Aug 10th, 12:00 AM

Exploring the Dark Side of Multiplayer Online Games: The Relationship between contact experiences and sexism

Bastian Kordyaka
University of Siegen, bastian.kordyaka@uni-siegen.de

Jeanine Krath
University of Koblenz-Landau, jkrath@uni-koblenz.de

Samuli Laato
Tampere University, sadala@utu.fi

Solip Park
Aalto University, solip.park@aalto.fi

Katharina Jahn
Chemnitz University of Technology, katharina.jahn@phil.tu-chemnitz.de

See next page for additional authors

Presenter Information

Bastian Kordyaka, Jeanine Krath, Samuli Laato, Solip Park, Katharina Jahn, and Bjoern Niehaves

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Completed Research

Bastian Kordyaka
University of Siegen, Germany
bastian.kordyaka@uni-siegen.de

Jeanine Krath
University of Koblenz-Landau, Germany
jkrath@uni-koblenz.de

Samuli Laato
Gamification Group, Tampere University, Finland
samuli.laato@utu.fi

Solip Park
Aalto University, Finland
solip.park@aalto.fi

Katharina Jahn
University of Chemnitz, Germany
katharina.jahn@phil.tu-chemnitz.de

Björn Niehaves
University of Siegen, Germany
bjoern.niehaves@uni-siegen.de

Abstract

The virtual communities of PC and console-based Multiplayer Online Games (MOGs) such as Fortnite or League of Legends continue to grow in popularity and attract millions of players around the world. Despite numerous enjoyable outcomes, some concerns have emerged regarding toxic player behavior such as sexism towards female players. In this study, based on the social identity approach and the contact hypothesis, we adopt the perspective of male players to examine the relationships between positive and negative contact and benevolent and hostile sexism in MOGs. We tested our proposed research model with data from 116 male players. In our sample, negative intergroup contact increased both measured forms of sexism (benevolent and hostile), whilst positive intergroup contact had no impact on either, partially confirming predictions from the contact hypothesis. Our work contributes to the discussion on intervention strategies to curb sexism in all its forms in MOGs.

Keywords

Intergroup-contact, benevolent sexism, hostile sexism, prejudice, Multiplayer Online Games.

Introduction

During the last decade, PC- and console- based multiplayer online games (MOGs) such as PlayerUnknown's Battlegrounds, Fortnite, or League of Legends have become salient entities of the digital advancements (Scholz 2019). These and other popular MOGs attract tens of millions monthly players, making them relevant also from a financial perspective. The MOG mechanics encourage and scaffold collaboration between players, making these games a significant stage for inter-group contact and virtual communities that bring players from different backgrounds together (Kordyaka et al. 2019).

The popularity of MOGs can be partially attributed to the design element of real-time competition, which increases player motivation and enjoyment (Kim and Shute 2015). However, MOGs have also been criticized for maintaining a culture involving unwanted behaviors such as toxicity and prejudice (Kordyaka

et al. 2020). Sexism (i.e., prejudice or discrimination, against women, on the basis of sex) as a specific form of prejudice is a recurrent and chronic phenomenon across a multitude of MOGs (Lopez-Fernandez et al. 2019), often associated with serious negative consequences on a level of manifestation such as sexual harassment (Tang and Fox 2016). In this work, we want to investigate sexism in MOGs, whereby we define sexism as a systematic and unfair difference in the way males and females are treated (Gupta et al. 2019), in order to understand how sexism occurs in such virtual communities and, on that basis, what could be done to prevent such prejudices.

Existing research on sexism in MOGs has explored a variety of antecedents of why sexism occurs, one of which is the asymmetry in the number of male and female players across several popular MOGs (Silva et al. 2021). Past research has also looked into the role of personality traits, demographic variables, levels of gameplay (Fox and Potocki 2016), and long-term exposure to sexist video games (Stermer and Burkley 2015) as predictors of sexism. The contact hypothesis is an approach that is widely used within social psychology and sociology. The hypothesis states that the valence of intergroup contact has an influence on sexism (Amichai-Hamburger and McKenna 2006). However, it has not been used as a theoretical approach to explain sexism in MOGs, although virtual communities in MOGs depict a valuable stage for intergroup contact. We aim to close this gap by drawing on assumptions of the social identity approach (SIA) (Tajfel and Turner 2004) as a basis for sexism and the contact hypothesis to examine the influences of positive and negative intergroup contact experiences of male players on two forms of sexism: benevolent (e.g., viewing women in restricted roles, but subjectively perceived positively and also leading to behaviors typically categorized as prosocial) and hostile (e.g., aggressive and derogatory behavior toward women) (Glick and Fiske 1997). Accordingly, this paper is guided by the following research question:

