

# Online Language: The Role of Culture in Self-Expression and Self-Construal on Facebook

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## Abstract

This article investigated how culture influences self-construal and self-expression on Facebook, a popular social networking site. To examine actual self-description representative of self-construal, unaltered independently existing information was garnered from the Facebook pages of Caucasian Americans, African Americans, and ethnic Asians attending a Midwestern University. Findings indicated that culture plays a significant role in influencing the communication of psychological attributes, individuating information, and the quantity of self-descriptive expression. Furthermore, evidence and argumentation are provided for a greater inclusion of African Americans in self-construal research.

## Keywords

culture, self-construal, social network site, Facebook, self-expression, self-presentation

Researchers have long been concerned with individual differences in various aspects of language and communication processes. For instance, patterns in word usage have been shown to be indicative of age (Pennebaker & Stone, 2003) and gender (Mulac, Bradac, & Gibbons, 2001); whereas, accent and message content have been demonstrated to influence listeners' affective states (Cargile & Giles, 1997). Given the multifaceted value of linguistic analysis, it is not surprising that scholars have turned their attention to examining the increasingly prevalent communication that occurs online.

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By investigating language online, researchers are able to extend theory in a different context, explore new media effects, and investigate novel (or at least repackaged) phenomena. Illustrating this potential, Herring and Martinson (2004) examined if traditional gender differences persist in online environments, finding that people produce gender appropriate content during discussions (regardless of their real-life gender) but were not adept in masking stylistic features of language that are indicative of gender. These findings document how people attempt to manipulate gender online and exemplify the embeddedness of the gendered ways in which people communicate.

A more recent example of the utility of analyzing online language is provided by Gonzales and Hancock (2008). They identified linguistic differences that emerge between public online self-presentations and private self-presentations, with language use reflecting greater certainty (e.g., “absolutely,” “always”) in online, public performances. This finding replicates past research indicating the potency of public self-presentations (i.e., Tice, 1992) while simultaneously garnering insight into the effects of blogs and other public forums on identity construction. The current investigation also seeks to examine identity through the linguistic analysis of online self-presentations. Similar to both of the aforementioned studies, the current focus involves testing the generalizability of past findings while simultaneously exploring the features and effects of communicating in an online environment. More specifically, this study explores how the influence of culture on self-construal and self-expression is reflected in language on Facebook, a popular online social networking website.

First, a brief discussion of the importance of self-construal and self-expression research will be provided, followed by a review of the relevant literature. Then, the rationale for examining self-construal and self-expression in an online environment is provided. Subsequently, hypotheses derived from the extant literature are offered and tested.

## **Culture and Self-Construal**

The impetus for much of intercultural self-construal research involved the realization that it was necessary to expand beyond an exclusively western view of how people define themselves. Psychological and anthropological evidence increasingly indicated that people do not understand “who they are” in a universal fashion (Markus & Kitayama, 1991). This systematic, culturally influenced variance in self-concept subsequently influences how people communicate (Gudykunst et al., 1996). There are some aspects of the self that are universal, such as understanding oneself as physically distinct from others. The self, however, can also be construed and conceptually represented in multiple ways that often are influenced by societal factors and manifested through communication (Markus & Kitayama, 1991). Because self-definition is central to communication, perceptions of others, and many aspects of human behavior (Cross & Madson, 1997), it is essential to investigate how culture influences its construal through language.

The distinctions made between the self-construals of individuals from different cultures are not offered as a declaration of categorical individual differences in how

people from a given group necessarily function psychologically. Instead, prototypical tendencies that are theoretically specified to emerge from varying cultural factors are examined in effort to garner a more refined understanding of how construals of the self differ and how these differences are reflected in communication. The purpose of the current research is to investigate such differences as revealed through variance in self-descriptive language, using a novel approach to capture self-reported information in a new, naturally occurring, online context.

### *Independent and Interdependent Self-Construal*

The primary distinction made between self-construals is that of the independent and interdependent self. Emphasized in Western cultures, the independent self is directed by the central principle of separating the self from others (Cross & Madson, 1997). As explained by Markus and Kitayama (1991),

Achieving the cultural goal of independence requires constructing oneself as an individual whose behavior is organized and made meaningful primarily by reference to one's own internal repertoire of thoughts, feelings, and action, rather than by reference to the thoughts, feelings, and actions of others. (p. 226)

This conceptualization of self is seen as intransient, not bound to particular situations or relationships (Kanagawa, Cross, & Markus, 2001). The independent self is responsive to the social environment; however, its purpose is to strategically assess how to assert internal attributes and individual goals (Markus & Kitayama, 1991). Research has supported claims that the independent self-construal is most prevalent and prominent in Western cultures (Levine et al., 2003, Oyserman, Coon, & Kimmelmeier, 2002). In particular, empirical evidence has indicated that individuals from the United States are more likely to express "who they are" by referencing psychological attributes or personal opinions than individuals from Asian cultures, whereas individuals from Asian cultures are more likely to define "who they are" in terms of social roles and relationships relative to Americans (Cousins, 1989; Kanagawa et al., 2001).

