuals from individualistic cultures, like Ireland, might experience less shame than those in collectivistic cultures because shame arises after failing to live up to socially defined ideals, and individualistic cultures are more independent from society (Gilbert et al., 2007; Maibom, 2010).

Moreover, cultural differences can also be observed regarding BID. BID is considered to be higher in more Westernized and affluent countries, like Ireland (Holmqvist & Frisé, 2010; Mooney et al., 2009). However, BID can also increase because of the conflict between Western idealization combined with being non-Western (Holmqvist & Frisé, 2010). Turkey is considered as non-Western but because of the geographical closeness to both Europe and Asia, Turkey is influenced by both. For example, the influence of the Western concepts of individual control over the body and the traditional Eastern shame of the body could be one possible explanation why 60-70% of Turkish college students report to experience BID (Bakalim & Taşdelen-Karçkay, 2016; Cansever et al., 2003). Additionally, SC is influenced by culture through the cultural demands regarding appearance which determines if someone else is closer or farther away from the societal body ideal and thus, if a comparison would be upward or downward (Bessenoff & Snow, 2006; Guimond et al., 2007; Scully et al., 2020). Therefore, the cultural environment forms the context in which BID can develop through the awareness and internalization of cultural pressure

regarding the body and food (Holmqvist & Frisé, 2010; Tsiantas & Kind, 2001). Thus, it is important to investigate cultural differences regarding BID and related factors.

In summary, SC is a risk factor for developing BID if the individual engages in upward comparisons since this could make the individual feel bad about themselves and then, they could become dissatisfied with themselves (Botta, 1999; Myers & Crowther, 2009; Scully et al., 2020). Shame might moderate this relation through the negative evaluation of not being able to live up to the socially defined standards, norms, or ideals (Maibom, 2010). Moreover, because collectivistic individuals are more interdependent and thus, influenced and pressured by others, it might be possible that they experience more shame than individuals living in individualistic cultures (Gilbert, 1998; Gilbert et al., 2007; Holmqvist & Frisé, 2010; Lewandowska-Tomaszczyk & Wilson, 2014). Therefore, the research question is whether shame moderates the positive relation between SC and BID when considering cultural differences.