Research Question: *What is the impact of intergroup contact between males and females on male players' sexism in the virtual communities of MOGs?*

To answer our research question, we proceed as follows. In the theoretical background section, we explain the theoretical foundations necessary to understand our approach and formulate the research hypotheses. Subsequently, we explain our methodology and present the results. We conclude the study with a discussion on the implications of our findings, limitations and future work.

Theoretical background and hypotheses

Social identity approach

As a theoretical framework, we employ the SIA, which is one of the most widely used approaches in social psychology to explain intergroup behavior (Haslam et al. 1999). The SIA postulates that an individual's self-concept is a collection of beliefs about oneself related to the wide variety of characteristics that define individuals' perceptions of themselves in specific circumstances (Tajfel and Turner 2004). Accordingly, the manifestation of the self differs depending on the situation. The self-concept is constructed using personal (i.e., identifying the individual as different from others) and social (i.e., identifying the individual as a member of a group and different from other groups) aspects of identity located on an interpersonal-intergroup continuum (Tajfel and Turner 2004). The SIA assumes that individuals strive for a positive self-concept by making comparisons on the levels of individuals and groups (McLean and Syed 2014). The aim of this identification process is to distinguish oneself positively from others (although called positive distinctiveness).

When an individual identifies as part of a group, the group becomes their ingroup within the semantics of the SIA. Ingroups are characterized by depersonalization (i.e., the feeling of being a member of the ingroup) and self-stereotyping (i.e., a higher importance of group norms compared to individual norms) (Tajfel and Turner 2004). In order to identify with a group, individuals need reference points, which in the SIA framework can be referred to as outgroups (i.e., a group with lower identification than the ingroup) (Tajfel and Turner 2004). In order to establish a positive self-concept, the SIA postulates a mechanism of ingroup favoritism. Manifestations of this mechanism often occur in the form of prejudices towards the outgroup, since they allow to raise the self-concept in a positive manner, while maintaining existing hierarchies (Barlow et al. 2012). In the context of the current study, we can assume male and female players as separate social groups. Consequently, sexism can be understood as the male ingroup's prejudices towards the female outgroup.

Ambivalent sexism theory

Previous research has argued that sexism is a complex phenomenon consisting of different parts (Glick and Fiske 1997). Accordingly, we refer to ambivalent sexism theory that understands sexism as a construct consisting of two interrelated forms: (1) benevolent sexism (e.g., paternalistic and patronizing attitudes toward women) and (2) hostile sexism (e.g., aggressive and competitive attitudes toward women) (Glick and Fiske 1997). Studies in the past have shown that these two forms of sexism possess both similar and unique characteristics and can be differentiated at the level of dispositions (Blackwell et al. 2008). The ambivalent sexism theory is a particularly suitable approach in our context, since it not only looks at the visible form of sexism (hostile), but also the subtler (benevolent) form that shares similarities with soft bigotry of low expectations, where less is expected from female players solely due to their gender. According to the ambivalent sexism theory and SIA, both forms of sexism are interlinked in that female players are viewed as their own distinct group and treated differently based on gender (Crisp and Turner 2009; Glick and Fiske 1997). Hence, as a basis for our research to understand how these form of sexism occur in the virtual communities of MOGs, we propose that the two forms of sexism are positively related in the context of MOGs and specify our Hypothesis 1.

