Relationship between Self-discrepancy and Subjective Well-being

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Abstract

People can differently act online than in real-life. Their virtual identities may allow them to express themselves more freely. In this perspective, there is a self-discrepancy between virtual- and real-life. Due to the anonymity, people can feel free to express who actually they are online without considering social pressure. Especially, for those people who live in a repressed society, virtual-selves can play a significant role to achieve their well-being. For this reason, a self-discrepancy between actual- and virtual-self related to well-being was studied. With 183 survey responses, political freedom, extraversion and neuroticism are identified as significant influencers of subjective well-being (SWB). In addition, an increase in self-discrepancy between virtual- and real-life for 'unhappy' people leads to an increased online well-being, which is contradictory to Higgins' self-discrepancy theory.

Keywords : Actual-Self, Virtual-Self, Self-Discrepancy, Subjective Well-Being

1. Introduction

Internet has become very important in today's world. It has eased communication and enhanced the availability of information, both personal and commercial [Gius and Ceccucci, 2010]. Especially with the availability of personal information, people start to live more in the virtual world than before. For example, they interact with others through a Facebook account. However, people tend to present themselves in a favorable way on their Facebook profiles. This creates an unbalanced view regarding people's perception of others: people often think their Facebook friends are happier and have better lives than themselves [Chou and Edge, 2012]. This especially applies for Facebook friends which people have never met offline.

In short, the actual-self and the virtual-self are not necessarily the same: there is often a gap between actual (offline) selves and virtual (online) selves. The virtual self is defined as *"the representation of an identity in virtual environment, consisting of a property of objects allowing these objects to be distinguished from each other"* [Van Kokswijk, 2008]. According to the self-discrepancy theory [Higgins, 1987], such a discrepancy creates anxiety and emotional discomfort. Is this theory applicable to the self-discrepancy between actual and virtual selves as well? For example, there is a man who calls himself Vax Sirnah [NWN.Blogs.com, 2010]. He is in his thirties, overweight, balding and married with children. However, online, in Second Life, he is a "flirty cyber-chick" who hangs out at clubs and has hundreds of clothing items. Vax is gender dysphoric, which means that he is not comfortable with the gender he was born with. He stated "… I look in the mirror and am always surprised the guy staring back at me is actually me. I live in a liminal state: half in my body, half detached from it. Half male, half female…" Second Life is a haven for him. In this virtual world, he can realize a part of him, which he always knew existed, but could never point at. In Second Life, he is able to talk with other women and be treated as a sister, not a potential predator. Also he is able to "feel pretty", a feeling which he not had in real life. Vax: "It's a 'me' who cannot exist in the real world. It also helps me with my therapy in real life. I am not trying to deceive anyone. I am not trying to live as a lie. I am trying to live the truth, in its entirety."

This example shows quite positive consequences that result from self-discrepancy. In this case, the discrepancy between the actual-self and virtual-self positively impact society because people are able to freely express themselves. More broadly speaking, they may also be capable of stimulating and challenging the prevailing social norms and ideas, which is significant for societies to develop.

It is clear that self-discrepancies exist between the actual (offline) selves and the virtual (online) selves and these discrepancies have consequences for society. However, it is not clear whether these consequences are positive or negative. This may depend on specific characteristics of societies. As stated above, this may imply for different technologies or public policies.

The objective of this research is twofold. First, it aims to identify what repression-based sub-

jective well-being factors influence the self-discrepancy in the virtual world. These factors should be identified, because they may influence the self-discrepancy of people in the virtual world. For example, in a closed or repressed society, people are often subjected to strict social norms. In these societies, in open and liberal societies, individuals virtually create possible selves in order to express themselves freely. On the other hand, people can freely develop their actual selves based on who they want to be in real-life. In these societies, individuals can virtually create possible selves mainly for fun or experimentation. However, this may lead to cyber-bullying or other negative consequences, such as misleading information.

The second objective of this research is to assess whether the creation of a self-discrepancy (i.e. virtual-self which differs from actual-self) leads to higher levels of well-being in the virtual world. This may be the case for people who only express themselves freely online and not in real-life or for people who create their ideal-self online, which is not explained by the existing self-discrepancy theory. This research includes possible discrepancies on multiple online platforms or contexts, such as social networking sites, discussion boards, video-sharing sites and gaming environments. In addition, the association between a person's subjective well-being (in real life) and their self-discrepancies between the actual- and virtual-self is studied. This research aims to answer the following research questions:

• Which repression-based subjective well-be-

ing factors influence the self-discrepancy in the virtual world?

• Does self-discrepancy between the actual-self and the virtual-self lead to higher well-being online?