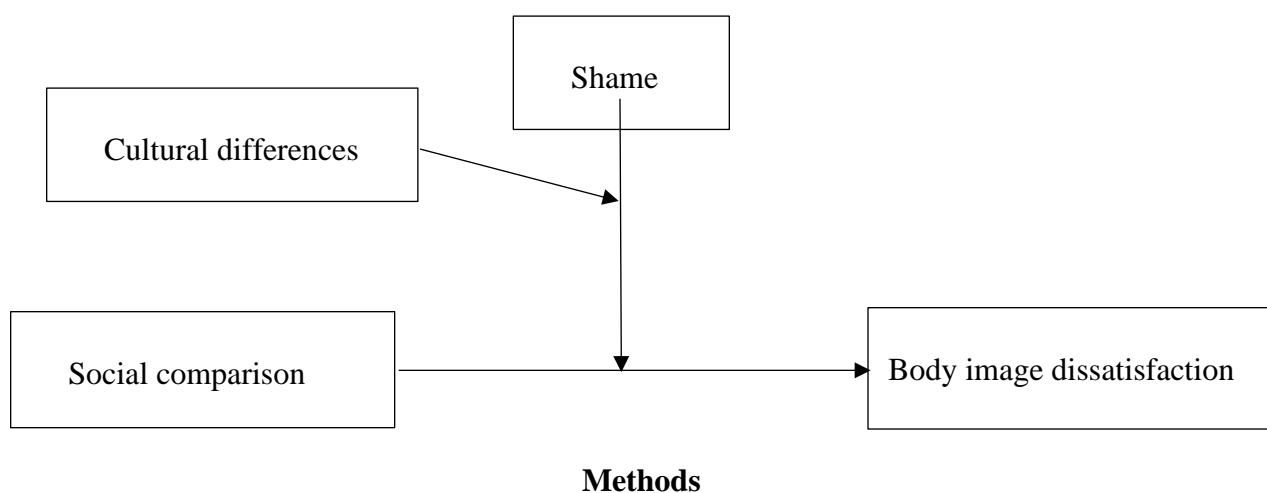
The present study

The current research investigates the relation between SC and BID. Further, it assesses shame as a moderating factor when considering cultural differences in this relationship. Thus, the first hypothesis is that SC is positively associated with BID, because SC can lead to the awareness of a self-discrepancy between the own body and the societal body ideal which could lead them to feel dissatisfied with their own body (Bessenoff & Snow, 2006; Rodgers et al., 2015). The second hypothesis predicts that shame moderates the relation between SC and BID. Shame could moderate the relationship through a possible interaction between the shame felt due to not reaching the societal standard and the self-discrepancy experienced after SC (Maibom, 2010). Thus, if the levels of shame increase, then the effect of SC on BID would increase as well. Lastly, the third hypothesis expects that the positive association between SC and BID will be stronger for

participants in the Turkish sample who experience high levels of shame. The Turkish sample might have higher levels of shame than the Irish sample because through their collectivistic culture they might be more concerned with what other people think of them if they do not fulfill the societal standards or ideals (Holmqvist & Frisé, 2010).

Figure 1

Conceptual Model of Moderated Moderation



Participants and procedure

The study was approved by the Ethics Committee of the Faculty of Social and Behavioural Sciences of Utrecht University with the number 20-0201. The sample size, which was calculated with the G*Power, will consist of 60 females from Turkey and 60 females from Ireland (Faul et al., 2007). The 120 participants were asked to answer some demographic questions and to fill out some questionnaires. The demographic questions included their age, nationality, the culture that influenced them the most and if they had prior psychological disorders. The inclusion criteria were that the age range will be between 18 and 35 years old, to rule out a possible difference in the body image due to a generational difference in body ideals (Rozin & Fallon, 1988).

Moreover, the participants had to have the Turkish or the Irish nationality and further, be mostly

influenced by the Turkish or the Irish culture. The question what culture influenced them the most was asked to make sure that the participants are not influenced by other cultures which could interfere with their belonging to either a collectivistic or an individualistic culture. The study included only females to control for possible interfering gender differences (Rozin & Fallon, 1988). Furthermore, the cross-sectional study was conducted online via Qualtrics. Participants were recruited through advertisement in student groups and social media of Irish and Turkish students. After opening the link to the survey, they were briefed about the study and asked to fill out the consent form at the end of the information sheet. The contact data of the researchers were included in the information sheet in case they had any questions. Filling out the survey took approximately 10 minutes.

Measures

Body image dissatisfaction

The Body Dissatisfaction subscale of the EDI-2 (see Appendix A) investigates the beliefs and satisfaction of specific body parts (Garner et al., 1983). Using only the subscale of the EDI-2 is frequently done to measure BID (Baker et al., 2019; Griffiths & McCabe, 2000). The subscale is related to BID and can also be used for non-clinical samples because this dissatisfaction might also exist in other groups than just individuals who are diagnosed with an eating disorder (Garner et al., 1983). Additionally, the subscale consists of 9 items which are answered on a 6-point Likert scale ranging from “*never*” to “*always*” (Garner et al., 1983). The subscale includes direct and reversed items (Garner et al., 1983). For example, “*I think that my stomach is too big*” and “*I feel satisfied with the shape of my body*” (Garner et al., 1983). The scores of the reversed items must be converted first. Followingly, higher scores indicate higher body dissatisfaction with the own body (Garner et al., 1983). Moreover, the EDI-2 has good validity and good reliability

(Garner et al., 1983). Furthermore, Garner et al. (1983) calculated a Cronbach's alpha of .91 for the Body Dissatisfaction subscale of the EDI-2. The Cronbach's alpha of .91 was replicated with the current study. A Cronbach's alpha above .9 is considered as excellent and thus, has a high internal consistency which means that the items measure the same general construct (George and Mallery, 2010).