Hypothesis 1: *Benevolent sexism is positively related with hostile sexism.*

Contact hypothesis

The contact hypothesis suggests that intergroup contact can mitigate the prejudicial mechanisms assumed by the SIA, and in this way may also attenuate sexism between the male ingroup and the female outgroup (Haslam et al. 1999). Intergroup contact can be positive or negative (Barlow et al. 2012), direct or indirect (Dovidio et al. 2011), extended (i.e., when an ingroup member maintains a close relationship with an outgroup member) (Wright et al. 1997), imagined (i.e., imagining positive contact with an outgroup member) (Crisp and Turner 2009) or electronic (e.g., contact based on text and/or video). In addition, four conditions are posited to be necessary to reduce prejudice between ingroups and outgroups: 1) equal status, 2) shared goals, 3) intergroup cooperation, and 4) support of an authority (Amichai-Hamburger and McKenna 2006). Interestingly, in the virtual communities of MOGs, the conditions of the contact hypothesis for curbing sexism are met: 1) equal status (e.g., similar social and academic backgrounds between female and male players), 2) shared goals (e.g. female and male players share the goal of winning a game they play together), 3) intergroup cooperation (e.g., female and male players must cooperate to win a game), and 4) support of an authority (e.g., female and male players recognize the video game developer as an authority). Previous research indicates that intergroup contact in online games can indeed reduce prejudices, e.g. against rival university students or other nationalities (Adachi et al. 2016).

Accordingly, positive (i.e., positive interactions with female players in MOGs) and negative contact experiences (i.e., negative interactions with female players in MOGs) could also have an impact on both forms of sexism in MOGs. We postulate a counterbalancing effect between positive contact and both forms of sexism based on the argument that the more positive contact and valence a male player experiences with the outgroup of female players, the more positive his perception of the outgroup should become, which should decrease the likelihood of the occurrence of sexism. Thus, we posit the following two hypotheses:

Hypothesis 2a: *Positive contact experiences are negatively related with benevolent sexism.*

Hypothesis 2b: *Positive contact experiences are negatively related with hostile sexism.*

Conversely, we postulate a reinforcing influence of negative contact (i.e. a positive relationship) on sexism, as previous research indicates that negative contact can amplify intergroup prejudice and endorse stereotyping (Aberson 2015; Barlow et al. 2012). Accordingly, the more negative contact a male player experiences with the group of female players, the more likely he is to exhibit benevolent and hostile sexism. Thus, we hypothesize the following:

Hypothesis 3a: *Negative contact experiences are positively related with benevolent sexism.*

Hypothesis 3b: *Negative contact experiences are positively related with hostile sexism.*

Methodology

Research design

To answer the hypotheses of our study, we used a cross-sectional survey approach and collected self-reported data from players of MOGs using an online questionnaire. We analyzed the data with covariance-based statistics (e.g., regression analysis, and structural equation modeling).

Participants

We collected data from male players of MOGs via the crowdsourcing marketplace Mechanical Turk (MTurk) as we focused on sexism toward women. As a compensation for their efforts, all participants received $1.20. The initial sample consisted of 128 participants. To ensure participants were answering questions truthfully, we implemented multiple attention checks in the survey. After removing 12 cases who failed the attention questions, deleting cases with missing information or incomprehensible demographic responses, our final sample consisted of 116 participants. As our model contained four constructs and nine parameters, we estimated that this number was adequate, exceeding the necessary threshold (Wang et al. 2013).

In accordance with our sampling, all participants in the study identified as male. The mean age was slightly over 32 years (M = 32.26, SD = 7.44). Four out of five participants of our sample had a bachelor's degree (n=94). Additionally, the majority of participants came from North America (n=87) and India (n=29). Participants reported playing video games for slightly over 9 hours per week (M = 9.31, SD = 8.31), primarily playing PlayerUnknown's Battlegrounds (50), Fortnite (14), and League of Legends (11).

Measurements

For the constructs relevant to our study, we used validated items and scales from previous work that were adapted to the context of our study where necessary. All wordings and sources of items used in our study are listed in Appendix A. Additionally, all relevant descriptive values and indicators of the validity of the measurement model are depicted in the subsequent section.

Results

Measurement model

To test our measurement model, we carried out a principal-component analysis with a varimax rotation on all the items of our constructs (i.e., positive and negative contact, benevolent and hostile sexism), inserting the extraction of four factors to detect the poorly performing items and dimensions. We expected the single item of positive and negative contact and the items of the dependent variables benevolent and hostile sexism to load on a single factor each. After deleting four items of benevolent and hostile sexism, all the items loaded as expected (see Appendix B).

