ГОДИШНИК НА СОФИЙСКИЯ УНИВЕРСИТЕТ „СВ. КЛИМЕНТ ОХРИДСКИ“
ФИЛОСОФСКИ ФАКУЛТЕТ
Книга Психология
Том 104

ANNUAL OF SOFIA UNIVERSITY “ST. KLIMENT OHRIDSKI”
FACULTY OF PHILOSOPHY
Psychology
Volume 104

CONSTRUCTING AND VALIDATING A NEW MEASURE OF INGROUP IDENTIFICATION

MILEN MILANOV*, MARK RUBIN**, STEFANIA PAOLINI**

** Department of General, Experimental, and Genetic Psychology, Sofia University*
*** School of Psychology, University of Newcastle, Australia*

Милен Миланов, Марк Рюбин, Стефания Паолини. КОНСТРУИРАНЕ И ВАЛИДИЗАЦИЯ НА НОВА СКАЛА ЗА ВЪТРЕШНОГРУПОВА ИДЕНТИФИКАЦИЯ

Настоящото емпирично изследване се фокусира върху конструирането и валидизацията на скала, която измерва централност, социална, общностна, и взаимозависима идентификация и има за цел да направи разграничение между тези четири различни типа идентификация със социални групи. Основната идея е да се проверят психометричните свойства на новосъздадената Скала за централност, социална, общностна и взаимозависима идентификация (СЦСОВИ) и да се установи дали различия в себеконструирането, ориентацията към междуличностни взаимоотношения, пола и културата могат да предскажат всеки един тип идентификация. Резултатите предоставят първоначална подкрепа за валидността и надеждността на СЦСОВИ, разкриват междукултурни различия във вътрешногруповата идентификация и подкрепят очакванията ни за корелация между определени видове ориентация към междуличностни взаимоотношения и точно определени типове идентификация със социални групи.

** За контакти:* * e-mail: mtmilanov@phls.uni-sofia.bg
** Mark.Rubin@newcastle.edu.au
** Stefania.Paolini@newcastle.edu.au

In this study we constructed a scale that measures centrality, social, communal, and interdependent identification, and investigated the distinction between these four different types of identification with social groups. The general aim was to examine the psychometric properties of the newly designed Centrality, Social, Communal, and Interdependent Identification Scale (CSCIIS) and to investigate whether differences in self-construal, relationship orientation, gender, and culture might predict each type of identification. The results provided initial support for the validity and the reliability of the CSCIIS, revealed cross-cultural differences in ingroup identification, and supported predictions regarding the correlations between particular types of relationships orientation and particular types of identification with social groups.

Keywords: group identification measure, centrality, social identification, communal identification, interdependence

INTRODUCTION

Kashima et al. (1995) and Brewer and Gardner (1996) distinguished between personal, relational, and collective self-construal. Relational self-construal refers to the individual's sense of self as having close connections with others in communal relationships (communal identification), and collective self-construal refers to the individual's sense of self as an interchangeable member of a social group (social identification). Two self-report measures that assess these two different types of self-construal are Cross, Bacon, and Morris' (2000) Relational-Interdependent Self-Construal Scale and Gabriel and Gardner's (1999) Collective-Interdependent Self-Construal Scale. Given the theoretical parallel between relational self-construal and communal identification, we expected that relational self-construal would show the strongest positive correlation with communal identification. Given the theoretical parallel between collective self-construal and social identification, we predicted that collective self-construal would show the strongest positive correlation with social identification.

Based on the distinction between communal and exchange relationships (Clark & Mills, 1979), Clark, Ouellette, Powell, and Milberg (1987) and Mills and Clark (1994) developed and validated two scales that measure people's orientation toward relationships. The Communal Identification Scale assesses individuals' communal orientation, and the Exchange Orientation Scale assesses individuals' exchange orientation. Given the theoretical parallel between communal orientation and communal identification, we hypothesized that communal orientation would show the strongest positive correlation with communal identification. Furthermore, given the theoretical parallel between exchange orientation and interdependent identification, we hypothesized that exchange orientation would show the strongest positive correlation with interdependent identification.

Researchers have identified gender differences in the relational and collective forms of self-construal. In particular, Cross and Madson (1997) reviewed evidence supporting the idea that women tend to have a more relational self-construal than men. Following on from this work, Baumeister and Sommer (1997) and Gabriel and Gardner (1999) proposed that men tend to have a more collective self-construal than women. Based on this literature and the theoretical parallels between relational and collective self-construal and communal and social identification, we predicted that women would report higher levels of communal identification than men, and men would report higher levels of social identification than women.

Researchers have found substantial evidence of cultural differences in self-construal (see Oyserman, Coon, & Kemmelmeier, 2002). Typically, people from Western countries (e.g., North America, Australia) perceive themselves and others to be relatively independent and individualistic, whereas people from non-Western countries (e.g., China, India) perceive themselves and others to be more collective. Hence, people from Western and non-Western cultures have the potential to prefer relatively different types of ingroup identification which correspond best to their psychological needs in the particular social context. Given the close theoretical relationship between self-construal and ingroup identification, we expected that people from Western cultures will have higher communal and interdependent identification than people from non-Western cultures because Westerners are more likely to choose types of identification that will allow them to retain their sense of individuality in the group (i.e., communal and interdependent). People from non-Western cultures, on the other hand, will report higher levels of social identification and centrality than people from Western cultures because non-Westerners are far less concerned in retaining their sense of individuality in the group. Therefore, non-Westerners are more likely to choose types of identification which emphasize the process of depersonalization and the perception of similarity between group members (i.e., social identification), and stress the importance of the group in individual's self-concept (i.e. centrality).

METHOD

Overview

The research was conducted using an online questionnaire, which included the new CSCIIS together with a range of previously validated measures of self-construal, relationship orientation, and self-esteem. We also included several items that allowed the investigation of cross-cultural variations in the sample (e.g. „Please type the country that you lived in for the longest period during your childhood").

Compared with the traditional paper and pencil methods, web-based psychological research has many potential benefits and provides more opportunities for creativity (Birnbaum, 2004; Skitka & Sargis, 2006). The use of the Internet as a

psychology lab helps researchers to overcome some of the most common problems related to recruitment, sample size, data processing, and cost. Online human research can easily employ large and diverse samples which are more representative than the student participant pool, commonly used in psychology testing. The data obtained via Internet allows better generalization and makes statistical results and model fitting more powerful. Although some weaknesses of web-based research such as multiple submissions and dropouts should be carefully managed, many researchers consider the benefits of Internet testing to exceed its disadvantages.

