THE CONCEPTUALIZATION OF SISTERHOOD WITHIN THE COLLEGIATE SORORITY: AN EXPLORATION

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This article expands the work of Cohen, McCreary and Schutts (2017) by devising, testing and validating a scale that measures five distinct schema of sisterhood. The scale development process resulted in a 24-item measure made up of five correlated dimensions: shared social experiences, belonging, support and encouragement, accountability, and common purpose. The five-factor model was stable across multiple samples. The construct validity of the sisterhood scale, including convergent and discriminant validity was also demonstrated.

The concept of sisterhood can be thought of as the foundation of the sorority experience. As noted by Turk (2004), the early sorority founders emphasized several elements within their sisterhood: support and a sense of solidarity, a feeling of belonging, mechanisms of accountability, and the collective pursuit of self-improvement. The second generation of sorority members, no longer feeling the need to justify their existence on American college campuses, transitioned their focus away from some of the earlier manifestations of sisterhood and focused largely on matters of a social nature. Although Turk (2004) examined sisterhood through the historic lens, little scholarly attention has been paid to the current manifestations of sisterhood within the collegiate sorority. Research by Cohen, McCreary and Schutts (2017) examined the various schema by which modern collegiate sorority members defined and conceptualized sisterhood, building upon the work of Turk (2004) and adding to the understanding of the foundational concepts of the collegiate sorority experience.

Cohen et al. (2017) theorized five unique schemas by which sorority members defined and conceptualized sisterhood: sisterhood based on shared social experiences, sisterhood based on support and encouragement, sisterhood based on belonging, sisterhood based on accountability, and sisterhood based on common purpose. Sisterhood based on shared social experiences involves a conceptualization of the sorority as a place by which one gains social standing on campus and in which one gains memorable social experiences. Sisterhood based on support and encouragement emphasizes the sorority as a place in which one receives emotional support and solidarity. Sisterhood based on belonging emphasizes the sorority as a place in which one feels accepted and appreciated by others. Sisterhood based on accountability emphasizes the sorority as a place in which one becomes a better person by being held to high standards of conduct and behavior. Finally, sisterhood based on common purposes visualizes the sorority experience as a place in which women strive together to achieve common goals and self-betterment. The present research extends the work of Cohen et al. (2017) by the use of sequential exploratory strategy (Creswell, 2013), in which previous qualitative findings were used to generate questionnaire items, and an instrument designed to measure the five hypothesized schema of sisterhood was developed, tested, and validated.

Review of Literature

Though the construct of sisterhood is one that has been largely ignored in the literature on sorority membership, concepts related to the five schemas of sisterhood theorized by Cohen et al. (2017) have received scholarly attention

in both research on sororities as well as in the broader social science literature. This review of the literature examines concepts related to each of the five hypothesized schema of sisterhood, which are the subject of the quantitative examination in this study.

Cohen et al. (2017) first hypothesized a sisterhood based on shared social experiences in which sisterhood is viewed primarily through a social lens; the sorority is viewed as a primarily social outlet and sisterhood is viewed as the relationships that emerge as a result of the social experience that takes place. The sorority experience began to supplement its original objective of academic support with social endeavors as women's presence on campus became more accepted (Turk, 2004). The evolution of these social experiences is seen in today's value on the shared social experience of the sorority. This social aspect of the sorority can be a mechanism for gaining perceived or actual social status as a group within the fraternity/sorority community (Stuber, Klugman, & Daniel, 2011). The social environment in sororities is often connected to partying and consumption of alcohol. For example, Smith and Berger (2010) found that women design social experiences centered on pre-gaming, going out as a group, and then sharing stories together in the morning. As Park, Sher, Wood and Krull (2009) have observed, students in fraternities and sororities tend to self-select into groups based on their previous (i.e., high school) experiences, which would suggest that students demonstrating higher pre-college alcohol use may be predisposed to join a sorority for social reasons and may be predisposed towards a more socially-minded sisterhood compared to sorority members with less pre-college alcohol use.