Construct	Mean	SD	α	CR	AVE
Positive contact[1]	3.96	.86			
Negative contact	2.98	1.16			
Benevolent sexism	4.67	1.37	.91	.90	.57
Hostile sexism	4.39	1.50	.92	.94	.59

Table 1. Means, standard deviations, cronbach's alpha, CR and AVE

As Table 1 demonstrates, the composite reliabilities for hostile and benevolent secism were above the recommended level of .6 (CR ≥ .90), and all the average variances extracted (AVE ≥ .57) exceeded the

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[1] Both contact measures are measured as a single item. Regarding single item measures see (Petrescu 2013).

recommended .5 threshold, which supports the convergent validity of the data (Hair 2009). To assess the discriminant validity, we used Fornell and Larcker's (Fornell and Larcker 1981) procedure, to compare the AVE for each construct with the squared correlations of all the construct pairs. All the AVEs (see Table 1) exceeded the squared correlations ($\le$ .41) for all the measures (see Table 2), which supports the discriminant validity of the measures.

Construct	Positive contact	Negative contact	Benevolent sexism	Hostile sexism
Positive contact	1			
Negative contact	-.002	1		
Benevolent sexism	.002	.160[***]	1	
Hostile sexism	.010	.152[***]	.410[***]	1

Table 2. Squared correlation matrix of key constructs (Notes: ***p < .001; **p < .01; *p < .05)

Hypotheses testing

To test the hypotheses, we inserted the relationships specified into a SEM and applied maximum likelihood estimation. The inferential test of the model indicated a good fit between the empirical data and the postulated model ($\chi 2$ (df = 1; N = 116) = .147; p = .701), whereby additional fit indices confirmed the positive impression (CFI = .99, SRMR = .02, RMSEA = .01). The predictors were able to explain 16% of the variance of the of benevolent and 15% of hostile sexism.
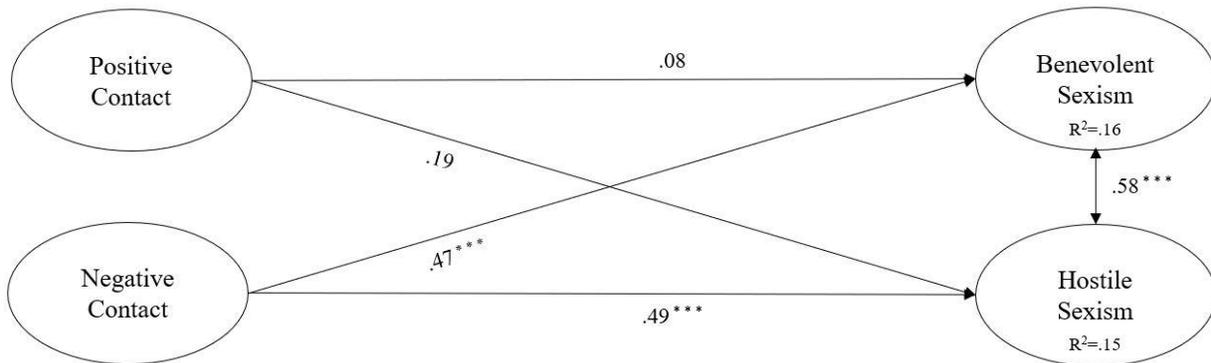

Figure 1. SEM-Results

Figure 1 shows the relationships between the constructs of the derived SEM. With respect to H1, we found support for the postulated positive relationship between benevolent and hostile sexism (r = .58, p < .001). Regarding H2a and H2b, we found no significant relationships of positive contact as a predictor of benevolent sexism (β = .08, p = .54) and hostile sexism (β = .19, p = .21). However, our data provided support for both H3a and H3b, as negative contact positively predicted benevolent sexism (β = .47, p < .001) and also hostile sexism (β = .49, p < .001). In summary, we found empirical confirmation regarding the influences of negative contact, but not positive contact.

Discussion

Key findings

Based on our results, we summarize our main findings in the following two points: First, benevolent and hostile sexism were positively correlated, confirming H1. We understand the positive relationship between

both variables as an indicator that the meaning of both forms of sexism are indeed similar but different versions of prejudice present in the context of virtual communities in MOGs, which is in line with the assumptions of ambivalent sexism theory (Crisp and Turner 2009; Glick and Fiske 1997). However, the explained variance of both forms of sexism indicates room for additional explanations. One such avenue is the incorporation of additional variables related to socio-structural, cognitive and motivational factors. Second, our results regarding positive and negative contact on sexism showed bipartite results. We were unable to detect meaningful influences of positive contact on benevolent (H2a) or hostile sexism (H2b). Opposed to this, negative contact was the most meaningful predictor of both benevolent (H3a) and hostile sexism (H3b). This finding may be partially explained by prospect theory, according to which negative events are more significant in terms of their perception and resulting consequences (Barlow et al. 2012). In summary, we were able to confirm parts of the contact hypothesis for the first time in virtual communities of MOGs, whereby negative contact overshadowed the influences of positive contact substantially when looking at male players' prejudiced attitudes towards women.