Shame

The External and Internal Shame Scale (EISS) (see Appendix B) aims at assessing trait shame by dividing it into the subscales of external and internal shame (Ferreira, 2020). The questionnaire consists of 8 items which include 4 items for external shame and 4 items for internal shame (Ferreira, 2020). For example, "*Other people see me as not being up to their standards*" for external shame and "*I am different and inferior to others*" for internal shame (Ferreira, 2020). These questions are answered on a 5-point Likert scale, ranging from "*never*" to "*always*" (Ferreira, 2020). Higher scores on the scale mean higher levels of shame (Ferreira, 2020). The EISS has high reliability and good validity (Ferreira, 2020). The Cronbach alpha from Ferreira (2020) is .89 for the total scale. The current study calculated Cronbach alpha of .84 for the total scale. A Cronbach's alpha of .8 is considered as good (George & Mallery, 2010).

Social Comparison

The Physical Appearance Comparison Scale Revised (PACS-R) (see Appendix C) examines physical appearance comparison in a broad range of contexts (Schaefer & Thompson, 2014). The 11 items are answered by using a 5-point Likert scale ranging from "*never*" to "*always*", whereby higher levels of appearance comparison are associated with higher levels of negative outcomes (Schaefer & Thompson, 2014). One example question is "*When I'm out in public, I compare my physical appearance to the appearance of others*" (Schaefer & Thompson, 2014). Moreover, the

PACS-R has good validity and reliability, especially high internal consistency reliability (Schaefer & Thompson, 2014). Furthermore, Schaefer & Thompson (2014) calculated a Cronbach's alpha of .97 for the PACS-R which was consistent with the current study and is viewed as excellent (George & Mallery, 2010).

Statistical analyses

The data were analyzed using SPSS Statistical software for Windows Version 26.0 and PROCESS for SPSS v3.5 (Hayes, 2018; IBM Corporations, 2019). First, bivariate relations between SC, BID, and shame were calculated. Then a moderation analysis with SC as independent variable, BID as dependent variable, and shame as moderator was carried out. Shame was considered to be different for each culture, thus culture was included as moderated moderator.

Results

All assumptions were checked for and the results showed that none of them were violated.

Bivariate Associations between SC and aspects of shame and BID

Table 1 presents the means, standard deviations, minimum and maximum scores, and the results of the correlation analyses of the study variables. As expected BID and SC are strongly correlated for both, the Turkish and Irish sample (Field, 2018). BID and shame are correlated for both as well. Moreover, shame and SC are correlated in the Turkish and Irish sample. However, while the correlations for the relation between shame and BID, and shame and SC are considered as medium in the Turkish sample, the correlations for the Irish sample are considered as large (Field, 2018).

Table 1

Means (M), Standard Deviation (SD), Minimum (Min), and Maximum (Max). Scores for Turkish and Irish samples concerning Shame, SC, BID, and Bivariate Correlations between Study Variables

		<i>M</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	1	2
1. Social Comparison	Turkish	2.68	1.02	1.00	5.00	-	-
	Irish	3.39	1.18	1.00	5.00	-	-
2. Body Image Dissatisfaction	Turkish	3.40	1.29	1.00	6.00	.51**	-
	Irish	4.00	1.07	1.56	6.00	.65**	-
3. Shame	Turkish	2.36	0.65	1.13	3.63	.40*	.41*
	Irish	2.88	0.67	1.25	4.25	.57**	.56**

Note. The scale range was 1-5 for variables SC and shame. The scale range for BID ranged from 1-6. Higher scores of the variables SC, shame, and BID indicate higher levels of the construct.