Participants

Our aim was to collect data from 200 participants in order to have a sufficiently large sample of participants to perform an exploratory factor analysis on the CSCIIS. Mundfrom, Shaw and Ke (2005) found that „there is no shortage of recommendations regarding the appropriate size to use when conducting a factor analysis. Suggested minimums for sample size include from 3 to 20 times the number of variables and absolute ranges from 100 to over 1,000“ (p. 159). Hence, following Mundfrom et al.'s (2005) approach to determining sample sizes, we decided on a figure of 200 participants that exceeds Gorsuch (1983) and Kline's (1998) recommended minimum sample size of 100. Furthermore, this sample size is consistent with Comrey and Lee's (1992) description of 200 participants as being „fair“ (p. 200) and Russell's (2002) review of factor analyses published in *Personality and Social Psychology Bulletin*, which found that 62% of studies used less than 200 participants.

We recruited 283 participants from the global Internet community and the University of Newcastle's campus over a two-month period. However, in the analyses we used only the data from 193 participants aged 18 years or over who had fully completed the questionnaire. Following rules set in the study's information statement, the 90 participants who did not fully completed the questionnaire were considered as having withdrawn from the research at some point and their data was deleted. The gender breakdown was 58 (31.10%) male and 135 (69.90%) female. The average age was 25.84 years (SD = 10.29). Based on country of origin, cultural distribution was 90.5% Westerners and 9.5% non-Westerners.

Measures

The Centrality, Social, Communal and Interdependent Identification Scale

In order to provide a flexible, cross-situational measure of ingroup identification, we intended to develop a scale that measures identification with social groups in general. This type of approach has been successfully used in a number of previous studies (Ellemers, Kortekaas & Ouwerkerk, 1999; Luhtanen & Crocker, 1992) and is closer to the way groups are perceived in everyday life. In most social situations, people might be expected to think about and identify with more than one group at the same time. However, we wanted to design the scale so that researchers could

easily adapt it to measure identification with specific social groups (e.g., gender). Consequently, we ensured that all items had the potential to refer to „my groups“ (general measure) or „my group“ (specific measure). Given the generality of the target group in the CSCIIS, an additional item in the questionnaire assessed the type of groups that participants thought about when responding. The item was worded as follows: „Please list the top three groups that you were thinking about as you responded to the items above“. Participants answered in a ten-character free response format for each of the three groups.

Following previous similar multidimensional measures of group identification (e.g., Cameron, 2004; Luhtanen & Crocker, 1992), we aimed to construct a final scale that consisted of 26 items in total. In order to achieve this goal, we generated an item pool that contained twice the number (52) of final items. The main idea was to have 6 items measuring each of the investigated four different types of identification and 2 items measuring global identification which we believed to be useful for determining the relative contributions of each type of identification to overall identification (Cameron, 2004).

The development of the item pool began with a selection of generally suitable items from several previously validated measures, including Clark et al.'s (1987) Communal Orientation Scale, Mills and Clark's (1994) Exchange Orientation Scale, Gabriel and Gardner's (1999) Collective-Interdependence Self-Construal Scale, Cross et al.'s (2000) Relational-Interdependent Self-Construal Scale, Cameron's (2004) Three-Factor Social Identification Scale, Ellemers et al.'s (1999) Social Identification Scale, Prentice, Miller, and Lightdale's (1994) Attachment Scale, Luhtanen and Crocker's (1992) Collective Self-Esteem Scale, Henry, Arrow, and Carini's (1999) Tripartite Measure of Identification. We also added a number of our own statements that were intended to reflect the different types of ingroup identification. In total, we had an item pool of 115 items divided into several major groups.

The reduction of the items was performed in three key stages. First, we excluded items that were inappropriate (e.g. How well do you know the members of this group), ambiguous (e.g. I am not especially sensitive to other people's feelings), or that reflected different phenomena, such as public collective self-esteem (e.g. It is important to me that others think highly of my group). Second, we adapted some of the remaining items so that they made reference to groups in general without mentioning particular group types, and we modified the wording of some items in order to include an equal number of positively- and negatively-worded items in the final item pool. Finally, we modified statements in order to keep them reasonably short and simple. This last step was taken in order to ensure that the CSCIIS would be clear and applicable to non-native English speakers.

For centrality, we chose items that reflected either the subjective importance or the salience of the group. Example items included „My groups are an important part of my self-image“ and „The fact that I am member of my groups rarely enters my mind“. For the social identification subscale, we chose items that reflected

the perceived similarity of the self to other group members and the perception of being a prototypical member of the group. Example items from this set included „The people in my groups are quite different from me“ and „I am quite similar to the other people in my groups“. For the communal identification subscale, we used items that referred to close relationships, friendship, family, empathy, and social reflection (Tesser, 1999). Example items included „I have fairly superficial relationships with the other people in my groups“ and „I can't really empathize with the other people in my groups“. For the interdependent identification subscale, we selected items that focused on dependency, instrumentality, and the importance of reciprocation with respect to other group members. Example items included „I rely a lot on the other people in my groups“ and „When I give something to another person in my groups, I generally expect something in return“. Finally, for the global identification subscale, we chose items that reflected individuals' identification with social groups in general. Example items from the global identification subscale are „I identify with my groups“ and „I identify with the other people in my groups“.

After completing the item reduction process, we ended with a 52-item scale that was used in this study. The scale consisted of 12 items measuring each of the four different types of identification and four items measuring general identification (e.g. I identify with my group). Items were arranged in a single random order, and participants responded to each statement using a 5-point Likert-type scale (1 = Strongly Disagree, 5 = Strongly Agree).

Self-Construal Measures

We measured self-construal using Cross et al.'s (2000) Relational-Interdependent Self-Construal Scale (RISC) and Gabriel and Gardner's (1999) Collective-Interdependent Self-Construal Scale (CISC).

Cross et al.'s (2000) Relational-Interdependent Self-Construal Scale consists of 11 statements that refer to one's self-perception in relation to others. Example items include "My close relationships are an important reflection of who I am" and "When I establish a close friendship with someone, I usually develop a strong sense of identification with that person". Cross et al. showed that their scale had a single factor structure, good internal consistency (αs ranged from .85 to .90), and good test-retest reliability (*r*s ranged from .63 to .73 over a two-month period).

Gabriel and Gardner's (1999) Collective-Interdependent Self-Construal Scale consists of 10 statements that are closely related to Cross et al.'s (2000) Relational-Interdependent Self-Construal Scale. The key difference between the two scales is that Gabriel and Gardner's version replaces all references to close relationships with references to social groups. Hence, their scale provides a measure of *collective*, rather than *relational-interdependent*, self-construal. Example items include "The groups I belong to are an important reflection of who I am" and "When I join a

group, I usually develop a strong sense of identification with that group". Gabriel and Gardner found that their scale had good internal consistency (α = .90). Gabriel (personal communication, 25th October 2004) reported that their scale only showed moderate correlations with Cross et al.'s (2000) scale. Given the large degree of similarity in the wording of the items used in these two scales, these correlations provided some evidence of divergent validity.