Implications for theory

With our findings providing insights into sexism among virtual communities in MOGs, we contribute to the scientific literature in three ways. First, our results provide evidence for the existence of sexism in MOGs in two forms, as suggested by the theory of ambivalent sexism. One possible explanation for the underlying attitudes regarding benevolent sexism could be that the majority of male players follow the stereotype that female players in competitive MOGs have lower game-related skills. Accordingly, they might understand negative contact with female players as situations of helplessness or as opportunities to help them. This serves to uphold existing power structures and reinforce male players' self-concept, making benevolent sexism more likely (Paaßen et al. 2017; Tajfel and Turner 2004). However, this is only one explanation, and further research is needed.

Second, our results suggest that positive contact is not a relevant predictor of benevolent or hostile sexism. Theory suggests that the valence of intergroup contact plays an important role in the formation of prejudicial attitudes (REF), but positive experiences do not reduce sexist attitudes in virtual communities of MOGs. Rather, they have no influence. In contrast, negative contact positively predicted both forms of sexism. We understand this result to indicate that the underlying mechanisms of intergroup contact in MOGs are more complex than postulated by the contact hypothesis (Aberson 2015). As a first step, we propose to derive an extension of the contact hypothesis tailored to the context of MOGs, incorporating the specifics of the situation (e.g., the importance of stereotypes and interactions between male and female players) and exploring the influences of additional mediator variables from previous related research (e.g., moral disengagement, anger, and hostility)(Yao et al. 2019).

Third and finally, our work contributes to SIA by demonstrating that gender identity matters even in situations where (gender-based) ingroups and outgroups are not prominent. In virtual communities of MOGs, gender is often invisible to others, and it has been argued that gender neutralization can reduce the salience of the female gender even further (Fox and Potocki 2016). While notable contact (positive or negative) with female players in MOGs could thus refute the perception that women do not play video games and thereby weaken the prevailing notion of "players" as a homogeneous male group, which is essential for distinguishing ingroups from outgroups according to the SIA. We return to our finding that positive encounters with female gamers did not reduce either form of sexism. One possible explanation might be that male players attempt to maintain the positive self-concept as a (male) player using downward comparisons to female players, neglecting the influences of positive contact. In conclusion, this early evidence suggests that polarization between (male and female) groups cannot be eliminated via gameplay experiences, but more holistic cultural shifts are needed.

Implications for practice

From our findings, we also derive implications for the design of virtual communities, specifically in MOGs. First, previous strategies for mitigating sexism in virtual communities in MOGs have assumed that meaningful and positive contact between groups could alleviate sexist attitudes. However, our data suggest that positive contact neither strengthens nor weakens sexist attitudes. Therefore, alternative strategies should be explored, such as educating users about both forms of sexism and their impact on women's (gaming) experiences (Tang and Fox 2016) or integrating empathy into the design, e.g. by adapting existing

short- and long-term interventions of perspective taking to the context of virtual communities, especially MOGs.

Second, in the particular context of virtual communities in MOGs, our results suggest that it is important to reduce the frequency of negative contact with the outgroup of female players. As outlined earlier, our results (non-significance of positive contact and high significance of negative contact) can be interpreted to be the consequence of male players having learned an inaccurate presentation of female players, and their subsequent subconscious attempts to maintain existing gender hierarchies in MOGs (increasing the valence of their ingroup). One possibility to address this topic could be educating male players that the level of quality in gameplay is not a meaningful criterion of differentiation between genders, which might soften the boundaries to the outgroup of female players and make the perception of positive contact more and of negative contact less likely.

Limitations and future work

As with all studies, our work has limitations that should be discussed. First, we tested a straightforward model derived from SIA, the contact hypothesis, and ambivalent sexism theory. Looking at the explained variance of the constructs in our data, it is clear that multiple factors are involved in the emergence and mitigation of sexism in MOGs, and future studies could address these factors.