2. Theoretical Development

This research focuses on social repression factors that influence subjective well-being, which leads to creating the discrepancy between actual- and virtual-self. Repression is the condition of being repressed, which means that individuals cannot freely act: they are controlled, suppressed or restrained within a society. These factors are selected, because it is assumed to be more likely that these factors influence the discrepancy between the actual- and the virtual-self. People who live in repressed environment may seek to express themselves through virtual-selves, because it is assumed one is anonymous and not traceable. In addition, Suler [2004] states that online anonymous environments provide an outlet for expressing one's 'hidden selves.'

Minkov [2009] gives an overview of factors that influence the SWB (subjective Well-being) of a nation. This is done in order to assess predictors of differences between nations. The relevant *repression-based* factors are as follows.

- *Social equality* [Diener et al., 1995; Ouweneel and Veenhoven, 1991; Triandis, 2000; Veenhoven, 2007]
- *Gender equality* [Veenhoven, 2007]
- *Tolerance* [Veenhoven, 2007]
- *Personal freedom* [Ouweneel and Veenhoven,

1991; Triandis, 2000; Veenhoven, 2007]

- *Political freedom* [Suh and Oishi, 2002; Veenhoven, 2007]

Minkov [2009] adds a factor that he terms *'indulgence-restraint'* to the overview. For this factor, he found significant correlation with SWB. However, he found no significant support for social equality, gender equality and tolerance as being important predictors of subjective well-being, whereas Diener et al. [1995], Ouweneel and Veenhoven [1991], Triandis [2000] and Veenhoven [2007] did indicate that the factors do significantly predict SWB. For this reason, the following factors will be considered as having a positive association with subjective well-being: *social equality, gender equality, tolerance, personal freedom, political freedom and in-dulgence-restraint* (H1-H6). In addition to these factors, two other salient factors that influence nations SWB are derived from literature. They are extraversion-neuroticism [Lynn and Steel, 2006; Steel and Ones, 2002] and extraversion-in-troversion [DeNeve and Cooper, 1998; Vitterso, 2001]. These factors will be related with sub-jective well-being in order to verify earlier find-ings: *extraversion and neuroticism* (H7-H8).

2.1 Subjective Well-being and Self-discrepancy

The self-discrepancy theory [Higgins, 1987] proposed that people have multiple kinds of self-representations. These are the *actual-self* (who they currently believe to be), the *ideal-self* (who they would ideally like to be) and the *ought-self* (who they think they should be). If there is a gap (discrepancy) between these selves,

the theory predicts a result of emotions such as sadness, anxiety and depression. These negative emotions remain unless the discrepancies are resolved. Thus, if discrepancies are resolved and the negative emotions resolve, it is likely that an individual's subjective well-being increases, since a part of well-being consists of pleasant and unpleasant emotions [Bruni and Porta, 2007] or positive and negative emotions [Helliwell and Barrington-Leigh, 2010].

As expected, a negative relationship was found between self-discrepancies and well-be-ing [Lynch et al., 2009]. Additionally, this study highlight that an autonomy supportive environ-ment reduces discrepancies through creating a free, uncontrolled context where one can pursue their ideal-self. Campbell et al. [1994] found similar results. They stated that individuals who are romantically involved reported a higher psy-chological well-being. Their research showed that romantically involved individuals reported to being closer to their ideal-selves than roman-tically uninvolved individuals. Thus, a smaller discrepancy between the actual- and ideal-self resulted in a higher psychological well-being.

The research of Choi et al. [2010] is in line with the findings of Lynch et al. [2009]. Choi et al. [2010] found that a person has a lower sub-jective well-being if her/his discrepancy be-tween the actual- and virtual-self is high. In oth-er words, there is a negative association among the discrepancy between the actual-self and vir-tual-self and subjective well-being. Therefore, it is proposed that *subjective well-being* will be negatively related with both *inner-* and *out-er-discrepancy* (H9-H10).

The distinction between inner- and outer-discrepancy is made. Since avatars give expressive freedom to people, a person's physical appearance can be different from their actual appearance. For example, a person may pretend to be taller online than in real-life (i.e. an outer-discrepancy). However, people can also act differently online and engage in another personality. For example, a person may display more emotions online than in real-life (i.e. an inner-discrepancy).

2.2 Self-discrepancy and 'Online' Well-being

The self-discrepancy theory states that discrepancies between actual- and ideal-/ought-selves have negative emotional consequences. In the virtual world, people can create such an ideal-/ought-self. It seems that such discrepancies do not necessarily have negative emotional consequences. This is not in line with Higgins' self-discrepancy theory [Higgins, 1987]. However, there are also indications in literature that appear to confirm the notion that people intentionally create different virtual selves which can cause positive emotional feelings.