Measures of Orientation Toward Relationships

Participants' communal and exchange orientation toward relationships was measured using Clark et al.'s (1987) Communal Orientation Scale (COS) and Mills and Clark's (1994) Exchange Orientation Scale (EOS).

Clark et al.'s (1987) Communal Orientation Scale is a measure of people's communal orientation towards relationships which consists of 14 descriptive statements. Example items include „I expect people I know to be responsive to my needs and feelings" and „I often go out of my way to help another person". Clark et al. (1987) found that the communal orientation scale has adequate internal consistency (αs = .78) and adequate test-retest reliability (r = .68 over a two month period). In addition, Clark et al. found that their scale has good convergent validity, correlating positively with measures of conceptually overlapping constructs such as Berkowitz and Lutterman's (1968) measures of social responsibility (r = -.36) and Mehrabian and Epstein's (1972) measures of emotional empathy (r = .58).

Mills and Clark's (1994) Exchange Orientation Scale assesses the extent to which individuals possess an exchange orientation toward relationships. The scale consists of nine items. Example items are „When I give something to another person, I generally expect something in return" and „I wouldn't feel exploited if someone failed to repay me for a favor" (reverse scored). Hughes and Snell (1990) reported that the scale has good internal consistency (α = .79) and adequate test-retest reliability (r = .70).

Self-Esteem Measure

Self-esteem was measured using Rosenberg's (1965) Self-Esteem Scale (SES). The SES is one of the most popular and widely used self-report measures of global self-esteem in social science research. It consists of 10 statements that are related to overall feelings of self-worth or self-acceptance. Example items include „I am able to do things as well as most other people" and „I wish I could have more respect for myself" (reverse scored).

Blascovich and Tomaka (1991) have found that the scale generally has very good reliability and validity across a large number of different sample groups. Test-retest correlations are typically in the range of .82 to .88, and Cronbach's alpha for various samples are in the range of .77 to .88.

Procedure

Following Birnbaum's (2004) recommendations regarding Internet research, we conducted the study online using a purpose-built questionnaire. This method allows participants to complete the study in privacy, at their own convenience, and at any time up until the conclusion of the project. Research has shown that the results obtained via Internet administration replicate those of more traditional paper-and-pencil type questionnaires (Birnbaum, 2004), and the validity of results derived from Internet-based studies has been shown to be acceptable (Epstein & Klinkenberg, 2002).

All participants had the opportunity to enter a prize draw for an electronic gift certificate worth US$100 redeemable from an online store with a 1 in 50 chance of winning this prize. Participants who wanted to enter into the prize draw had to submit their email address. Participants who did not want to enter the prize draw did not have to submit their email address. The e-mail addresses were separated from each person's data so that the data remained anonymous. Prize winners were advised by email within two days of the draw being conducted.

All participants were anonymous. The only personal details collected were age, gender, and some details about participants' cultural background. The instructions for the general version of CSCIIS and for the whole questionnaire asked participants to rate their identification with reference to examples of a variety of different types of groups, including intimacy groups (family, close friendships), task groups (juries, study groups), and social category groups (ethnicity, nationality, religion). We based these instructions on Luhtanen and Crocker (1992, p. 305) and drew examples of each type of group from Lickel et al. (2000):

> We are all members of different social groups. These social groups might refer to intimate groups such as family, friends, romantic partners, gangs, etc. They might also refer to task groups such as study groups, sports teams, work groups, committees, etc. Or they might refer to social categories based on gender, nationality, religion, ethnicity, etc. We would like you to consider your memberships in ALL of these different types of social groups and respond to the following statements on the basis of how you feel about these groups and your membership in them. There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions. Please read each statement carefully, and respond by using the following scale.

The entire questionnaire consisted of 118 questions and took approximately 40 minutes to complete. The CSCIIS was presented first, followed by CISC, RISC, COS, EOS, and SES. We expected a significant variation in participants' cultural backgrounds. Therefore we paid particular attention to the issue of measuring cultural differences in the sample. The key questions to participants were (1) „Please type your nationality" (2) „Please type the country that you lived in for the longest period during your childhood (0–16 years old)", (3) „Please type

the language that you feel most comfortable speaking“, and (4) "Please type the cultural background with which you identify the most". The above measure of cultural background incorporates a variety of measures that tap both objective and subjective information at the level of specific countries and languages. These measures allowed the investigation of cross-national, intranational, and cross-linguistic cultural variations as well as providing information about broader „Western“ and „non-Western“ cultural variations.

RESULTS

Factor Analysis and CSCIIS's Psychometric Properties

The main goals of this study were to test the distinction between centrality, social, communal and interdependent identification and to reduce the number of item in CSCIIS providing validity and reliability for the new scale.

First, we conducted an exploratory factor analysis to investigate the factor structure of the designed scale. As recommended by Russell (2002), we conducted a principal axis factor analysis with no rotation. Thirteen factors with eigenvalues larger than one were extracted. In contrast, the scree plot test (Cattell, 1966) suggested a possible four factor solution (see figure 1).