Second, we collected data from MTurk, where participants were self-selected and represented adult gamers. Due to the implementation of check questions to ensure quality responses and the demographic characteristics being relatively evenly distributed, we argue that our sample was adequate for testing the model. However, future research could look into other data sources and compare the emerging similarities and differences to our study. Additionally, the inclusion of existing taxonomies of player types could discover empirical patterns of player characteristics to understand the occurrence of prejudice in a more holistic manner (Krath and von Korflesch 2021).

Third, we observed gamers who reported playing at least one of the three popular MOGs: PlayerUnknown's Battlegrounds, Fortnite, and/or League of Legends. Notably, our study excluded mobile MOGs, which are a rapidly growing field in gaming and tend to have a higher number of female players than PC and console games, and therefore are of great interest to both researchers and practitioners. Future work could expand this list to include other types of games and game forms with different virtual communities for greater generalizability such as location based games (Laato et al. 2021). Future research could also examine participants' knowledge of benevolent and hostile sexism to better understand whether education can help reduce one or both forms of sexism in MOGs. In addition, future studies could attempt to obtain objective data (i.e., log data) to triangulate the self-reports presented in this study.

Forth, another limitation of our study refers to the measurements of variables. Specifically, we used single-measurements to measure both forms of contact, which prevented us from calculating some validity indices. This procedure was guided by the recommendations of the underlying literature in which a majority of studies used such an approach (Barlow et al. 2012). However, we suggest for future research to use more holistic measurements of intergroup contact. Additionally, we needed to exclude some of the items measuring our two dependent variables benevolent and hostile sexism. We understand this as a call to develop items and scales specifically designed to the innovative context of MOGs.

Conclusion

In this study, we examined the influence of positive and negative intergroup contact between males and females on male players' prejudices toward female players (benevolent and hostile sexism) in virtual communities in MOGs. We found that negative outgroup contact positively predicted both hostile and benevolent sexism, whereas positive contact had no significant effect on either form of sexism. Moreover, hostile and benevolent sexism were highly correlated, providing further evidence that there is no "good" form of sexism and that mitigation strategies should aim to curb not only hostile, but also benevolent sexism.

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Appendix A

Variable	Item	Wording	Source
Positive contact	PC	How often do you have positive interactions with female players?	(Barlow et al. 2012)
Negative contact	NC	How often do you have negative interactions with female players?	
Benevolent sexism	BS_1	A good female player should be set on a pedestal.	(Glick and Fiske 1997)
	BS_2	Male players should sacrifice to provide for female players.	
	BS_3	Female players have a superior moral sensibility.	
	BS_4	Female players have a quality of purity few men possess.	
	BS_5	Female players have a more refined sense of culture, taste.	
	BS_6	Every male player ought to have a female player he adores.	
	BS_7	Despite accomplishment, male players are incomplete without female players.	
Hostile sexism	HS_1	Female players exaggerate problems too much.	
	HS_2	Female players are too easily offended.	
	HS_3	Most female players interpret innocent remarks or acts as being sexist.	
	HS_4	Female players seek special favors under guise of equality.	
	HS_5	Female players seek power by gaining control over male players.	
	HS_6	Once a male player commits, a female player puts him on a tight leash.	
	HS_7	Female players fail to appreciate what male players do for them.	

Table A1. Wording of items

Appendix B

Item	Positive contact	Negative contact	Benevolent sexism	Hostile sexism
PC	**.925**	-.101	-.047	.063
NC	-.100	**.898**	,115	,083
BS_1	.118	.008	**,608**	.130
BS_2	.037	.211	**,744**	-.091
BS_3	-.279	-.016	**,849**	-.044
BS_4	.082	.155	**,830**	-.121
BS_5	.134	.161	**,853**	-.073
BS_6	.099	.103	**,720**	-.124
BS_7	-.021	-.150	**,623**	.235
HS_1	.066	.094	-.140	**,815**
HS_2	.054	-.052	.000	**,821**
HS_3	.199	.156	.018	**,740**
HS_4	.089	.164	.079	**,740**
HS_5	.115	-.174	.260	**,773**
HS_6	.218	-.149	.100	**,818**
HS_7	.033	-.084	.071	**,639**

Table A2. Factor loadings of constructs