The interdependent self-construal is relatively more prominent in many Asian cultures and portrays the self as more connected and less differentiated from others. Behavior is guided by a desire for conformity and assimilation with other people. One's opinions, abilities, and characteristics are assigned secondary roles (Markus & Kitayama, 1991). Thus, individuals are self-defined through their relationships with others (Cross & Madson, 1997). As a consequence, individuals align their opinions, attributes, and goals with the specific group or relationship salient at a given time. Although the interdependent self-construal is most often discussed as persisting among individuals in Asian cultures, Cross and Madson (1997) argue that the United States is not limited to people whose dominant self-construal is individualistic and independent in nature. Many members of nondominant minority groups such as African Americans,

Hispanics, and Asian Americans take a more collectivist and interdependent stance toward the relationship of self and society (Cross & Madson, 1997).

A meta-analysis conducted by Oyserman et al. (2002) supports the claim that Asian Americans are higher in interdependence. Asian Americans were significantly higher in collectivism across the studies examined relative to Caucasian Americans. According to Gudykunst and Lee (2003), individuals socialized in collectivistic cultures are influenced to conceive of themselves in a particular interdependent fashion. More germane to the specific discussion of interdependent self-construals, the aforementioned results were reproduced in the meta-analysis when analyzing studies that contained indicators of "defining the self contextually" in the collectivism measures. However, the meta-analysis also provides strong evidence against grouping all minorities into a consortium labeled "Americans of Color" (i.e., Gaines et al., 1997; Oyserman et al., 2002).

In the meta-analysis, Caucasian Americans and African Americans did not differ in terms of their degree of collectivism. Furthermore, African Americans emerged as the most individualistic U.S. group, with no significant differences yielded between the individualism of Latino and Caucasian Americans (Oyserman et al., 2002). In addition, a study by Constantine, Gainor, Ahluwalia, and Berkel (2003) assessed the self-construals of African Americans and found that they scored higher on the independent self-construal scale than the interdependent self-construal scale (albeit not significantly greater). Given these emerging empirical distinctions and the shortage of studies that explore how African Americans construct the self (Constantine et al., 2003), it is important to expand beyond the traditional self-construal comparisons that exclude African Americans.

In addition to the empirical justification for continued research on African American self-construal and intercultural differences, a theoretical rationale exists. Rather than viewing culture as a static prepackaged entity, culture should be explored as a socially constructed and dynamic phenomenon (Nagel, 1994). Nagel (1994) states that "culture is constructed . . . by the actions of individuals and groups and their interactions with the larger society" (p. 162). As such, changes in how cultures are viewed and treated by the larger society would be expected to elicit changes in cultural construction. African-Americans have experienced significant changes over the last half-century as their long path toward equal social status slowly approaches. Given such dynamic societal transformations, it is intriguing to examine how African American self-construals are currently reflected through communication and how they compare with other cultures. Beyond examining how cultural differences in self-construal are manifested through language, the current study seeks to investigate how culture influences a more general predilection for self-expression.

### *Self-Expression*

The effects of independent and interdependent self-construals have recently been examined in terms of difference in self-expression. In independent cultures, the propensity

exists to freely and regularly express one's internal attitudes, beliefs, and values. In the United States especially, self-expression is ingrained in the American tradition as exemplified and promoted through the right of free speech (Kim & Sherman, 2007). However, practices of self-expression are undertaken differently in interdependent cultures. Because roles and relationships are more paramount in importance relative to internal attitudes and beliefs, self-expression does not play an integral role in self-definition. Roles and relationships are readily recognizable by others, thus verbal affirmation is less necessary (H. S. Kim & Sherman, 2007). Empirical evidence indeed indicates that Caucasian Americans personally value self-expression greater than both East Asians and East Asian Americans (H. S. Kim & Sherman, 2007).