In the gaming area, Bessière et al. [2007] examined the identity exploration possibilities in World of Warcraft. In this game, people are represented in the virtual area through characters or avatars. The authors found that people created their main characters that were more similar to their ideals than to their actual-selves. The difference between their main character and actual selves was significantly higher for people with low self-esteem or depression. The study

suggested that the game world allows people the freedom to create successful virtual selves the regardless of their actual-selves. Another study revealed a similar result. Dunn and Guadagno [2012] found that people, both men and women, created self-representations for themselves that closely displayed ideal male and female bodies. Men with a high openness to new experience were more likely to create self-representations with a different skin tone and introverts were more likely to create more attractive self-representations. Furthermore, in online gaming avatars were often made to look more intellectual [Vasalou and Joinson, 2009].

Vasalou et al. [2008] studied the self-presentation through avatars used in social media. Participants chose to show their stable self-attributes or idealized their avatars attributes by hiding or emphasizing attributes aligned to imagined social roles. Furthermore, Yee and Bailenson [2007] showed that qualities reflected in an avatar's appearance can steer the owner's behavior. Individuals who were assigned with an attractive avatar demonstrated increased self-disclosure and more willingness to approach members of the opposite sex than people with less attractive avatars. Also, individuals with taller avatars were more confident than people with shorter avatars. Not only altering personal attributes leads to certain emotional outcomes. A more sophisticated avatar leads to higher cognitive-based trust than a less sophisticated avatar. This means that people who craft their avatar in detail are more likely to gain trust from others.

In another study, Hongladarom [2011] showed that people are creating their own alternate per-

sona online. Social media is sometimes used to present completely new personae to the public, personae of which the actual person behind it is not known. It occurs often in Thailand, where freedom of speech is very limited. This phenomenon contradicts studies such as Zhao et al. [2008], which suggests that construction of online identities in social media sites tend to reflect the true identity of the user. In addition, people may alter their actual-self in online presentation. An example in online dating shows that males tend to report being slightly taller and women tend to report being slightly slimmer than in actual fact. This is in line with a study of Bargh et al. [2002]. These authors confirmed that people are better able to express their ideal-self qualities to their partners over Internet than in a face-to-face setting. The cause for this is that the ideal-self is more accessible in memory during Internet interaction, and the actual-self is more accessible during face-to-face interactions.

One IS-article has researched the link between user and avatar [Suh et al., 2011]. They state that the more closely an avatar resembles its user, the more the user is likely to have positive attitudes towards the avatar. Since Internet and virtual worlds allow for both more accessibility and expression of the 'true-self' than face-to-face [Bargh, et al., 2002], individuals may experience more positive attitudes towards their virtual identity. This may cause higher levels of well-being with their virtual identity than with their actual life.

When people create different virtual selves, they can carefully craft this online identity, due to the asynchronous communication mode [Gibbs et al., 2006]. As stated above, the virtual selves may reflect their ideals or, especially in closed societies, it allows for people to express themselves. When people are dissatisfied with themselves in the real world or want to try a new self may well seek to establish a very different self online [Ma and Agarwal, 2007]. Therefore, it seems likely that these intentional self-discrepancies increase an individual's 'online' well-being: they may be happier and more satisfied with their virtual selves, i.e. who they are (or can be) online, than with their actual-selves. In this research, a distinction is made between a person's subjective well-being in real-life, and their 'online' well-being with their virtual identity. Therefore, in this paper, it is proposed that both inner- and outer-discrepancy are positively related with 'online' well-being (H11-H12).

All hypotheses are developed further below.

2.3 Freedom

To what extent does a society allow the autonomy of individuals? Freedom, both personal and political, has significant correlations with subjective well-being. Personal freedom is the freedom to decide what to do in the private sphere of life. It allows people to choose lifestyles that better fit their personal needs and capacities [Veenhoven, 2007]. In societies with high personal freedom, people have a better chance to choose and invest their time in personally rewarding life projects, evaluate their happiness using more self-flattering standards and try harder to view their lives in a positive angle [Suh and Oishi, 2002]. Therefore, personal

freedom may be very important in the subjective well-being of nations. In addition to these findings, Minkov [2009] states personal freedom leads to life satisfaction and happiness. Both of these terms are an important part of subjective well-being. Therefore,

H1: personal freedom is positively associated with subjective well-being.

Political freedom is likely to protection against injustice and assault [Veenhoven, 2007]. Furthermore, happiness tends to be higher when a society respects citizens' political rights [Ouweneel and Veenhoven, 1991]. Ouweneel and Veenhoven [1991] state that political freedom is one of the factors that explain the bulk of the variance in happiness between nations. For these reasons,

H2: political freedom is positively associated with subjective well-being.

2.4 Equality

The factor equality is about equal and fair treatment of all individuals in a society. The measurement items are based on three areas of equality that are found in literature. The first one is a comprehensive factor called social equality. Diener et al. [1995] indicate that people in countries with high social equality report higher SWB that people in countries with low social equality. They discuss that people in nations with equality are more likely to achieve their goals. This is in line with earlier findings of Ouweneel and Veenhoven [1991], who state

that happiness is higher in relatively equal societies. Also, in nations with social inequalities, issues of equity and social justice are likely to arise. Veenhoven [2007] adds that social inequality can affect happiness negatively due to the frustrations and limitations it invokes. The hypothesis:

H3: social equality is positively associated with subjective well-being.