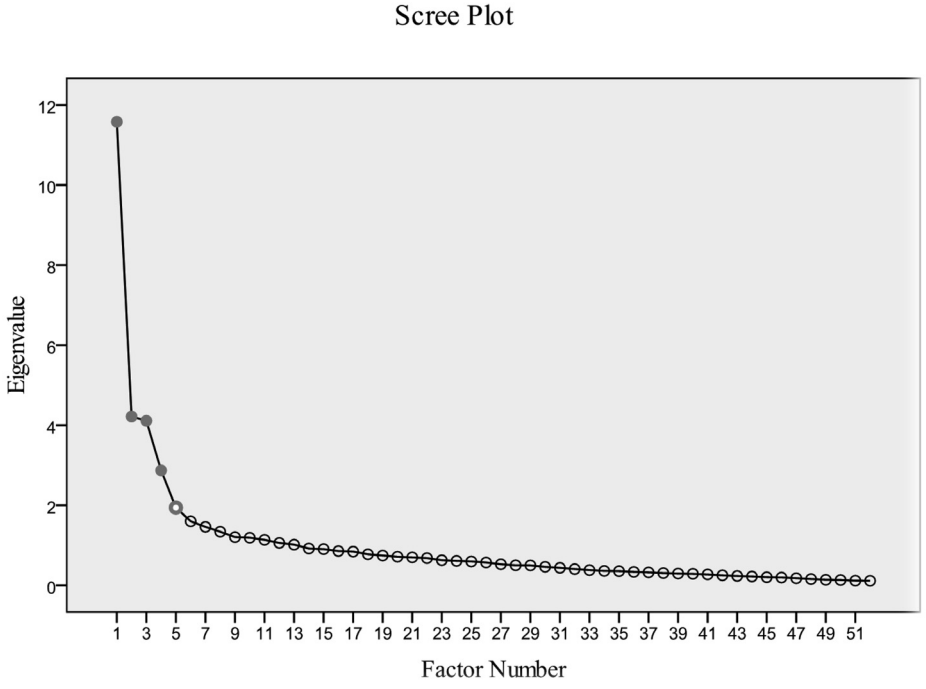

Figure 1. Eigenvalues as a function of factors extracted from the CSCIIS

However, a more precise look at the scree plot revealed that the fifth factor was also relatively distinct and moderately separated from the remaining factors at the elbow. Given that Wood, Tataryn and Gorsuch (1996) recommended that researchers should avoid underfactoring even if this could lead to overfactoring, we decided to retain this factor in the final extraction. This decision was additionally based on the results of a parallel analysis (Horn, 1965; Watkins, 2000) which revealed that there are five factors with eigenvalues larger than the corresponding criterion eigenvalues for a random data set with the same parameters (Table 1).

Table 1. *Comparison Between Criterion Eigenvalues From Parallel Analysis and the Eigenvalues From the Current Principal Axis Factor Analysis*

Factor Number	Actual Eigenvalue	Criterion Eigenvalue from Parallel Analysis	Outcome
1	11.58	2.19	Retain
2	4.22	2.06	Retain
3	4.11	1.97	Retain
4	2.87	1.90	Retain
5	1.94	1.82	Retain
6	1.60	1.76	Drop
7	1.46	1.70	Drop

We expected some of the factors to be correlated with one another because they represent different aspects of the broader phenomenon of ingroup identification. In particular, we expected that the global measure of identification might correlate positively with all of the other subscales, and that centrality, social, communal, and interdependent identification might be correlated, even slightly, with one another. In addition, it was likely that the correlation between communal and interdependent identification could be negative, because there are many factors that have opposite effects on communal and exchange relationships (Mills & Clark, 1994) which are in the core of these two types of identification. We used a promax rotation in order to accommodate these potential correlations, and we forced a five-factor solution.

The first factor accounted for 22.27% of the variance and had an eigenvalue of 11.58. Only items measuring social identification showed the strongest positive loadings on this factor, ranging from .51 to .82. We labelled this factor social identification.

The second factor accounted for 8.11% of the variance and had an eigenvalue of 4.22. Fourteen items measuring all types of identification, except salience, showed the strongest positive loadings on this factor, ranging from .66 to .34. We noted that all of the items that loaded on to this factor were positively worded. As Russell

(2002) has noted, this situation can be an indication that the factor represents a „method factor“ that accounts for a common style of responding to positively-worded items. Leaving the investigation of the above possibility for further studies, we labelled this factor global identification.

The third factor accounted for 7.90% of the variance and had an eigenvalue of 4.11. Similar to Factor 2, it contained items measuring the four different types of identification, global identification, and importance. All items were negatively worded which again suggested the possibility that this factor could be a method factor. However, given that three communal items loaded highest, we labelled this factor communal identification.

The fourth factor accounted for 5.52% of the variance and had an eigenvalue of 2.87. Items measuring communal identification, importance, and salience showed the strongest positive loadings on this factor, ranging from .70 to .38. However, all six salience items of CSCIIS loaded on this factor and four of these salience items had the highest loadings. Therefore, we labelled this factor salience.

The fifth factor accounted for 3.74% of the variance and had an eigenvalue of 1.94. Three items measuring interdependent identification and two communal identification items loaded on this factor, ranging from .71 to .39. With two of the interdependent identification items loading most strongly on the factor, we labelled this factor interdependent identification.

The Revised CSCIIS

As it was mentioned previously, we aimed to have six items measuring each of centrality, social, communal, and interdependent identification, and two items measuring global identification. The results for the social identification factor were very clear with nine social identification items loaded on it. However, the factor analysis results revealed a partially different pattern for the rest of the factors. Importance and salience items did not appear to load on the same factor. The importance items were spread among three factors whereas all salience items loaded on a single factor. The expected global and communal identification factors were also ambiguous, with only positive and negative items loading on these factors respectively. This left open the possibility that these factors represented method factors and/or are factors that represent socially desirable (factor 2) and socially undesirable behaviours (factor 3). However, we felt that it would be premature to abandon these constructs on the basis of this single set of results. Consequently, using item factor loadings larger than .40 (in absolute value) as a cut-off criteria, we selected the best four items for each of the social, communal, interdependent, global, and salience subscales of CSCIIS. Hence, we retained 20 items from the initial 52 items (table 2).

Two additional points should be noted here. First, to create the global identification scale, the two importance/centrality items that loaded highest on factor 2 were united with the two highest loading global identification items. Given the fact that researchers have frequently included importance in their measure of

group identification (Cameron, 2004; Ellemers et al., 1999) this approach was consistent with the literature.

Second, just four items tapping interdependence loaded on the interdependence subscale. Only three of them, however, loaded above the .40 cut-off criteria. Therefore, the interdependence item that loaded just below this cut-off criteria (.39) was also accepted for the interdependence subscale.

Reliability and Interitem Correlations

With regards to scale reliability, Clark and Watson (1992) noted that, „although Nunnally (1978) recommended minimum standards of .80 and .90 for basic and applied research, respectively, it is not uncommon for contemporary researchers to characterize reliabilities in the .60s and .70s as good or adequate (e.g. Dekovic, Janssens, & Gerris, 1991)". Consistent with these recommendations, Cronbach's alphas for each subscale were as follow: social identification α = .81, global identification α = .81, communal identification α = .69, salience subscale α = .73, and interdependent identification α = .63. The CSCIIS total score showed an α of .72.

However, Clark and Watson (1992) also stated that Cronbach's alpha is not the perfect measure of internal consistency and therefore the average inter-item correlation should be also considered by the scale developers as a more precise indicator. Consistent with their recommendations that an average inter-item correlation in the range of .15–.50 is desirable, the mean interitem correlations for the CSCIIS subscales were .51 for the social identification scale, .52 for the global identification scale, .35 for the communal identification scale, .41 for the salience scale, and .30 for the interdependence identification scale.