* $p < .05$ ** $p < .001$

Effects of SC and Shame by Culture on BID

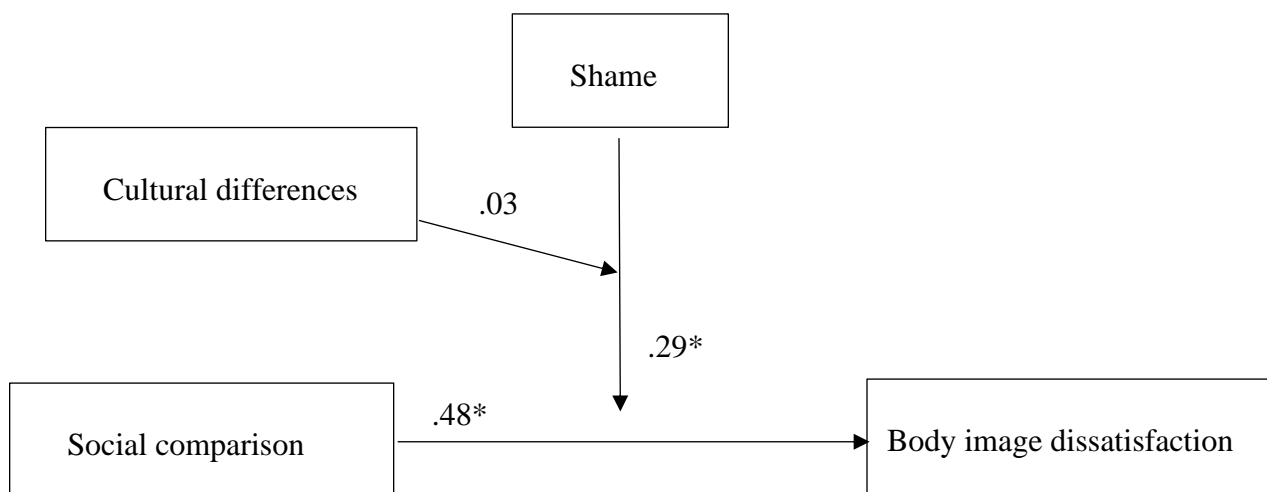
The results of the moderation analysis supported the hypothesis that SC is significantly related to BID. Further, shame is significantly related to BID. Neither the interaction between SC and shame, nor the interaction between SC, shame, and culture was significant. Thus, the hypothesis that the positive association between SC and BID is stronger for Turkish women who experience relatively high levels of shame is disregarded.

Table 2*Moderation Analysis with BID as the Outcome of SC with Interaction Effects of Shame and Culture*

Predictors	B	SE	β	95% CI	
				LL	CL
Social comparison	0.50**	0.10	0.48	0.31	0.69
Shame	0.50*	0.16	0.29	0.19	0.81
Culture	0.04	0.20	0.03	-0.37	0.44
Interaction SC & shame	0.12	0.12	0.08	-0.11	0.35
Interaction SC & shame & culture	-0.18	0.23	-0.12	-0.63	0.28

Note. CI = Confidence Interval, LL = lower limit; UL = upper limit.

* $p < .05$ ** $p < .01$

Figure 2*Conceptual Model of Moderated Moderation*

Note. The conceptual model of moderated moderation showing the standardized coefficients.

* $p < .05$

Discussion

This study investigated if shame is a possible factor that contributes to the development of BID by analyzing if shame is a moderator in the relationship between SC and BID when considering cultural differences. The first hypothesis predicted that SC is positively associated with BID. The second hypothesis expected that shame moderates the relation between SC and BID. Lastly, the third hypothesis predicted that the positive association between SC and BID will be stronger for participants in the Turkish sample who experience high levels of shame.