The cultivation of these social bonds can lead to a group atmosphere in which women feel they belong or have found a home within their sorority. Cohen et al. (2017) suggested a schema of sisterhood based on belonging in which the sorority is envisioned as place where one feels connected, valued, and appreciated. Belonging as a schema of sisterhood can be better understood through the work of Baumeister and Leary (1995), who explained that belonging goes beyond just a need to feel attached to others, it is a fundamental human desire for something deeper. Strayhorn (2012) found that peer interactions were among the most significant predictors of a sense of belonging on campus, suggesting that connections within clubs and organizations are among the most important features of co-curricular involvement. The feelings of belonging can lead to a sense of obligation to give back to the group, which can be seen through the schema of support and encouragement. Handler (1995) found that women in sororities have greater expectations of their sisters than they do of their friends. Strongly tied to this sisterhood based on belonging is a sisterhood based on encouragement and support (Cohen et al., 2017). The support and encouragement women receive from their sisters coupled with an existing sense of belonging can create an increased level of organizational commitment. Eisenberger, Huntington, Hutchinson, and Sowa (1989) were able to show that if individuals perceive they are supported by organizational structure, they will strive to reciprocate support through high levels of commitment to their organization or workplace. The notion of feeling supported on campus leading to the creation of a sense of belonging among college students is explored in-depth by Strayhorn (2012), who found that students who felt supported by their colleges felt a stronger sense of belonging and were more likely to persist. Though discussed as separate and unique themes by students in the Cohen et al. (2017) study, belonging and support and encouragement are closely aligned with and tied to one another.

Next, Cohen et al. (2017) suggested a schema of sisterhood based on accountability. Organizational commitment and strong relationships allows for varying levels of accountability to organizational values, as

demonstrated by Frink and Klimoski's (1998) findings that individuals will hold themselves accountable to shared standards in an effort to maintain personal relationships within their groups. The different levels of the accountability within an organization can be better understood by looking at the levels of relationships that exist: individual to individual, individual to organization, and individual to the policies, among others. Relationships may vary from person to person at each level and all create a type of web (as described by Gelfand, Lim, & Raver, 2004) with different and complex levels of strength and relevance. As noted by Matney et al. (2016), members who discussed fraternal values within the context of accountability limited that discussion to a group-specific context, but did not necessarily connect those values to a civic context outside of the organization, suggesting that accountability is internalized by many fraternity/sorority members as having to deal only with inter-group relationships with limited applicability related to behaviors that take place outside the group context.

Finally, Cohen et al. (2017) discussed a sisterhood based on common purpose wherein sisterhood is viewed as the mutual striving towards common goals and self-betterment. Sisterhood based on common purpose can be understood through the research of Simpson and Willer (2015), who noted that some individuals in groups emerge as more altruistic, striving for the good of the group. Cohen et al. (2017), in describing the transcendent nature of sisterhood, discussed a belief among sorority members that not all members display notions of altruism and self-sacrifice, noting a *selfish vs. selfless* dichotomy that sorority members believed were present within their organizations. Women have been shown to consistently rate higher on prosocial behavior in groups (see LeBlanc, 2014), which could demonstrate why this schema was not observed by McCreary and Schutts (2015) in their study of brotherhood within the college fraternity, which served as one of the most notable gender differences observed between the conceptualizations of brotherhood and sisterhood.

Methods

The objectives of this study were to develop and test a general measure for the construct of sisterhood. We proposed that sisterhood consists of five dimensions: (a) social experiences, (b) belonging, (c) support and encouragement, (d) accountability, and (e) common purpose. In developing the scale, we followed the process outlined by Hinkin (1998) and McCreary and Schutts (2015). The first phase of our study (Study 1) involved the development of scale items and assessment of the internal consistency reliability. In addition, exploratory factor analyses were conducted to determine whether the scale measured five distinct dimensions of sisterhood. The second phase of the study (Study 2) aimed to provide additional evidence for the stability of the factor structure of the sisterhood scale by examining a series of competing models. Finally, in Study 3, the construct validity of the current scale was demonstrated, including evidence for convergent validity and discriminant validity.