Table 2. *Items and Factor Loadings of the CSCIIS After Item Reduction*

Item	Factor				
	1	2	3	4	5
Social identification					
The people in my groups are quite different from me.*	.82				
I am not the same as the other people in my groups.*	.80				
I am quite similar to the other people in my groups.	.79				
There is very little difference between myself and other members of my groups.	.68		-.42		
Global identification					
I identify with the other people in my groups.		.58			
My groups are an important part of my self-image.		.53			
My groups are important to my sense of who I am.		.50			
I identify with my groups		.46			

Communal identification			
I have fairly superficial relationships with the other people in my groups.*		.66	
I don't have many close friends in my groups.*		.63	
I can't really empathize with the other people in my groups.*		.59	
I don't care about the people in my groups.*		.46	
Salience			
The fact that I am member of my groups rarely enters my mind.*			.70
I often think about the fact that I am in my groups.			.64
I don't think very much about my groups.*			.53
I often think about what it means to be in my groups.			.51
Interdependent identification			
When I give something to another person in my groups, I generally expect something in return.	.41		-.71
I do not expect anything in return for favours I have done for the other people in my groups.*			-.62
I would sacrifice my self-interest for the benefit of the other people in my groups.*			-.48
I don't bother to keep track of benefits I have given to other members of my groups.*			**-.39**

Note: Items with asterisk are reverse-scored. The cut-off criteria used for including factor loadings in the table is > .40.

Convergent and Divergent Validity

Table 3 shows the key correlations with regards to convergent and divergent validity of CSCIIS. As expected, the global identification subscale showed significant positive correlations with all of the other identification subscales (*r*s ranging between .31 and .44, *p*s < .01) except with the interdependent identification subscale.

Consistent with predictions, the interdependent identification subscale showed a significant positive correlation with the Exchange Orientation Scale ($r = .60$, $p < .01$) and a significant negative correlation with the Communal Orientation scale($r = -.31$, $p < .01$). Also consistent with predictions, the communal identification subscale showed a significant positive correlation with the Communal Orientation Scale($r = .39$, $p < .01$) and a significant negative correlation with the Exchange Orientation scale($r = -.19$, $p < .01$).

Although Mills and Clark (1994) argued that the communal orientation scale and the exchange orientation scale are not correlated, the results of the present research did show a negative correlation between these two measures. Given that

communal and interdependent identification are based on the distinction between communal and exchange relationships, the significant negative correlation between the communal and interdependent subscales of CSCIIS (r = -.32, p < .01) initially suggested that we do have a valid measures of communal and interdependent identification.

In terms of divergent validity, the overall CSCIIS score and the scores of social, interdependent, and global identification were not found to correlate significantly with the SES (r > .04, p > .05). Self-esteem showed only small negative correlation with the salience subscale of CSCIIS (r = -.14, p = .05) and a moderate positive correlation with the communal identification subscale (r = .33, p < .01). It should be noted here that the moderate correlation between communal identification and SES was in the same range as the correlation between SES and ingroup ties reported by Cameron (2004) in relation to his tripartite model of social identification (r = .40, p < .01). This fact could be seen as reflecting the similarities between our idea of communal identification and Cameron's factor of ingroup ties. However, communal identification and ingroup ties have significant conceptual differences and are distinct constructs.

Relational self-construal measured with RISC scale and collective self-construal measured with CISC scale both correlated significantly with all subscales of CSCIIS (rs ranging between .28 and .71, ps < .01) except with the interdependent identification subscale. The fact that the global identification subscale correlated highest with RISC and CISC could be because the items in all three measures stress the importance of the identity to the self. The above results did not support the initial expectations that relational self-construal would correlate most strongly with communal identification, and that collective self-construal would correlate most strongly with social identification. However, the very high correlation (r = .70, p < .01) between RISC and CISC in this study reveals that they seem to measure a similar construct and questions the divergent validity of these self-construal measures.

Table 3. *Correlations Between Established Measures and CSCIIS's Subscales*

	COS	SES	CISC	Social	Communal	Interdependent	Salience	Global	CSCIIS
RISC	.49**	.06	.70**	.28**	.32**	-.11	.38**	.60**	.57**
EOS	-.20**	-.17*	.08	-.01	-.19**	.60**	.18*	.33	.21**
COS		.18*	.45**	-.01	.39**	-.31**	.19**	.36**	.24**
SES			.08	.04	.33**	-.14	-.14*	.01	.04
CISC				.31**	.33**	-.07	.47**	.71**	.69**
Social					.08	.00	.07	.33**	
Communal						-.32**	.08	.31**	
Interdependent							.01	-.12	
Salience								.44**	

Note: N = 193. * Correlation is significant at the .05 level. ** Correlation is significant at the .01 level.

Type of Group and Type of Identification

As a preliminary test of one of the key hypotheses regarding the relation between different types of groups and different types of ingroup identification, we investigated which groups participants were considering when completing the questionnaire. We expected to find a positive correlation between social identification and the extent to which people think about category-based groups, a positive correlation between communal identification and thinking about intimacy groups, and a positive correlation between interdependent identification and thinking about task groups. To test these predictions, we analysed the data from a single item that asked participants to type the top three groups that they were thinking about when they responded to the CSCIIS statements (e.g. Please list the top three groups that you were thinking about as you responded to the items above). Based on Lickel et al.'s (2000) group taxonomy, we created three new variables called category group (e.g. women, gays, blacks), intimacy group (e.g. families, romantic partners, friends) and task group (e.g. co-workers, study groups, committees). Then, we assumed that the first listed group was most important to the self and so we coded it with a value of 3, the second group was less important to the self and so we coded it with a value of 2, and the last group was the least important group and so we coded it with a value of 1. For example, if participant A indicated that he/she thought about friends first, then colleagues, and then family, then we coded this response as a value of 4 in the intimacy variable (3 for friends plus 1 for family), 2 in the task variable (for colleagues), and 0 in the category variable. This approach treats participants' responses as repeated measures rather than independent responses, leading to a more powerful analysis of this data. In addition, it bases ratings on the "first is more important" idea. More salient or important items are usually recalled early during thought-listing tasks (Cacioppo & Petty, 1981) like the one in the present research. We found that people were mainly thinking about intimacy groups followed by task groups. Only 22 participants listed category groups in their answers. These results are consistent with Lickel et al.'s (2000) findings that group types differ in the way they are perceived as important by the individuals. Lickel et al. found that people valued their membership in intimacy groups significantly higher than their membership in any other types of groups, and that social category groups were valued less than intimacy and task groups. However, as the authors pointed out, it is unclear why this effect may have occurred and it is doubtful „that people always value social category memberships (such as race, ethnicity, and gender) less than they do their memberships in intimacy and task groups" (p. 243). Further research may try to examine this issue in greater detail.