The results support the first hypothesis that SC is positively associated with BID. The relation between SC and BID was $r=.51$, $p<.001$ for the Turkish sample and $r=.65$, $p<.001$ for the Irish sample. Both correlations can be described as strong (Field, 2018). This finding is in line with previous research (Myers & Crowther, 2009; Pinkasavage et al., 2015; Rodgers et al., 2015; Scully et al., 2020). Thus, it is demonstrated that SC is an important predictor of BID. Furthermore, Shame is positively correlated with BID, which is consistent with prior research (Sanftner et al., 1995). The relation between shame and BID for the Turkish and the Irish sample were $r=.41$, $p<.05$ and $r=.56$, $p<.05$, respectively. However, the expected moderated effect of shame in the relation between SC and BID could not be supported. A possible explanation why shame does not moderate the relation between SC and BID could be that both include different components. For example, shame consists of external and internal shame, and it might be the case that external shame increases the risk of BID more than internal shame does (Ferreira, 2013; Ferreira, 2020). In addition, SC includes vertical and horizontal dimensions (Locke, 2005). Vertical comparisons consist of upward and downward comparisons and there are already indications that upward comparisons lead to BID, while downward comparisons could protect against the development of BID (Locke, 2005; Scully et al., 2020). Thus, it might also be the case

that there is a different effect for the horizontal comparison, which consist of connective and contrastive comparisons (Locke, 2005).

Moreover, the hypothesis that shame would moderate the relationship of SC and BID when considering cultural differences could not be supported. There seems to be a cultural difference regarding shame since the Irish sample had significant higher levels of shame than the Turkish sample. This result was unexpected because it was predicted that Turkey would have higher scores. The difference between the cultures could be explained in the interpretation of this emotion (Bagozzi et al., 2003). In individualistic cultures shame can have a negative effect because shame serves as a threat to the self, whereas in collectivistic cultures shame could be interpreted as a warning that the social harmony has been disrupted and must be restored (Bagozzi et al., 2003). Thus, shame might have a positive effect in collectivistic cultures (Bagozzi et al., 2003). It might be the case that through this difference in interpretation of shame, individualistic cultures experience and report shame as more extreme due to the negative interpretation (Bagozzi et al., 2003). Further, in collectivistic cultures shame might be experienced and reported as less extreme due to the positive effect of shame (Bagozzi et al., 2003).

Implications

These findings are important because understanding the differences between cultures regarding SC, shame, and BID could help to reduce the consequences that result from BID, like reduced quality of life, depression, or eating disorders (Babio et al., 2007; Mooney et al., 2009). For example, the results showed that the Irish sample has higher scores on every scale, thus there might be some underlying factor which leads to these higher values of BID, SC, and shame. The reduction of the consequences could be reached, for example, by targeting the components of

shame or SC that might differ between cultures and which lead to BID. Thus, the treatment could then be adjusted for each culture. By understanding the underlying factors of BID it would be possible to target, prevent, and treat BID and relating factors in the most effective way.

Moreover, studying different cultures is important because most psychological studies are conducted in WEIRD countries and some countries might not have the resources to conduct studies and thus, might rely on WEIRD studies being applicable to their countries (Muthukrishna et al., 2020). If the differences between the cultures are known, then the treatment for symptoms can be adapted to different cultures. Therefore, studying two cultures that are not studied as often as others, for example America, is of value because it could reveal factors that have not been considered when explaining how BID, or possible consequences of BID, develop. This study contributed to expanding the knowledge about cultural differences in shame and the relation between shame, SC, and BID by establishing that SC and shame play a role in the development of BID. Further, it expanded the knowledge about cultural differences because the results showed that the Irish sample had higher levels of shame, SC, and BID. In addition, the results contribute to expand the knowledge by stating that under these conditions, shame does not moderate the relation between SC and BID, even when considering cultural differences. More specifically, in the future instead of investigating the same model, the research can focus on either other factors relating to BID, or investigate the used factors in more detail, like the effect of upward and connective SC and external shame on BID. Therefore, this study added to the groundwork on which further research can be build.