### ***Self-Construal Measurement***

The examination of independent and interdependent self-construals remains a welcomed and needed addition to the social sciences. Within the past two decades, intercultural self-construal research has become exceedingly prevalent, as exemplified by the development of three major self-report scales (Gudykunst et al., 1996; Kim et al., 2000; Singelis, 1994). As previously discussed, the current investigation seeks to investigate how cultural differences in self-construal are manifested through communication. The purpose of examining differences in self-construal through online language partially stems from the tenuous validity of the aforementioned self-report measures traditionally employed to assess self-construal. Levine et al. (2003) demonstrate the questionable validity surrounding many of the current scales used to measure independent and interdependent self-construal. Therefore, the present study does not use the traditional self-construal scales to examine cultural differences in self-description; rather it acquired observation from a realistic, naturally occurring forum. By examining actual self-descriptive language via online self-presentations, an ecologically valid approach to investigating self-construals and self-expression is afforded that permits the substantiation of past empirical findings. Before addressing the research hypotheses, the following reviews the recently developed communication technology being investigated and the rationale behind examining its content.

### **Social Networking Sites**

In just over the past 5 years, social networking sites (SNSs) have gained popularity among Internet users around the world, with literally millions of users on any given site (boyd & Ellison, 2008). SNSs share many of their key features with one another, however, the central purpose of the sites sometimes vary. boyd and Ellison (2008) specify a definition of SNS that helps to clarify them from other web-based services; specifically, an SNS must be a web-based service that allows users to (a) create profiles that are either public or semipublic within a bounded system, (b) display connections that they have with other members of the social network community, and finally (c) find other users through a virtual networking system.

Of specific interest to this research is Facebook (<http://www.facebook.com>), an SNS in which the main purpose is to aide users in maintaining their already existing relationships. One reason Facebook is unique is that users are presented with a template that allows them to enter in an extensive amount of personal information in order to create a user profile. Of particular interest, users are given one category within the profile labeled "About Me" in which individuals are able to free-text write information that may either reinforce what is already presented in the predetermined categories elsewhere on the page or present new information about themselves that may not otherwise fall into one of the given profile categories. Finally, every profile also comes with an option to display a picture of the user at the top of the page.

Facebook and other SNSs have become an excellent utility for social scientists interested in investigating impression management and self-presentation. Not only do SNSs provide an obvious arena for impression management and self-presentation research, they do so in a naturalistic setting. This has traditionally been a methodological problem among researchers interested in such issues. Although there is still debate over whether the profiles created are "real" representations of the individual, it is evident that demand characteristics, which may occur in more formal research settings, are not an issue. Instead, any demand characteristics that are present are a reflection of an individual's construal of culturally based social expectations.

In this study, differences in self-construal and self-expression are examined among Caucasian Americans, African Americans, and ethnic Asians living in the United States and attending a Midwestern University. Based on the empirical evidence reported from extant research, it is expected that African Americans will have more independent self-descriptions than Caucasian Americans, who will have more independent self-descriptions than ethnic Asians. Specifically, this will be represented through the proportion of internal expressions used by each ethnic group. Therefore Hypothesis 1 states:

*Hypothesis 1:* The proportion of self-expressions reflecting an independent self-construal will follow an ordered monotonic trend with African Americans having the greatest proportion, followed by Caucasian Americans, followed by ethnic Asians.

Furthermore, based on the Kanagawa et al. (2001) results, the proportion of pure psychological attributes used in self-description will reflect the above order. Thus, a subhypothesis predicts:

*Hypothesis 1a:* The proportion of psychological attributes used for self-description will follow the same ordered monotonic trend of Hypothesis 1, where African Americans will have the largest proportion, followed by Caucasian Americans, followed by ethnic Asians.

It is expected that the amount of relationships and social roles used for self-description will be greatest for ethnic Asians, followed by Caucasian Americans,

followed by African Americans. This order should also be reflected in the proportion of total relationships and the proportion of social memberships and roles (i.e., social affiliation) identified by each ethnic group. Therefore, Hypothesis 2 predicts:

*Hypothesis 2:* The total proportion of social affiliation self-descriptions will follow an ordered monotonic trend with ethnic Asians having the greatest proportion, followed by Caucasian Americans, followed by African Americans.

In addition, the proportion of self-descriptions that are identified as relational will follow the same ordered trend; as will, the proportion of self-descriptions that are identified as social memberships and roles. Therefore, two separate subhypotheses are proposed as follows:

*Hypothesis 2a:* The proportion of relationship self-descriptions will follow an ordered monotonic trend with ethnic Asians having the greatest proportion, followed by Caucasian Americans, followed by African Americans.

*Hypothesis 2b:* The proportion of social role self-descriptions will follow an ordered monotonic trend with ethnic Asians having the greatest proportion, followed by Caucasian Americans, followed by African Americans.