Study 1: Scale Development

The purpose of the first study was to develop a scale that contained variable items for each of the five dimensions of sisterhood. Given this objective, an original pool of 39 items was generated from the exploratory interviews, focus groups, and a review of items and concepts described by Cohen et al. (2017) related to their hypothesized five schema of sisterhood. Following the item generation step, the pool of items was evaluated for ambiguity and essentially identical meaning. No items were eliminated for those reasons.

Four undergraduate sorority women at a single institution in the southeastern United States acted as judges in an evaluation of the content validity of the items. In the analysis, the

four judges were exposed to the definition of each dimension plus a related explanation and an example item, and were asked to allocate the statements to each dimension or to a *not applicable* category. This process is known as Q-sorting (Block, 1961). The Q-sort methodology is valuable in the early stages of scale development because it allows researchers to test item-factor agreement and clustering using smaller samples of raters. This methodology is also useful before any large survey administration because it is cost effective, relatively easy to administer, and does necessitate a large sample size.

Items that did not receive consistent classification by at least three of the four judges were eliminated. This initial analysis resulted in 35 statements for the five dimensions of sisterhood. Next, following the procedure recommended by Hinkin (1998), four additional judges were given each dimension's definition and asked to rate how well each statement reflected the five different dimensions of sisterhood using the following scale: 1 = clearly representative, 2 = somewhat representative, and 3 = not representative at all. For the five dimensions, only items evaluated as clearly representative by at least three judges were retained. This process eliminated two more items. The researchers developed six new items prior to survey administration. The process of reviewing the literature and Q-sorting statements with a panel of judges provided evidence of face validity and content validity. Additional evidence of construct validity will be demonstrated in later sections of this study.

Subjects. The subjects consisted of 1,964 undergraduate sorority women (response rate of 24.4%) who were drawn from a random sample of two national women's sororities membership roster in Fall 2014. Most respondents identified as White (85.6%) and were upper-division students (61.4%). A slight majority (51.4%) did not hold a leadership role in their respective chapter. No information about the study was provided prior to the questionnaire session.

Measures and procedure. The instrument consisted of 39 statements, inclusive of the following five subscales: social experiences (8 items); belonging (9 items); support and encouragement (9 items); accountability (7 items); and common purpose (6 items). Participants were required to respond to each item on a 5-point *strongly agree* to *strongly disagree* Likert scale. No items were reverse coded. All questionnaires were distributed by the researchers electronically. The researchers received IRB permission for the study, and assured respondents of their confidentiality in the informed consent document. Participants typically spent around 15 minutes to complete the questionnaire. All data were analyzed using SPSS (version 22).

Item analysis and reduction. The researchers computed corrected item-total correlations for each of the five dimensions. These correlations ranged from .34 to .58 for the social experiences dimension; .30 to .85 for the belonging dimension; .50 to .71 for the support and encouragement dimension; .57 to .71 for the accountability dimension; and .63 to .73 for the common purpose dimension. We deleted items with corrected item-total correlations below 0.40, three were eliminated.

Exploratory factor analysis. The 45 retained items were factor-analyzed by means of common factor analysis with oblique rotation ($\kappa = 4$). Both Hinkin (1998) and Henson and Roberts (2006) have argued that oblique structures generally fit sample data better. McCreary and Schutts (2015) also demonstrated the dimensions of brotherhood were intercorrelated, which we adopted as further justification for our rotation strategy. Kaiser-Meyer-Olkin test of sampling adequacy (KMO = .95) and Bartlett tests of sphericity indicated that the data were appropriate for factor analysis. We adopted Ford, MacCallum, and Tait's (1986) guideline in selecting items for the final scale: a minimum factor loading of .40 on the pattern matrix. Items with significant cross-loading or loading values below .40 were eliminated. We removed

items one-at-a-time and reanalyzed the factor structure after each iteration. The resulting scale consisted of items with high loadings on the intended factor and low loadings on the other factors. As expected, the factor solution resulted in five factors according to the Kaiser criterion and scree test of eigenvalues (see Figure 1). These five factors accounted for 65.2% of the total variance and 56.6% of the common variance. By factor, the total variance was partitioned accordingly: belonging (41.7%), accountability (10.3%), support and encouragement (5.2%), common purpose (4.5%), and social experiences (3.9%). We then conducted a parallel analysis, which suggested the stability of the five factors. Hinkin (1998) suggested that scales that explain 60% of the total variance are acceptable. The final 27-item scale of sisterhood, along with the communalities, factor loadings, item-total correlations, and other descriptive statistics are shown in Table 1. Table 2 displays the item descriptions and item-factor correlations.