The second measurement factor aims specifically on gender equality. People live longer and happier in societies where women have equal rights [Veenhoven, 2007]. In addition, the differences in happiness between people are smaller in those societies. Happiness is structurally lower in nations where there is discrimination against women. If the results of men and women are divided, men seem to benefit more from women emancipation than women. Additionally, Tesch-Römer et al. [2007] found a positive association between gender inequality in a society and differences in subjective well-being. In other words, if the gender inequality increases, the differences in SWB also increases. Thus,

H4: gender equality is positively associated with subjective well-being.

The third factor that reflects equality is tolerance. Tolerance measurements show strong correlation with national average happiness. It is commonly believed that people live happier in societies with fraternity and solidarity [Veenhoven, 2007]. In addition, in societies with high fraternity

and solidarity, differences in happiness among people are smaller. Furthermore, Veenhoven [2007] found that there is a correlation between 'tolerance' and 'trust in people'. The hypothesis is formulated as follows:

> H5: tolerance is positively associated with subjective well-being.

2.5 Indulgence-Restraint

Indulgence-Restraint is a cultural dimension identified by Minkov [2009]. It reflects the degree to which it is acceptable in a society for people to participate in leisurely and fun-oriented activities, either with family and friends, or alone. It also reflects the acceptability and freedom of spending one's own money and at one's own discretion. In his paper, Minkov [2009] explains the indulgence-restraint factor to be an important predictor of happiness. In societies where indulgence is stronger than restraint, there is a greater percentage of happy people. In societies where there are more severe restrictions on the enjoyment of life (in terms of indulgence in leisure, fun and spending), there are lower percentages of happy people. Therefore,

> H6: indulgence-restraint is positively associated with subjective well-being.

2.6 Extraversion and Neuroticism

Although the research is not entirely consistent, the general idea is that national SWB increases with national extraversion and it decreases with national neuroticism [Arrindell et al., 1997; Steel and Ones, 2002; Van Hemert et al., 2002]. Steel and Ones [2002] even identified extraversion as an extremely strong and positive association with SWB, and neuroticism as a very strong negative association. This is on a nation perspective. On an individual level, personality traits also affect SWB. Hotard et al. [1989] argued that extraverts perceive social excitation positively and they seek social interaction, whereas introverts perceive social excitation negatively and they avoid social interaction. Neuroticism amplifies the negative reactions of introverts to social interactions, which causes them to be more socially withdrawn. They found that neurotic introverts were particularly unhappy and dissatisfied with their lives. This is also confirmed by Pavot et al. [1990]. In addition, DeNeve and Cooper [1998], Diener [2000] and Vitterso [2001] reported neuroticism to have a negative relationship with SWB and extraversion as a positive one. Neuroticism is associated with e.g. anxiety, the experience of negative effect and worrying. In contrast, extraversion has a positive influence on SWB: in the case of positive events, extraverts experienced higher levels of happiness than introverts [Zelenski and Larsen, 1999]. For these reasons, the hypotheses are formulated as follows:

> H7: extraversion is positively associated with subjective well-being;
> H8: neuroticism is negatively associated with subjective well-being.

2.7 Subjective Well-being

Furthermore, SWB is measured through

measurement items on general happiness and general life satisfaction. As stated above, this delineation is made due to the absence of a general agreement on the term subjective well-being, and the complexity of this term. Happiness and life satisfaction are the two major components of SWB [Suh et al., 1998].

General life satisfaction can be accurately assessed by using the Life Satisfaction scale [Diener et al., 1985]. In addition, happiness can be measured accurately by just asking the individual to indicate how happy they currently are (i.e. a self-reported measure). The answer can be given on a 7-point scale ranging from very unhappy to very happy. It has shown excellent validity and psychometric properties [Fordyce, 1988; Larsen et al., 1985]. In addition, self-reported single-items measurements are widely used. Some examples include. The research of Lucas and Donnellan [2012] indicates that single-item measurements, e.g. on Life Satisfaction, are quite reliable.

The subjective well-being measurement concept is used for assessing the 'online' well-being. In this research, online well-being refers to the happiness and satisfaction an individual perceives with their virtual-self.

### 2.7.1 Subjective well-being: Happiness and Life Satisfaction

Happiness, which refers to the balance between positive and negative affect, and life satisfaction are the two major components of SWB [Suh et al., 1998]. There is not a clear consensus about happiness. Fisher [2010] notes that most definitions of happiness refer to pleasant judg-

ments (positive attitudes) or pleasant experiences (moods, emotions, flow states). Bruni and Porta [2007] state that happiness is the result of positive and negative affect. Happiness is also referred to as the hedonic aspect of SWB [Minkov, 2009]. Life satisfaction refers to the summation of evaluations regarding a person's life as a whole [Vitterso et al., 2005]. It reflects an individual's perceived distance from their aspirations [Bruni and Porta, 2007]. An individual reports high life satisfaction if a person's perceived life conditions matches with a self-composed set of standards [Shin and Johnson, 1978].