We conducted a correlational analysis, using the newly created intimacy, task, and category variables and the CSCIIS subscales (table 4).

Table 4. *Correlations Between Different Types of Groups and Different Types of Ingroup Identification*

	Social	Communal	Interdependent	Salience	Global
Category	-.11	-.06	.03	.04	-.03
Intimacy	.10	.31**	-.20**	-.04	.15*
Task	-.11	-.14*	.11	.04	-.09

Note: N = 193. * Correlation is significant at the .05 level. ** Correlation is significant at the .01 level.

As predicted, the intimacy group index showed a significant positive correlation with the communal identification subscale (r = .31, p < .01) and significant negative correlation with the interdependent identification subscale (r = –.20, p < .01). There was also a significant correlation with the global identification subscale (r = .15, p < .05). The task group index showed a significant negative correlation with the communal identification subscale (r = –.14, p < .05) and marginally positive correlation with the interdependent identification subscale (r = .11, p = .14). There were no significant correlations between the category group index and any of the CSCIIS subscales which can be explained with the fact that only a few participants provided category groups in their answer (M = 0.33). The above correlations of particular types of groups with particular types of ingroup identification provided additional support for the validity of the distinction between centrality, social, communal, and interdependent identification.

Variations in CSCIIS Subscales as a Function of Gender and Culture

We carried out an independent samples t test and one-way ANOVA using gender as an independent variable and the four subscales of CSCIIS as dependent variables. Contrary to predictions, no gender differences in type of identification were found (ps > .05).

We used a different approach to test predictions regarding the relationship between culture and types of identification. The questionnaire included several items that were intended to measure cultural differences in the sample. In particular, participants indicated their nationality, their country of origin, the language they felt most comfortable speaking, and the cultural background with which they identified the most. Two independent coders were appointed to categorize participants' responses to these nationality, country, language, and culture items as either Western or non-Western using criteria based on Oyserman et al.'s (2002) meta-analysis of cross-cultural differences in collective self-construal.

The inter-rater reliability between the two coders was more than satisfactory: The percentage of judgments on which coders' evaluations matched ranged between 70.5% and 98.4%. The correlation between the two coders for each variable was significant in all cases (rs ranging from .83 to .91, ps < .01). We also calculated

Cohen's kappa statistic in order to control for chance matches (Trafimow, Triandis & Goto, 1991). A kappa value of 1 indicates perfect agreement, and a value of 0 indicates that agreement is no better than chance. Cohen's kappa for the four variables ranged between 0.83 and 0.91.

The above results indicated a high degree of consistency in the degree to which the two coders had applied the coding criteria to the data. There were very few differences between the two data sets. Consequently, we used the data from one of the coders for the analysis. We performed four independent samples *t* tests on the cultural data obtained from the four items that tapped participants' cultural differences. Each of these *t* tests had respectively nationality, country of origin, language, and cultural background as an independent variable and the subscales of CSCIIS as dependent variables. Based on nationality, Westerners ($M = 3.84$) had significantly higher communal identification than non-Westerners ($M = 3.51$), $t(138) = 2.06$, $p < .05$. Non-Westerners ($M = 3.07$) had significantly higher social identification than Westerners ($M = 2.70$), $t(138) = -1.99$, $p < .05$. No other significant differences were found on the other CSCIIS scales ($ps > .05$). Based on country of origin, non-Westerners ($M = 3.69$) had significantly higher salience than Westerners ($M = 3.18$), $t(188) = -2.74$ $p < .01$. No other significant differences were found on the other CSCIIS scales ($ps > .05$). Based on language, non-Westerners ($M = 3.29$) had significantly higher social identification than Westerners ($M = 2.80$), $t(186) = -2.06$ $p < .05$. No other significant differences were found on the other CSCIIS scales ($ps > .05$). Based on cultural background, Westerners ($M = 3.86$) had significantly higher communal identification than non-Westerners ($M = 3.52$), $t(145) = 2.26$, $p = .03$, and non-Westerners ($M = 3.52$) had significantly higher social identification than Westerners ($M = 3.13$), $t(145) = -2.31$, $p = .02$. In summary, Westerners showed significantly higher communal identification than non-Westerners, and non-Westerners showed significantly higher social identification and salience than Westerners. No interaction between gender and any of the measures of culture were found in regards to all investigated types of ingroup identification ($ps > .05$).

In order to provide a more reliable analysis of the effects of culture on CSCIIS's subscales, we created a single continuous index of culture based on the data from the nationality, country, language, and culture items. There was a high degree of consistency in the coding of participants as Western and non-Western based on nationality, country of origin, cultural background, and language (Cramer's $V \geq .71$, $ps < .01$). All scores from the nationality, country, language, and culture responses were summed in a variable to form an index of "Westerness". Scores on this index could range from 1 to 4, with highest scores indicating that the participant was coded as "Westerner" on all four criteria. We performed a correlational analysis using this global culture index and the CSCIIS subscales. Consistent with the previous analysis, Westerness showed a significant positive correlation with the communal identification subscale($r = .16$, $p = .03$) and a significant negative correlation

with the social identification subscale ($r = -.15$, $p < .05$) and salience subscale ($r = -.19$, $p = .01$).

DISCUSSION

Validity and Reliability of the CSCIIS

Our findings provided initial support for the validity and the reliability of the newly constructed CSCIIS. Although it was initially expected that centrality (consisting of importance and salience) and global identification would load on separate factors, the factor analysis results revealed a slightly different structure. Importance items and global identification items loaded highly on one factor that appeared to represent global identification. All six salience items, on the other hand, loaded on a separate factor that assessed the extent to which one's group and his/her membership in it come to mind. Such results are consistent with previous studies that incorporate importance in broader constructs like self-categorization (e.g. Ellemers et al., 1999) or consider salience as a separate dimension of group identification (e.g. Sellers, Smith, Shelton, Rowley, & Chavous, 1998). However, similar to our point of view, recent research by Cameron (2004) and Leach et al. (2008) shows that importance and salience are better conceived as incorporated in a single construct of *centrality*. Given the above contradictory results then, a further investigation of CSCIIS factor structure in different samples is required in order to clarify whether importance and salience should be treated jointly (as representing centrality) or independently from one another.