Based on the Oyserman et al. (2002) meta-analysis and the Kim and Sherman (2007) results regarding self-expression, it was expected that the total amount of self-description would be greater for African Americans than it would be for Caucasian Americans. In turn, Caucasian Americans would have a greater total amount of self-description than would ethnic Asians. Therefore, a third hypothesis was posited as follows:

*Hypothesis 3:* The total amount of self-description will follow an ordered monotonic trend with African Americans having the greatest, followed by Caucasian Americans, followed by ethnic Asians.

This trend is also expected for the total amount of groups with which individuals self-identified. Although at face value it may seem odd to predict that the more independent individuals will identify with a greater number of groups, an explanation of what constitutes group affiliations on Facebook makes this very understandable. The identification of “groups” one belongs to serves to further individuate the individual. Facebook groups predominantly consist of common likes, dislikes, and hobbies (e.g., I drunk dial; I love Seinfeld) rather than the actual membership to an existing organization. Thus, Hypothesis 4 proposes that:

*Hypothesis 4:* The total amount of group affiliations will follow an ordered monotonic trend with African Americans having the greatest, followed by Caucasian Americans, followed by ethnic Asians.



Finally, it is of interest to examine how individuals choose to self-depict themselves through pictures, as opposed to text-based expressions. Given that there is no research on how individuals pictorially represent themselves on SNSs across cultures, the following research question was offered:

*Research Question 1:* Are there ethnic differences in how individuals present themselves in their Facebook profile photograph?

## Method

### Participants

The sample consisted of 120 Facebook pages with 60 males and 60 females. The sample was made up of 40 Caucasian Americans, 40 ethnic Asians, and 40 African Americans. All participants were selected from the same large Midwestern University Facebook network. Although, not all participants were students of this university, they were somehow affiliated with the university either as students, faculty, or alumni. Pages were randomly selected from this network until an equal number of males, females, and each ethnic group were obtained. Classification of ethnic groups was done by three independent observers. There were no discrepancies among the observers as to the classification of the ethnic group of each participant based on their physical appearance and the content of their profiles.

Out of the Caucasian and African Americans reporting a hometown, 100% reported a town in the United States. No evidence existed indicating that any of the Caucasian or African Americans were international students, and only 4% failed to indicate either a hometown in the United States or graduating from a high school in the United States. For the ethnic Asians, 30% reported a hometown in the United States and 23% reported a hometown in East Asia. The overall demographic for this university is as follows: American Indian 0.67%, Asian/Pacific Islander 5.14%, African American 7.36%, Caucasian 74.32%, Hispanic 2.8%, international 8.08%, and other/blank 1.61%.

### Coding

The “About Me” section of Facebook allows users to free-write about themselves in a fashion similar to the Kuhn and McPartland (1954) Twenty Statements Test (TST). Traditionally, the TST is used to examine the self by requiring subjects to list 20 statements responding to the question “who am I?” It has been used frequently in cross-cultural studies that investigate the nature of self-concept (e.g., Bochner, 1994; Cousins, 1989; Kanagawa et al., 2001). Some issues have been raised about the construct validity of the scoring system for the TST (Wylie, 1974, 1989 as cited in Watkins, Yau, Dahlin, & Wondimu, 1997). Furthermore, doubts have been raised as



to whether subjects can comprehend and articulate 20 meaningful ways of self-identification (e.g., Watkins & Regmi, 1996). Facebook's "About Me" section, although similar to the TST, may alleviate the concerns that have been leveled against it. Although no validation work has been done on the construct validity of using the "About Me" section of Facebook, it has high face validity. In addition, individuals are able to write as little or as much as they wish in this section. This eliminates a forced, nonmeaningful response that may occur when subjects are arbitrarily required to generate 20 statements.

All Facebook pages were coded by two trained research assistants who were blind to hypotheses. The coding scheme was adapted from Kanagawa et al. (2001) who adapted it from Cousins's (1989) coding system for the TST responses. Kanagawa et al. (2001) retained Cousin's five categories (physical description, social affiliation, internal expression, immediate situation, other's judgment, possessions) and made further distinctions within social affiliation (relationship, social membership and roles) and internal expression (preferences/interests, goals, activities, short-term activities, qualified traits, pure psychological attributes, attitudes, abilities, individuating self-references). The composite social affiliation category and its subdivisions reflect interdependent self-construal whereas the composite internal expression category and its sub-divisions reflect independent self-construal. In addition, Kanagawa et al. added a miscellaneous category, which was retained for this present study's coding scheme. Furthermore, all other information that was relevant to self-description or expression provided on the page (i.e., the main picture on the page; the number of group memberships) was coded in order to garner a total frequency assessment for self descriptions and expression. Frequency counts of the "About Me" section were obtained using the word count feature of Microsoft Word and confirmed via linguistic analysis software. Facebook provides a total group membership count on each profile. Although frequency data were used to examine the total number of self-descriptions and self-expressions, all other reported data are proportions. All analyses were conducted on proportional data unless otherwise specified.