2.8 Self-discrepancy

There are different ways of measuring self-discrepancy. The two most important ones are the regulatory focus strength measure [Higgins et al., 1997] and the selves questionnaire [Higgins et al., 1985]. Both methods involve listing personal attributes for one's actual-, ideal- and ought-self. In this research, these two methods are adopted and adjusted. Instead of asking participants to list their own personal attributes, a list of attributes is given. For each given attribute, the participants indicated whether there is a difference for this attribute between their actual- and virtual-self. The attributes aimed to capture both inner-(e.g. self-esteem, directness in communication and emotionality), and outer discrepancy (e.g. gender, race and material possessions).

H9: subjective well-being is negatively associated with the inner discrepancy between the actual-self and the virtual-self;
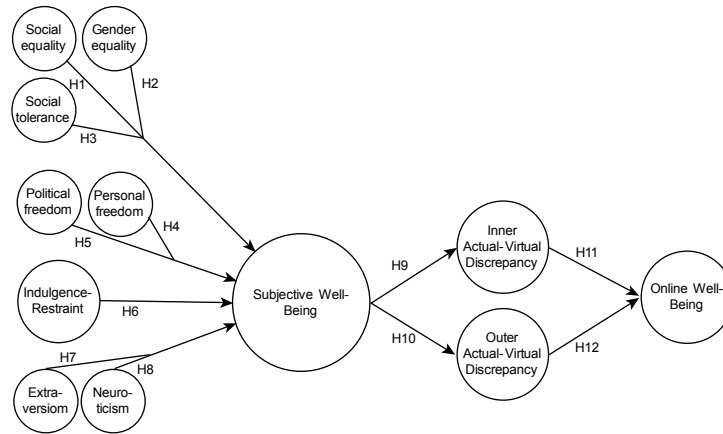
〈Figure 1〉 Proposed Model

H10: subjective well-being is negatively associated with the outer discrepancy between the actual-self and the virtual-self;

H11: the inner discrepancy between the actual-self and the virtual-self is positively associated with online well-being;

H12: the outer discrepancy between the actual-self and the virtual-self is positively associated with online well-being.

Finally, the research model is displayed in 〈Figure 1〉.

3. Methods

The reliability of the questionnaire is supported by using and adapting existing measurement items. These items have been tested and used in earlier research: their reliability has been proven. For all measures, a 7-point Likert-scale was used, ranging from *1 = strongly disagree to 7 = strongly agree*. The validity of the measurements is supported by executing a pilot test prior to the actual survey. First, during the pilot test, participants from both European and Asian origin were given the opportunity to comment on unclear questions or descriptions. After the pilot test, some changes have been made in the questionnaire. Some statements have been removed and some descriptive text has been added. After these changes, the questionnaire was distributed.

The data was gathered in July and August of 2012. The questionnaire was mailed to people, posted on discussion boards and distributed through *YouTube*. 238 people responded to the survey, 55 respondents were deleted due to incomplete or unusable response. The remaining 183 respondents were 59% male (108) and 41% female (75). More details are given in 〈Table 1〉.

The questionnaire contains three sections. The first section is about the social factors, such as political freedom and tolerance. The second section is about the discrepancies an individual did or did not create with their virtual identities. Finally, a person's happiness and life satisfaction was assessed, both for their actual lives and their online identities.

〈Table 1〉 Demographic Information of Respondents

Demographic Characteristics		Frequency	Percentage
Total		183	100%
Gender	Male	108	59%
	Female	75	41%
Age	10~19	73	39.8%
	20~29	77	42.1%
	30~39	19	10.4%
	40+	14	7.7%
Education	High School	44	24%
	Trade School	6	3.3%
	Vocational Education	3	1.6%
	Community College	32	17.5%
	University	85	46.5%
	Other	7	3.8%
	Not answered	6	3.3%
Job/ Profession	Employment for wages	48	26.2%
	Self-employed or own company	8	4.4%
	Retired	2	1.1%
	Student	108	59%
	Volunteer work	2	1.1%
	Unable to work	4	2.2%
	Other	4	2.2%
	Do not want to answer	7	3.8%
Sexual Orientation	Straight	155	84.7%
	Gay	6	3.3%
	Bisexual	13	7.1%
	Do not want to answer	9	4.9%

Some item values have been reversed in order to assure equal and comparable scales. For example, the item *a university education is more important for a boy than for a girl* measures gender equality. However, if a person agrees with this statement, i.e. assigns a high value, the gender equality is low. Therefore, in case of reversed items, the high values become low values and vice versa.