As evidenced in Table 1, Factor 1, comprising eight items, reflected a sense of connection, acceptance, and inclusion (e.g., "My sorority sisters make me feel as if I belong"), and represented the belonging dimension. Factor 2, comprising six items, reflected a sense of obligation to maintain and support the organization's high standards and shared expectations (e.g., "It bothers me when my sisters fail to uphold our sorority's high standards"), and represented the accountability dimension. Factor 3, comprising five items, reflected a sense of being there for one another (e.g., "It is important to show up and support my sorority sisters"), and represented the support and encouragement dimension. Factor 4, comprising five items, reflected a sense of shared values and goals (e.g., "The values that we hold draw us together as a sisterhood"), and represented the common purpose dimension. Factor 5, comprising three items, reflected a sense of social experience (e.g., "Because I have my sorority sisters, I always have something fun to do"), and represented the social experiences dimension.

Figure 1
Screen plot of eigenvalues.

The internal consistency of the scale was also tested. The composite sisterhood scale ($\alpha = .94$) and all but one of the associated subscales were found to possess an acceptable level of internal consistency: belonging ($\alpha = .94$), accountability ($\alpha = .85$), support and encouragement ($\alpha = .81$), common purpose ($\alpha = .87$), and social experiences ($\alpha = .61$). All 27 items produced item-total correlations ranging between .25 and .86.

Every factor correlation was highly significant at $p < .001$: belonging and accountability ($r = .40$); belonging and support and encouragement ($r = .63$); belonging and common purpose ($r =$

Table 1

Participant Information

Items	Mean	SD	h^2	1	2	3	4	5	Item-total Correlation
1	4.47	.68	.42			.58			.58
2	4.59	.59	.56			.69			.65
3	4.39	.73	.52			.62			.63
4	4.53	.62	.35			.49			.51
5	4.74	.50	.57			.86			.64
6	3.81	.91	.17					.43	.25
7	3.46	1.13	.52	.38				.46	.50
8	4.03	.90	.59	.37				.46	.54
9	4.15	.95	.70	.74					.80
10	4.27	.85	.67	.82					.80
11	3.93	.98	.77	.85					.84
12	4.09	.96	.80	.94					.86
13	4.01	.93	.67	.80					.78
14	3.89	1.03	.68	.89					.80
15	3.82	1.09	.65	.89					.78
16	4.08	.98	.60	.73					.74
17	4.28	.72	.45		.61				.61
18	4.07	.91	.43		.67				.57
19	4.27	.75	.56		.70				.68
20	4.26	.82	.63		.87				.71
21	4.58	.58	.43		.56				.59
22	4.23	.82	.60		.73				.70
23	4.62	.63	.50				.52		.63
24	4.41	.75	.62				.80		.72
25	4.34	.80	.64				.68		.73
26	4.34	.78	.63				.70		.72
27	4.49	.69	.52				.72		.66
Eigenvalue	—	—	—	11.15	2.78	1.40	1.22	1.06	—
Explained variance	—	—	—	41.3%	10.3%	5.2%	4.5%	3.9%	65.2% (TOTAL)
Cronbach's ☐	—	—	—	.94	.85	.81	.87	.61	.94 (FULL SCALE)

Note. $n = 1964$. $b < .40$ omitted. Corrected item-total correlation with the respective factor.