Once coding was completed intercoder reliabilities (Cohen's kappa) were calculated. Two coders each coded half of the pages, while a third and fourth coder coded half of each of the first and second coders set. If simple agreement and/or kappas were too low, retraining would have occurred. The intercoder reliabilities for each of the six categories within the "About Me" section were of sufficient size,  $\kappa \geq .85$  (.85, .98, .93, 1.00, 1.00, 1.00, and .91, respectively) and the simple agreement was also sufficiently high, percentage agreement  $> .90$  (.99, .99, .92, 1.00, 1.00, 1.00, and .98, respectively). These reliabilities can be found in Table 1. In addition, there was 100% agreement and a kappa equal to 1.00 for all other information on the page. Given that all kappas and simple agreement were of sufficient size, data from the first and second coders' data set were retained for analyses. Units were separated into independent clause thought units and discrepancies were resolved among the coders.

**Table 1.** Coding Reliability

	Percentage Agree ( $\kappa$ )						
	Physical Description	Social Membership and Roles	Internal Expression	Immediate Situation	Other's Judgments	Possessions	Miscellaneous
Overall	99 (.85)	99 (.98)	92 (.93)	1 (1)	1 (1)	1 (1)	98 (.91)
Men	97 (.71)	1 (1)	88 (.85)	1 (1)	1 (1)	1 (1)	97 (.82)
Women	1 (1)	99 (.96)	96 (.95)	1 (1)	Undefined <sup>a</sup>	1 (1)	99 (.96)

a. There was no *other's judgment* reported by women, therefore, kappa could not be defined.

### Linguistic Analysis

The content of the "About Me" sections were also analyzed using the Linguistic Inquiry and Word Count (LIWC) software developed by Pennebaker, Booth, and Francis (2007). Past research has indicated that personal pronouns can be used to both prime (Gardner, Gabriel, & Yee, 1999) and reflect (Marian & Kaushanskaya, 2004) independent (I, me, mine) and interdependent (we, us, our) self-construal. In addition to exploring personal pronoun usage, a broad word category entitled "social processes" was examined as a reflection of total social affiliation. The "social processes" category includes a large group of words that denote social interaction. The word categories of "family" and "friends" were used to examine relational affiliation, whereas, "religion" was used to examine social roles and membership. In LIWC all word categories (except word count) reflect a percentage of total words. Following past research (Hirsch & Peterson, 2009), a square-root transformation was applied to each word category prior to data analysis in order to create more normally distributed data.

### Results

As stated earlier, all analyses were conducted on proportions as opposed to simple frequencies. Additionally, given that there were differences in the hometown reported for Asians, either domestic or foreign, an initial analysis was done to examine if there were any differences between those that did not report a hometown, those who reported domestic hometowns, and those who reported foreign hometowns. The analyses yielded no significant differences. Therefore, all analyses were done by collapsing domestic and foreign Asians into one general Asian category.

The first hypothesis predicted that African Americans would be higher than Caucasian Americans who would be higher than ethnic Asians in the proportion of internal expressions written. An omnibus analysis of variance (ANOVA) found no significant difference,  $F(2, 117) = 1.55$ ,  $p = \text{nonsignificant}$ ,  $\eta^2 = .03$  (see Table 2 for descriptive statistics of coded data). However, the omnibus ANOVA for first person singular pronouns approached statistical significance,  $F(2, 117) = 2.80$ ,  $p = .065$ ,  $\eta^2 = .03$  (see Table 3 for descriptive statistics of LIWC data). A planned contrast analysis was

**Table 2.** Hypotheses and Analysis of Variance (ANOVA) Results From Coded Data

Hypothesis	F	$\eta^2$	Mean (SD)		
			Black	White	Asian
H1: Internal expressions	1.55	.03	0.36 (0.43)	0.23 (0.37)	0.23 (0.38)
African > Caucasian > Asian					
H1a: Psychological attributes	3.74*	.06	0.11 (0.23) <sub>a</sub>	0.03 (0.10) <sub>b</sub>	0.02 (0.09) <sub>b</sub>
African > Caucasian > Asian					
H2: Total social affiliation	0.83	.01	0.06 (0.14)	0.05 (0.17)	0.02 (0.07)
Asian > Caucasian > African					
H2a: Relational affiliation	3.82*	.06	0.04 (1.0) <sub>a</sub>	0.006 (0.03) <sub>b</sub>	0.002 (0.02) <sub>b</sub>
Asian > Caucasian > African					
H2b: Social roles and memberships	0.68	.01	0.02 (0.08)	0.05 (0.17)	0.02 (0.07)
Asian > Caucasian > African					
H3: Total self-descriptions	4.78**	.07	4.85 (6.56) <sub>a</sub>	2.05 (3.97) <sub>b</sub>	1.77 (3.72) <sub>b</sub>
African > Caucasian > Asian					
H4: Group affiliation	6.34**	.10	45.3 (58.33) <sub>a</sub>	25.5 (22.73) <sub>b</sub>	15.55 (20.51) <sub>b</sub>
African > Caucasian > Asian					