In order to test the measurements and run the research model, the SmartPLS 2.0 software is used. This software offers Partial Least Squares (PLS) analysis. PLS is a statistical method that finds a linear regression model by projecting the predictable values and observable values into a new space.

The internal consistency, inter-construct correlation and item reliability are presented for determining convergent and discriminant validity [Fornell and Larcker, 1981]. First, the cronbach's alpha for each item was calculated. The chronbach's alpha measures the internal consistency of items with equal weighting. An item is judged to be reliable if the value is higher than 0.7. In addition, the composite reliability is calculated. This also measures the internal consistency of the items and it includes the actual outer loading of each item. The composite reliability is the amount of scale score variance that is accounted for by all underlying factors [Brunner and Sub, 2005]. Again, an item is assumed to be reliable if the value exceeds 0.7 [Fornell and Larcker, 1981]. Fornell and Larcker [1981] also propose the Average Variance Extracted (AVE), which is a measure of the variance of the constructs that are explained by an individual item, assumed to be reliable if the value exceeds 0.5. The AVE is incorporated in this paper in order to show the convergent validity of each latent construct (see 〈Table 2〉).

As seen in 〈Table 2〉, political freedom has a chronbach's alpha lower than 0.7 : 0.68. However, the item is not deleted or adjusted for three reasons. First, the difference with the advised acceptable level of 0.7 is very small, and the composite reliability is well above the minimum. Second, in many societies, political freedom is changing and the same phenomena may apply

〈Table 2〉 Measurement Construct Reliability

Construct	Chronbach's Alpha	Composite Reliability	Average Variance Extracted
Social Equality	0.90	0.90	0.75
Gender Equality	0.72	0.80	0.58
Tolerance	0.85	0.85	0.65
Political Freedom	0.68	0.82	0.60
Personal Freedom	0.83	0.83	0.63
Extraversion	0.83	0.88	0.60
Neuroticism	0.81	0.86	0.56
Subjective Well-being	0.91	0.91	0.64
Inner Discrepancy	0.91	0.92	0.54
Outer Discrepancy	0.93	0.94	0.59
Online Well-being	0.80	0.87	0.63

for gender equality. For example, there are political uprising in the Arab world, China and Russia. This may explain some inconsistencies in response and thus a lower chronbach's alpha: on some parts people may experience (increasing) political freedom, on other parts not (yet). Third, some authors claim that an acceptable level is of chronbach's alpha is 0.6. Furthermore, the factor *indulgence-restraint* has been deleted from the measurement construct. The reason is that this construct showed insufficient reliability and AVE.

Deleting weak items did not adequately increase the reliability.

〈Table 3〉 displays the inter-construct correlation matrix. In this table, the square root of AVE is used to show the discriminant validity [Chin, 1998; Straub et al., 2004] in which each square root of AVE is greater than its correlation with any of the other constructs. The matrix shows that convergent and discriminant validity holds for each latent construct in which its square root of AVE loads above 0.50.

〈Table 3〉 Inter-construct Correlation Matrix

	EX	GEQ	ID	NE	OW	OD	PEF	POF	SEQ	TO	SWB
EX	.77										
GEQ	−.13	.76									
ID	−.28	−.01	.73								
NE	−.17	−.02	.36	.75							
OW	.27	−.01	−.26	−.31	.80						
OD	−.14	.06	.42	.18	−.08	.77					
PEF	.11	.03	−.06	−.25	.31	−.06	.79				
POF	.22	.08	−.19	−.25	.30	−.08	.45	.77			
SEQ	.06	.01	−.29	−.12	.17	−.17	.41	.28	.87		
TO	−.01	.38	−.07	−.06	−.02	−.05	−.01	.05	−.06	.81	
SWB	.33	−.08	−.38	−.53	.50	−.27	.29	.41	.22	−.09	.80

Note: EX-Extraversion; GEQ-Gender Equality; ID-Inner Discrepancy; NE-Neuroticism; OW-Online Well-being; OD-Outer Discrepancy; PEF-Personal Freedom; POF-Political Freedom; TO-Tolerance (TO); SWB-Subjective Well-being.
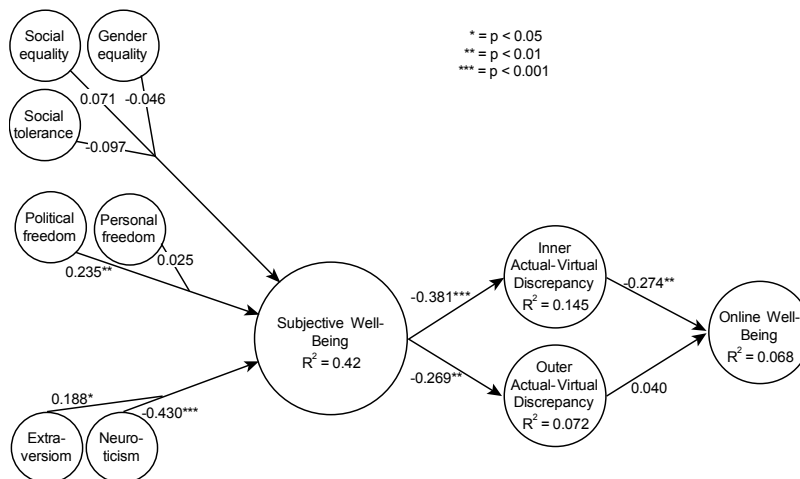
4. Results