Note that this partially unexpected factor structure does not affect the main purpose of the CSCIIS, which is to distinguish between different types of ingroup identification. The final scale reflects four distinct types of identification (salience/centrality, social, communal, and interdependent), along with global identification, the latter including the subjective importance of the identity. As anticipated, the salience/centrality subscale assessed the frequency with which a person thinks about his/her identity (e.g. I often think about what it means to be in my groups). The items in the social identification subscale tapped the extent to which people perceive themselves as typical and interchangeable members of their group (e.g., I am quite similar to the other people in my groups). The items in the communal identification subscale tapped the extent to which people perceive themselves to be in close communal relationships with other group members (e.g. I have fairly superficial relationships with the other people in my groups [reverse scored]). The items in the interdependent identification subscale tapped the extent to which people perceive themselves to be in instrumental exchange relationships with other group members (e.g. When I give something to another person in my groups, I generally expect something in return). Finally, the items in the global identification scale retained the function of making a general assessment of the individuals' overall identification (e.g. „I identify with the other people in my groups" and „My groups are important to my sense of who I am").

Our findings provided evidence for the scale reliability. The inter-item correlations and the results from the reliability tests that were performed for each of the subscales of CSCIIS were consistent with the recommendation in the literature.

The correlations between particular subscales of CSCIIS and measures of relationship orientation additionally supported the validity of the new measure. Consistent with hypotheses, the communal identification subscale showed a significant negative correlation with the measure of exchange orientation and a significant positive correlation with the measure of communal orientation. Conversely, the exchange orientation subscale showed a significant negative correlation with the communal orientation measure and a significant positive correlation with the exchange orientation measure. Moreover, the significant negative correlation between the communal and interdependent subscales of CSCIIS indicated that these subscales were tapping distinct constructs.

We initially proposed that communal identification would correlate positively with relational self-construal and that social identification would correlate positively with collective self-construal. Surprisingly, the RISC and CISC showed significant positive correlations with four of the five subscales of CSCIIS. However, the very high correlation between the above two self-construal scales which assess supposedly distinct constructs, questions the divergent validity of the self-construal measures used in this study.

Gender Differences in Types of Identification

Based on previous studies that identified gender differences in self-construal (Baumeister & Sommer, 1997; Cross & Madson, 1997; Gabriel & Gardner, 1999), we expected that women would score higher on communal identification than men, and that men would score higher on social identification than women. However, in the present study, we found no gender differences, neither in self-construal nor in type of identification. Seeley, Gardner, Pennington, and Gabriel (2003) investigated a similar gender difference hypothesis using Prentice et al.'s (1994) common bond and common identity subscales. Consistent with the current results, Seeley et al. also did not find significant gender difference. They suggested that their null findings were because of the student sample that they employed and due to the particular experimental task that probably made participants think about their most significant group memberships and friendships. Although we used a broader sample and different scales, the results of this study support the idea that there are no significant gender differences in types of identification. Further studies will investigate this aspect more carefully in order to corroborate the above null findings.

Cross-Cultural Differences in Types of Identification

Another set of findings in this study revealed an interesting model in relation to culture and type of identification. Based on previous research that identified cross-cultural differences in self-construal (for a meta-analytic review, see Oyserman et

al., 2002) and considering the close theoretical relationship between self-construal and ingroup identification, we initially proposed that Westerners should have lower social and higher communal and interdependent styles of ingroup identification than non-Westerners. The pattern of differences in the CSCIIS as a function of culture confirmed the expectations in regards to social and communal identification. People from Western cultures had higher scores on communal identification, and people from non-Western cultures had higher scores on social identification and salience. It should be noted here that the use of the continuous index of Westerness as a measure of culture has some valuable advantages. First, culture is conceived as a continuous rather than a categorical variable. This conceptualization of culture as a continuous construct is closer to the actual way in which different social factors and cultures integrate and merge to form one's cultural image. Second, this approach is more sensitive to cultural variations than a categorical one because it is based on a variety of different cultural characteristics of individual's cultural experience (viz., country of origin, nationality, spoken language, cultural background). However, we will investigate these cultural differences further before attempting to draw conclusions about their meaning.

Type of Group and Different Types of Ingroup Identification

Finally, a preliminary test of the type of group – type of identification link provided initial support for the expected correlations. The results of the analysis showed that people who thought more about intimacy groups had higher communal identification and people who thought more about task groups scored higher on interdependent identification. However, the correlation between interdependent identification and thinking about task groups was only marginally significant. These findings suggest that different types of groups have some distinctive properties and patterns of interaction (Lickel et al., 2000) that affect people's perception of these groups and promote different types of identification with the salient group. This type of group – type of identification relationship is likely to depend on the identity value of the group in question and the potential benefits that the particular group membership brings to the identifying individual. Knowing the basic type of the group in question then (i.e., intimacy, task, social category), could help us to predict the most preferred type of identification with that group and understand the mechanisms that guide the interaction within specific ingroups. In additional studies (Milanov, Rubin & Paolini, 2011) we provide a more detailed and extensive analysis of the hypothesis that particular types of groups will be more or less associated with particular types of ingroup identification.

Study Limitations

A few limitations of this study should be mentioned. First, the factor structure analysis of CSCIIS is based on a single sample. This points to the need for further examination of the scale's dimensionality. Second, the communal and the global

identification factors in CSCIIS had only negative or only positive items loaded respectively. Hence, it is possible that these two factors could be method factors (Russell, 2002). Finally, the very low number of non-Western participants in this study (9.5%) mitigates the validity of the current cross-cultural analysis.

In subsequent studies, we aim to continue to examine the factor structure of CSCIIS. To rule out the method factor explanation in subsequent factor analyses, we will include equal numbers of positively- and negatively-worded items in the communal and global identification scales. We will do this by simply rewording four of the statements in these subscales. We will also employ different samples in order to equalize the ratio between Western and non-Western participants. Finally, we will examine gender and cross-cultural differences in order to confirm the current findings and to clarify the distinction between the four different types of identification.

Summary

In summary, the current study provided initial evidence for the validity and reliability of CSCIIS. Although more support for the scale's psychometric properties is needed, the measure seems to have the potential to be a useful tool for assessing qualitatively different types of ingroup identification. Our further studies aim to provide more evidence in support of our distinction between four types of ingroup identification and will investigate the specific role of different psychological variables (i.e., culture, gender, attachment style, group status, and group type) in predicting individual's type of identification with social groups. An additional study will focus on the effect that culture and group status have on ingroup identification in intimacy group. This type of group has been found to have greater identity value than any other types of groups (Lickel et al., 2000), and it is therefore expected to provide the best test for the above relationships.

REFERENCES

Baumeister, R. F., & Sommer, K. L. (1997). What do men want? Gender differences and two spheres of belongingness: Comment on Cross and Madson (1997). *Psychological Bulletin, 122,* 38–44.

Berkowitz, L. & Lutterman, K. G. (1968). The traditional socially responsible personality, *Public Opinion Quarterly, 32*, 169–185.