Note:  $df = 117$  for all tests. In addition, the subscripts indicate which means are significantly different from one another at.  $\eta^2$  is based on the variance explained by ethnic group in the one-way ANOVA. \* $p < .05$ . \*\* $p < .01$ .

**Table 3.** Word Categories and Results From Linguistic Inquiry and Word Count Analyses

Word Category and Prediction	F	$\eta^2$	Mean (SD)		
			Black	White	Asian
First person singular pronouns	2.80	.03	1.67 (1.90)	1.17 (1.77)	0.74 (1.61)
African (3) > Caucasian (−1)	2.27 <sub>t</sub> *	.04			
> Asian (−2)					
First person plural pronouns	1.35	.02	0.18 (0.51)	0.03 (0.19)	0.08 (0.53)
Asian > Caucasian > African					
Social processes	7.40**	.08	2.03 (2.1) <sub>a</sub>	0.61 (0.13) <sub>b</sub>	0.92 (1.7) <sub>b</sub>
Asian > Caucasian > African					
Family	4.60*	.07	0.21 (0.54) <sub>a</sub>	0.04 (0.23) <sub>b</sub>	0 (0) <sub>b</sub>
Asian > Caucasian > African					
Friends	1.50	.02	0.25 (0.52)	0.06 (0.27)	0.18 (0.62)
Asian > Caucasian > African					
Religion	3.47*	.05	0.41 (1.0) <sub>a</sub>	0.08 (0.36) <sub>b</sub>	0.08 (0.39) <sub>b</sub>
Asian > Caucasian > African					

Note:  $df = 117$  for all tests. In addition, the subscripts indicate which means are significantly different from one another. \* $p < .05$ . \*\* $p < .01$ .

employed to further investigate the proposed monotonic trend. The results indicated the trend was statistically significant,  $t(117) = 2.27, p = .025, \eta^2 = .04$ .

Exploring a subset of internalized expressions (Hypothesis 1a), an omnibus ANOVA found significant differences among ethnic groups in the proportion of pure psychological attributes present,  $F(2, 117) = 3.74, p < .05, \eta^2 = .06$ . A Tukey's *B* post hoc analysis indicated that African Americans reported significantly more psychological attributes than Caucasian Americans and ethnic Asians who did not significantly differ from one another at  $p < .05$ .

The second hypothesis predicted that ethnic Asians would be higher than Caucasian Americans who would be higher than African Americans in the proportion of total social affiliation written. An omnibus ANOVA found no significant differences between ethnic Asians, Caucasians, and African Americans,  $F(2, 117) = 0.83, p = \text{nonsignificant}, \eta^2 = .01$ . Likewise, there were no significant differences in the amount of 1st personal plural pronouns used,  $F(2, 117) = 1.35, p = \text{nonsignificant}, \eta^2 = .02$ . However, significant differences were observed for the "social processes" LIWC category,  $F(2, 117) = 7.40, p < .01, \eta^2 = .08$ . Contrary to expectations, African Americans had a significantly greater percentage of words indicating social interaction relative to Caucasians and ethnic Asians.

A similar pattern was also found for Hypothesis 2a. An omnibus ANOVA found a significant difference between ethnic groups,  $F(2, 117) = 3.82, p < .05, \eta^2 = .06$ . A Tukey's *B* post hoc analysis indicated that African Americans ( $M = 0.04, SD = 1.00$ ) significantly differed from ethnic Asians ( $M = 0.002, SD = 0.02$ ) and Caucasians ( $M = 0.006, SD = .03$ ) who did not significantly differ from one another in the proportion of reported relationship affiliations. The linguistic analyses helped clarify this finding. African Americans had a significantly greater percentage of "Family" words,  $F(2, 117) = 4.60, p = .012, \eta^2 = .07$  in their "About Me" section relative to Caucasians and ethnic Asians who did not differ. In contrast, differences were not yielded for the "Friends" word category,  $F(2, 117) = 1.50, p = \text{nonsignificant}, \eta^2 = .02$ .