The objective of this research was two-fold. First, the repression-based subjective well-being factors that may influence self-discrepancy in the virtual world would be identified. Second, there would be assessed whether self-discrepancy between the actual- and the virtual-self could lead to higher online well-being. In order to answer to these research objectives, the following hypotheses were formulated and tested:

H1: *personal freedom is positively associated with subjective well-being;*

H2: *political freedom is positively associated with subjective well-being;*

H3: *social equality is positively associated with subjective well-being;*

H4: *gender equality is positively associated with subjective well-being;*

H5: *tolerance is positively associated with subjective well-being;*

H6: *indulgence-restraint is positively asso-ciated with subjective well-being;*

H7: *extraversion is positively associated with subjective well-being;*

H8: *neuroticism is negatively associated with subjective well-being;*

H9: *subjective well-being is negatively associated with the inner discrepancy between the actual-self and the virtual-self;*

H10: *subjective well-being is negatively associated with the outer discrepancy between the actual-self and the virtual-self;*

H11: *the inner discrepancy between the actual-self and the virtual-self is positively associated with online well-being;*

H12: *the outer discrepancy between the actual-self and the virtual-self is positively associated with online well-being.*

The results show that H2, H7, H8, H9 and H10 are supported. There is no significant support for H1, H3, H4, H5 and H12. Contradictory to expectations, for H11, the correlation is negative instead of positive. Furthermore, H6 was deleted

⟨Figure 2⟩ Hypothesis Testing Results

due to unreliable measurement outcomes. An overview of the results is given below in <Figure 2>.

4.1 Supported Hypotheses

As predicted, the positively related factors with subjective well-being are political freedom (β = 0.235, p < 0.005) and extraversion (β = 0.188, p < 0.05). The negatively related factor with subjective well-being is neuroticism (β = -0.43, p < 0.0005). The social factors explain 42% of the variance for subjective well-being. In addition, subjective well-being is negatively related with both inner discrepancy (β = -0.381, p < 0.0005) and outer discrepancy (β = -0.269, p < 0.0025) between the actual- and virtual-self. This is in line with previous research. People with higher levels of subjective well-being have lower discrepancies between their actual- and virtual-self. However, subjective well-being appears to explain only a small percentage of the variance of inner discrepancy (14.5%) and outer discrepancy (7.2%).

4.2 Unsupported Hypotheses

The factors of social equality, gender equality, tolerance and personal freedom did not significantly influence subjective well-being. In addition, there is a significant negative relationship between inner discrepancy between the actual- and virtual-self and online well-being. This directly contradicts to the earlier proposition that such discrepancies would increase online well-being.

5. Discussion

This research aimed to identify repression-based social factors that are of influence on self-discrepancy between the actual- and virtual-self. In addition, there is argued that such self-discrepancies may lead to higher levels of online well-being, since the virtual identity of people may reflect their ideals, especially in repressed societies. When people are not satisfied with themselves in the real world or want to try a new self may well seek to establish a very different self online [Ma and Agarwal, 2007]. In addition, Internet provides individuals with an opportunity to try out new personality and to express self that has not been expressed in their real worlds [McKenna and Bargh, 1999]. The relationships of the tested factors are discussed below.

5.1 Social Factors and Subjective Well-being

The social factors of political freedom, neuroticism and extraversion are identified to be related to subjective well-being. The more political freedom people experience and the more extraverted people are, the higher the level of their subjective well-being is. The more neurotic people are, the lower their subjective well-being level is. This finding verifies studies of Minkov [2009], Suh and Oishi [2002], Steel and Ones [2002], Lynn and Steel [2006], DeNeve and Cooper [1998], Vitterso [2001] and a part of Veenhoven [2007].

No support was found for the factors of social equality, gender equality, tolerance and personal freedom in influencing subjective well-being.

This result is similar to the findings of Minkov [2009], who also found no support between social equality, gender equality and tolerance on the one side and subjective well-being on the other. This research adds personal freedom to the unsupported factors. It contradicts studies of Diener et al. [1995], Ouweneel and Veenhoven [1991], Triandis [2000] and a part of Veenhoven [2007]. These studies did find social equality, gender equality, tolerance and personal freedom as significant influences on subjective well-being.