Birnbaum, M. H. (2004). Human research and data collection via the Internet. *Annual Review of Psychology, 55,* 803–832.

Blascovich, J. & Tomaka, J. (1991). Measures of self-esteem. In J. Robinson, P. Shaver, & L. Wrightsman (Eds.)*, Measures of personality and social psychological attitudes* (pp. 115–160). San Diego, CA: Academic Press.

Brewer, M., & Gardner, W. (1996). Who is this "We"? Levels of collective identity and self-representations. *Journal of Personality and Social Psychology, 71,* 83–93.

Cameron, J. (2004). A three-factor model of social identity. *Self & Identity*, 3, 239–262.
Cacioppo, J. T., & Petty, R. E. (1981). Lateral asymmetry in the expression of cognition and emotion. *Journal of Experimental Psychology: Human Perception and Performance, 7*, 333–341.
Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research, 1*, 245–276.
Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7,* 309–319.
Clark, M., & Mills, J. (1979). Interpersonal attraction in exchange and communal relationships. *Journal of Personality and Social Psychology, 37,* 12–24.
Clark, M., Ouellette, R., Powell, M., & Milberg, S. (1987). Recipient's mood, relationship type, and helping. *Journal of Personality & Social Psychology, 53*, 94–103.
Comrey, A. L. & Lee, H. B. (1992). *A first course in factor analysis* (2nd ed.). Hillsdale, NJ, England: Lawrence Erlbaum.
Cross, S., Bacon, P., & Morris, M. (2000). The relational-interdependent self-construal and relationships. *Journal of Personality and Social Psychology, 78,* 791–808.
Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin, 122*, 5–37.
Dekovic, M., Janssens, J. M., & Gerris, J. R. (1991). Factor structure and construct validity of the Block Child Rearing Practices Report (CRPR). *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 3*, 182–187.
Epstein, J., & Klinkenberg, W. (2002). Collecting data via the Internet: The development and deployment of a Web-based survey. *Journal of Technology in Human Services, 19*, 33–47.
Ellemers, N., Kortekaas, P., & Ouwerkerk, J. (1999). Self-categorisation, commitment to the group and group self-esteem as related but distinct aspects of social identity. *European Journal of Social Psychology*, *29*, 371–389.
Gabriel, S., & Gardner, W. L. (1999). Are there "his" and "hers" types of interdependence? The implications of gender differences in collective versus relational interdependence for affect, behavior, and cognition. *Journal of Personality and Social Psychology, 77,* 642–655.
Gorsuch, R. L. (1983). *Factor analysis* (2nd ed.). Hillsdale, NJ: Laurens Erlbaum.
Henry, K. B., Arrow, H., & Carini, B. (1999). A tripartite model of group identification: Theory and measurement. *Small Group Research, 30*, 558–581.
Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, 30, 179–185.
Kashima, Y., Yamaguchi, S., Kim, U., Choi, S., Gelfand, M. J., & Yuki, M. (1995). Culture, gender, and self: A perspective from individualism-collectivism research. *Journal of Personality and Social Psychology, 69*, 925–937.
Kline, P. (1998). *The new psychometrics: Science, psychology and measurement*. Florence, KY, US: Taylor & Frances/Routledge.
Leach, C. W., van Zomeren, M., Zebel, S., Vliek, M. L., Pennekamp, S. F., Doosje, B., et al. (2008). Group-level self-definition and self-investment: A hierarchical (multicomponent) model of in-group identification. *Journal of Personality and Social Psychology, 95*, 144–165.
Lickel, B., Hamilton, D. L., Wieczorkowska, G., Lewis, A., Sherman, S. J., & Uhles, A. N. (2000). Varieties of groups and the perception of group entitativity. *Journal of Personality and Social Psychology, 78,* 223–246.
Luhtanen, R., & Crocker, J. (1992). A Collective Self-esteem Scale: Self-evaluation of one's social identity. *Personality & Social Psychology Bulletin*, 18, 302–318.
Mehrabian, A., & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality, 40*(4), 525–543.

Milanov, M., Rubin, M**.,** & Paolini, S. (2011). Types of ingroup identification as a function of group type. *Annual of Sofia University „St. Kliment Ohridski": Book Psychology, 103.* 119–140

Mills, J. & Clark, M., S. (1994). Communal and exchange relationships: Controversies and research. In R. Erber, & R Gilmour (Eds), *Theoretical frameworks for personal relationships* (pp. 29–42). Hillsdale, NJ: Lawrence Erlbaum.

Mundfrom, D. J., Shaw, D. G., & Ke, T. L. (2005). Minimum Sample Size Recommendations for Conducting Factor Analyses. *International Journal of Testing, 5*, 159–168.

Oyserman, D., Coon, H., & Kemmelmeier, M. (2002) Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin, 128,* 3–72.

Prentice, D., Miller, D., & Lightdale, J. (1994). Asymmetries in attachments to groups and to their members: Distinguishing between common-identity and common-bond groups. *Personality & Social Psychology Bulletin, 20*, 484–493.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Russell, D. W. (2002). In search of underlying dimensions: The use (and abuse) of factor analysis in Personality and Social Psychology Bulletin. *Personality and Social Psychology Bulletin, 28,* 1629–1646.

Seeley, E. A., Gardner, W. L., Pennington, G., & Gabriel, S. (2003). Circle of friends or members of a group? Sex differences in relational and collective attachment to groups. *Group Processes & Intergroup Relations, 6*, 251–263.

Sellers, R. M., Smith, M. A., Shelton, J., Rowley, S. A., & Chavous, T. M. (1998). Multidimensional model of racial identity: A reconceptualization of African American racial identity. *Personality and Social Psychology Review, 2*, 18–39.

Skitka, L. J., & Sargis, E. G. (2006). The Internet as psychological laboratory. *Annual Review of Psychology, 57,* 529–555.

Tesser, A. (1999). Toward a self-evaluation maintenance model of social behavior. In R. Baumeister (Ed.), *The self in social psychology* (pp. 446–460). New York: Psychology Press.

Trafimow, D., Triandis, H. C., & Goto, S. G. (1991). Some tests of the distinction between the private self and the collective self. *Journal of Personality and Social Psychology, 60*, 649–655.

Watkins, M. W. (2000). *Monte Carlo PCA for parallel analysis [computer software]*. State College, PA: Ed & Psych Associates. Retrieved from http://www.allenandunwin.com/spss2/further.htm

Wood, J. M., Tataryn, D. J., & Gorsuch, R. L. (1996). Effects of under- and overextraction on principal axis factor analysis with varimax rotation. *Psychological Methods, 1*, 354–365.