Nonsignificant results were obtained for Hypothesis 2b,  $F(2, 117) = 0.68, p = \text{nonsignificant}, \eta^2 = .01$ , in which it was hypothesized that ethnic Asians would have a greater proportion of social membership and roles written than Caucasian Americans who would have more than African Americans. However, African Americans did have a significantly greater percentage of "Religion" words,  $F(2, 117) = 3.47, p = .034, \eta^2 = .05$ , in their "About Me" section relative to Caucasians and ethnic Asians who did not differ.

An omnibus ANOVA was run for Hypothesis 3, which predicted that African Americans would have a higher total frequency of units in the "About Me" section than Caucasian Americans, who in turn would have a higher frequency than ethnic Asians. The omnibus ANOVA found a significant difference between these three groups,  $F(2, 117) = 4.78, p < .01, \eta^2 = .07$ . Furthermore, a Tukey's *B* post hoc test indicated that African Americans ( $M = 4.85$ ) reported significantly more self-description than Caucasian Americans ( $M = 2.05$ ) and ethnic Asians ( $M = 1.77$ ) who did not significantly differ.

Hypothesis 4 predicted that African Americans would have more group affiliations than Caucasian Americans who would have more than ethnic Asians. An omnibus ANOVA found significant differences between these three groups,  $F(2, 117) = 6.34, p < .01, \eta^2 = .10$ . Tukey's  $B$  post hoc analysis indicated that African Americans differed from Caucasian Americans and ethnic Asians who did not significantly differ from one another.

Finally, the research question asked if there would be a difference between Caucasian Americans, ethnic Asians, and African Americans, in whether they display a profile picture including others. A chi-square analysis found a significant difference in the pictures displayed among Caucasian Americans, ethnic Asians, and African Americans,  $\chi^2(2, 117) = 7.50, p < .05, r = .25$ . An odds ratio indicated that Caucasian Americans are three times more likely to display a profile picture with others than African Americans or ethnic Asians, who did not differ from one another.

## Discussion

The purpose of the current research was to examine cultural differences in self-description and self-expression on a popular SNS. Although many cross-cultural studies involving self-construals have been conducted, few have attempted to garner data in a naturalistic manner. The data analyzed were from *actual* public self-descriptions, completely removed from any methodological influence or bias during their creation.

The results for hypothesis one and its subhypotheses are partially supported. Although a significant difference did not exist for the *proportion* of the total amount of internalized expressions listed, significant effects were observed for the total frequency of internalized attributes expressed. Post hoc analysis indicated that African Americans reported significantly more internalized attributes than Caucasian Americans or ethnic Asians who did not significantly differ from one another. Furthermore, the results were significant for the proportion of pure psychological attributes and first person singular pronouns. This evidence is in accord with the Oyserman et al. (2002) meta-analysis that indicated African Americans were the most individualistic individuals. It is also consistent with the claim presented by Kanagawa et al. (2001) that independent individuals will use pure psychological attributes for self-description.

The data were inconsistent with Hypotheses 2 and 2b. Hypothesis 2 predicted that the total proportion of social affiliation self-descriptions would follow an ordered monotonic trend with ethnic Asians having the greatest proportion, followed by Caucasian Americans, followed by African Americans. Although, a significant difference was found for Hypothesis 2a, it was not in the predicted direction. The ethnic Asians examined did not use relational, social membership and role affiliation more than Caucasian Americans and African Americans. However, African Americans did report more relationship affiliations than Caucasian Americans or ethnic Asians. And as clarified by the linguistic analysis data, familial relationships (not friendships) contributed

to this difference. These results cannot be attributed to African Americans simply having more self-descriptions. This study examined proportions in addition to frequencies in order to alleviate any concerns regarding the potential of self-description being confounded with loquacity. Two viable interpretations might help explain these results.

One reasonable interpretation is that Hypothesis 2 is simply false. The meta-analysis conducted by Levine et al. (2003) reached a similar substantive conclusion. Levine et al. report heterogeneous and inconsistent findings across studies containing more than 4,000 subjects indicating that the body of empirical evidence examined does not support the claim that Asians are more interdependent than individuals from the United States, Canada, and Australia. An examination of the proportion of independent versus interdependent statements communicated by ethnic Asians in the "About Me" section also supports the claim made in the meta-analysis that Asians do not have a more interdependent than independent self-construal.