Based on the findings, it can be stated that political freedom, neuroticism and extraversion are the influencing factors on self-discrepancy between the actual- and virtual-self. This is because these factors significantly influence subjective well-being, whereas SWB is significantly negatively associated with self-discrepancy. This means that high political freedom and high extraversion increase a person's SWB and, as a consequence, decrease their self-discrepancy, whereas neuroticism would decrease SWB and increase self-discrepancy.

5.2 Subjective Well-being and Self-discrepancy

Prior literature found negative associations between subjective well-being and self-discrepancy (e.g. [Campbell et al., 1994; Lynch et al., 2009; Ma and Agarwal, 2007]). In addition, Choi et al. [2010] found that people with high self-discrepancies between the actual world and the virtual world have lower levels of subjective well-being. This research verifies these findings and adds that the negative association exists between both the inner- and the outer type

of discrepancy. This is in line with the self-discrepancy theory [Higgins, 1987].

5.3 Self-discrepancy and 'Online' Well-being

The key point in this research is about the association between self-discrepancy between the actual- and virtual-self and corresponding well-being in the online world. It was argued that such discrepancies lead to higher 'online' well-being. Since virtual-selves may allow for more self-expression, people are able to create virtual-selves close to their ideal-selves. In the gaming area, Bessière et al. [2007] found that players created their main online characters more similar to their ideal-selves than their actual-selves. Dunn and Guadagno [2012] found that people created online representation that closely represented the ideal male and female bodies.

The relationship between inner-discrepancy and online well-being was negative and the association between outer discrepancy and online well-being was not significant. This means that an increase between (inner) actual- and virtual-self discrepancy leads to lower satisfaction with the online identity.

5.4 Implications for theory

This research contributes to literature in multiple ways. First, this paper addresses the consequences of self-discrepancy for well-being in more detail. Both a real-life subjective well-being and an 'online' well-being is assessed: a perspective which has not been made in prior literature. Previous literature focused on the as-

sociation between offline self-discrepancy and (real life, offline) subjective well-being (e.g. [Campbell et al., 1994; Lynch et al., 2009]) and between online self-discrepancy and (real life, offline) subjective well-being [Choi et al., 2010]. This study adds the association between self-discrepancy and 'online' well-being, i.e. the satisfaction and happiness with a virtual identity. This study also verifies the negative association between offline subjective well-being and self-discrepancy in more detail, since the negative association exists between both inner- and outer discrepancy.

Furthermore, this study highlights the need to extend the self-discrepancy theory developed by Higgins [1987]. This theory does not fully explain the results from this study. Self-discrepancy between the actual- and the virtual identity may lead to positive emotional consequences, whereas the self-discrepancy theory solely predicts negative consequences. Therefore, an extension of the self-discrepancy theory is proposed. A possibility is to incorporate a virtual perspective, since such a discrepancy does not necessarily lead to negative emotional consequences.

Finally, this study verifies a number of social factors that influence SWB. Previous literature found an association between subjective well-being and social equality [Diener et al., 1995; Ouweneel and Veenhoven, 1991; Triandis, 2000; Veenhoven, 2007], gender equality [Veenhoven, 2007] and tolerance [Veenhoven, 2007]. This research does not found significant support for these factors, thereby verifying the results of Minkov [2009]. In addition, significant associations were found between SWB and neuroticism and extra-

version. This verifies the results of Steel and Ones [2002], Lynn and Steel [2006], DeNeve and Cooper [1998] and Vitterso [2001].

5.5 Implications for Practice

The results from this study could be useful for practitioners. It helps developers of social systems (e.g. a web 2.0 site), or public policy makers, deciding whether a technology should allow for self-discrepancy, or whether users should reflect their actual-self in a system. This question is becoming more relevant, since user participation becomes more important: social systems focus attention on user-created content and not specific requirements [Chaturvedi et al., 2011].

A social system that allows self-discrepancy may enable free self-expression or it provides a safe haven for people dealing with social inequality.

5.6 Limitations and Implications for Further Research

There are two limitations involved in this research. First, this research only addressed repression-based social factors. Other social factors may be of influence when creating a self-discrepancy. Also, other types factors may be of influence, such as personality traits or cultural factors. Second, the response data mostly consists of young people (< 30). In further life stages response may be different.

An implication for further research is the assessment *why* certain social factors influence people to create self-discrepancy and why other

factors do not. If the underlying reasons are identified, motivations of creating self-discrepancy can be better understood.

In addition, further research should be done on the association between self-discrepancy between the actual- and virtual-self and its emotional consequences for (online) well-being. The results in this research should be verified, both for people with high and low SWB. Also, other (emotional) consequences, in addition to well-being, can be investigated. If other (positive) emotional consequences are identified, the need for extending the self-discrepancy theory is further supported.

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