Limitations

The results must be interpreted with caution because the study has some limitations. First, the Turkish sample consisted of educated participants since the questionnaire was constructed in

English. Thus, there is a difference between the groups because English is the mother language for the Irish sample but not for the Turkish sample. Additionally, since the Turkish sample is educated, it might be that they are more influenced by western countries, for example, because they travelled more or are able to understand the contents of the media from other cultures. Moreover, the participants consisted mostly of students, thus, the results might deviate if the study would be replicated in the general population. Furthermore, even though some cultures have similar characteristics, every culture is unique and therefore, the study should be replicated in other individualistic and collectivistic cultures. Since Turkey is influenced by both, East and West this might have influenced the results of shame. Generally, using a cross-cultural design is considered as a limitation because there are unpredictable or unknown factors involved. Especially because neither Turkey, nor Ireland belong to the countries which are intensely studied in the research field of psychology. Another limitation is that there could be differences in response styles to questionnaires between the cultures. For example, it might be that the Turkish sample is hesitant to use extreme values, whereas the Irish sample tends to use more extreme values.

Future research

The factors that contribute to the relationship between SC and BID should be further investigated. For example, coping styles in response to shame might play a role. It could be the case that if people have adaptive coping styles in response to feelings of shame that shame does not lead to the development of BID. Moreover, it should be examined if individualistic and collectivistic cultures can be divided into guilt and shame cultures, or if both emotions can rather co-exist and the previous established division is outdated. In the future, the different components of shame, namely internal and external shame, and of SC, namely vertical and horizontal SC, should be examined because those components might make a difference which could lead to a

significant moderated effect. It might be the case that external shame moderates the relation between upward and connective SC and BID, because those components might predict BID better than total shame or total SC. Lastly, to prevent and target BID effectively, possible strategies to reduce the effect of SC, shame and cultural differences should be explored. This could be achieved by, for example, investigating different coping strategies for SC and shame or by examining which interventions would be effective in reducing BID.

Conclusion

In conclusion, the results indicate that both SC and shame predict the development of BID. SC predicts the development of BID by engaging in upward comparisons which is mostly unfavorable for the individual and thus, they are at risk for developing BID. Furthermore, shame could be related to BID because being ashamed of not reaching the societal standard might increase feeling dissatisfied with oneself. The effect of shame is influenced by culture, but these differences deviated from the expected effect that the Turkish sample would have higher levels of shame. The results showed that the Irish sample is strongly correlated with shame, while the Turkish sample shows a medium correlation. Moreover, there was no significant moderating effect of shame on the relation between SC and BID. Similarly, no significant moderating effect of shame on the relation between SC and BID could be established while considering cultural differences. Further research is needed to investigate the exact role of shame, cultural differences, and other factors that influence the development of BID.

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Appendix A

The Body Dissatisfaction subscale of the Eating Disorder Inventory-2

	Never	Rarely	Sometimes	Often	Usually	Always
I think that my stomach is too big						
I think that my thighs are too large						
I think that my stomach is just the right size						
I feel satisfied with the shape of my body						
I like the shape of my buttocks						
I think my hips are too big						
I think that my thighs are just the right size						
I think that my thighs are just the right size						
I think my buttocks are too large						
I think that my hips are just the right size						

Appendix B

External and Internal Shame Scale

“In relation to several aspects of my life, I feel that..”

	Never	Rarely	Sometimes	Very often	Always
Other people see me as not being up to their standards					
I am different and inferior to others					
Other people do not understand me					
I am isolated					
Other people see me as uninteresting					
I am unworthy as a person					
Other people are judgmental and critical of me					
I am judgmental and critical of myself					

Appendix C

The Physical Appearance Comparison Scale Revised

	Never	Sometimes	About half the time	Most of the time	Always
When I am out in public, I compare my physical appearance to the appearance of others					
When I meet a new person (same sex), I compare my body size to his/her body size					
When I am at work or school, I compare my body shape to the body shape of others					
When I am out in public, I compare my body fat to the body fat of others					
When I am shopping for clothes, I compare my weight to the weight of others					
When I am at a party, I compare my body shape to the body					

shape of others					
When I am with a group of friends, I compare my weight to the weight of others					
When I am at work or school, I compare my body size to the body size of others					
When I am with a group of friends, I compare my body shape to the body shape of others					
When I am eating in a restaurant, I compare my body fat to the body fat of others					
When I am at the gym, I compare my physical appearance to the appearance of others					