A second possible interpretation is that Facebook diminishes the use of interdependent self-expression. That is, characteristics of the SNS's interface and/or user norms influence online self-presentations. Developed in the United States and predominantly used by Americans, it is possible that a template of independent self-expression was created and consistently reinforced by the millions of U.S. Facebook users. Although Facebook is used internationally, two other countries associated with independent self-construal, the United Kingdom and Canada, contain the second and third most active users. Therefore, the possibility exists that Facebook socializes independent self-expression, thus suppressing the interdependent self-expression of ethnic Asians. Such an explanation, however, does not explain why African Americans tended to differ from both Caucasian Americans and ethnic Asians. Future research comparing individuals who have accounts with both Facebook and CyWorld, a Korean-based SNS, could provide further insight into the possibility that SNS interfaces and/or SNS user norms influence online self-presentation.

Relevant to overall self-expression, Hypothesis 3 was partially supported. Hypothesis 3 posited that the total amount of self-description would follow an ordered monotonic trend with African Americans having the greatest, followed by Caucasian Americans, followed by ethnic Asians. The predicted pattern was found in part with African Americans presenting the most information in the "About Me" section of Facebook. However, Caucasian Americans and ethnic Asians did not differ. It is important to note that since the statistical analyses compared amounts of self-description in the "About Me" section, these results are most pertinent to discussion surrounding the propensity individuals have across cultures for self-expression. This evidence is also bolstered by the fact that the predicted pattern was only significant for information presented in the "About Me" section of the Facebook page, as opposed to the entire page. There was no significant difference between cultures in the total amount of units presented on the Facebook pages,  $F(2, 117) = 2.19$ , nonsignificant.

A significant difference was found for Hypothesis 4, total group affiliation; however, not completely in the predicted pattern. African Americans had more group affiliations than Caucasian Americans or ethnic Asians who did not differ from each

other. As mentioned previously, the groups listed on Facebook should be viewed primarily as a means of providing additional individuating information. The results provide further support for the notion that African Americans are more individualistic than Caucasian Americans and Asians. However, future research that categorizes the types of groups people typically belong to on Facebook and their relation to independent/interdependent self-construal is necessary in order to more precisely understand what the expression of group affiliation reflects.

Finally, in regard to photographic self-portrayal, Caucasian Americans appeared in photographs with others significantly more than African Americans and ethnic Asians who did not differ. Although it was uncertain exactly what to expect for photographic self-portrayal, an argument could be put forth that photographs with others would reflect interdependence whereas photographs containing only the individual would reflect independence. The question of photographic self-portrayal is interesting and deserves attention in future research because of the prominence of photographs on many SNSs.

Overall, a common pattern was evident throughout the language analyzed in this study; African Americans expressed themselves differently than Caucasian Americans and ethnic Asians who did not differ. African Americans expressed a greater amount of internalized expressions and self-descriptions and a greater proportion of psychological attributes, relationship affiliations, and group affiliations relative to Caucasian Americans and ethnic Asians. Four of the aforementioned differences obtained support the claim that African Americans have a highly independent self-construal. And whereas the proportion of relationship affiliations expressed was significantly greater for African Americans, the proportion of interdependent self-expression for African Americans was minuscule relative to independent self-expression. A similar pattern was also found for both Caucasian Americans and ethnic Asians on every variable considered. These findings are noteworthy because virtually all self-construal research contrasts Western and East Asian cultural orientations. The current results suggest larger differences between different subcultures within the United States.

When considering the results it is important to acknowledge a limitation of this study. Three independent observers classified each profile owner into an ethnic category. Therefore, it was impossible to determine the extent to which each profile owner self-identified with the ethnicity that was attributed to them by others. The measurement of self-identification would benefit future research in this area.

The current study sought to examine cultural differences in self-description and self-expression in a novel manner. In the absence of self-construal scales that demonstrate construct validity, unique research approaches may be the solution for further examination. Although certainly not denigrating the data that can be procured from a well-designed and thoroughly controlled investigation, obtaining information absent of potential biases from a realistic and independently existing forum has considerable advantages for the ecological validity of a study. Thus, the significant findings from this study provide convergent validity for other empirical bodies of evidence that were obtained via more traditional research methodologies and further exemplify the value of analyzing language.



The need to examine how African Americans articulate the self is also an important contribution provided by the results of this study. Although there is nothing wrong with examining only cultural differences between Asian and Caucasian cultures, often samples for such studies are taken from universities where there certainly are enough African Americans available to participate. For the researcher truly interested in cross cultural differences, constraining comparisons to only two cultures at a time, devoid of any theoretical rationale for doing so seems undesirable. Furthermore, the results provide additional support for the claim presented by Oyserman et al. (2002) that collapsing minorities into a single category to compare against Caucasian Americans is ill-advised, especially considering the trends found in the present study that placed Caucasian Americans below African Americans and equal with ethnic Asians. Hopefully these considerations will be taken into account in future research that examines how culture influences self-construal, description, and expression.

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