Table 2

Item-Factor Correlations

	Items	Factor				
		1	2	3	4	5
1	I would stop what I am doing to help a sorority sister in need.	0.46		0.64	0.49	
2	It is important to show up and support my sorority sisters.	0.52	0.43	0.75	0.53	
3	I "have my sorority sisters' back" and always stand up for them.	0.55		0.71	0.5	
4	Sisterhood is best demonstrated when sisters encourage one another.		0.4	0.58	0.42	
5	It is important that sorority sisters are there to support one another.		0.39	0.75	0.47	
6	Sisterhood is best demonstrated when we do fun things together.					0.4
7	My sorority sisters and I do almost everything together.	0.59		0.45		0.65
8	Because I have my sorority sisters, I always have something fun to do.	0.65		0.51	0.47	0.68
9	Because I have my sisters, I know I am never alone.	0.83		0.58	0.6	0.46
10	My sorority sisters accept me for who I am.	0.81		0.51	0.56	
11	I feel very connected to my sorority sisters.	0.87		0.56	0.56	0.5
12	My sorority sisters make me feel as if I belong.	0.89		0.53	0.57	0.44
13	My sorority sisters include me in the things they are doing.	0.81		0.5	0.5	0.49
14	My sorority sisters often make me feel valued for a talent that I bring to the chapter.	0.82		0.48	0.55	
15	I feel very confident that my opinions matter within the sorority.	0.79		0.46	0.53	
16	I feel very confident that my actions matter within the sorority.	0.76	0.41	0.51	0.56	
17	Sometimes, having a difficult conversation with a sorority sister is important, especially when I see her making bad decisions.		0.66	0.44	0.43	
18	Sisterhood is best demonstrated when members are held accountable to the sorority's high standards.		0.63			
19	I expect my sisters to confront me if I do something to violate our sorority's shared expectations.		0.74	0.46	0.46	
20	It bothers me when my sisters fail to uphold our sorority's high standards.		0.79			
21	All members should be instructed on the sorority's expectations.		0.65	0.43	0.45	
22	It bothers me when I fail to uphold our sorority's high standards.		0.77	0.45	0.49	
23	Being in a sorority is about being part of something bigger than yourself.	0.46	0.52	0.57	0.69	
24	My sisters and I have a sense of pride in our sorority's legacy.	0.54	0.43	0.53	0.79	
25	The values that we hold draw us together as a sisterhood.	0.6	0.51	0.55	0.79	
26	Often in our sorority, we find ourselves working together toward a common purpose.	0.62	0.42	0.55	0.78	
27	My sisters and I understand that it is important to leave the sorority better than it was when we joined.	0.46	0.43	0.52	0.72	

Note. $r < .40$ omitted. Structure matrix coefficients

.66); belonging and social experiences; (r = .51); accountability and support and encouragement (r = .55); accountability and common purpose (r = .59); accountability and social experiences (r = .20); support and encouragement and common purpose (r = .68); support and encouragement and social experiences (r = .48); and social experiences and common purpose (r = .34). No two factors exceeded Kennedy's (2003) multicollinearity benchmark, indicating that although the factors are strongly interrelated, they measured five unique constructs.

Study 2: Scale Validation

The scale that emerged as a result of Study 1 successfully distinguished five schemas of sisterhood. As the goal of the present research was to create a general scale measuring sisterhood, it was necessary to test the generalizability of the five-factor solution across different validation samples. Hinkin (1998) noted the inappropriateness of using the same sample for both scale development and assessing the psychometric properties of a new measure. To avoid issues with common method variance, researchers used another independent sample of peer data collected around the same time.

Subjects. The subjects consisted of 1,361 undergraduate sorority women (response rate of 21%) who were members of the same two national women's sororities from Study 1. These participants were drawn from an independent random sample of the organizations' membership roster. Most respondents identified as White (88.1%) and were upper-division students (54.0%). Slightly less than half of the respondents (49.3%) did not hold a leadership role in their respective chapter. No information about the study was provided prior to the questionnaire session.

Measures and procedure. We decided to develop two more items to potentially improve the internal consistency of the social experience dimension. The items developed were "my sisters and I enjoy attending fraternity social events as a group" and "I often post about by sorority activities on social media." The 29-item sisterhood scale was incorporated into electronic questionnaires that were administered to the subjects. The respondents in Study 2 were entirely independent of those in Study 1. As before, IRB permission was received and respondents' confidentiality was assured via the informed consent document. Participants typically spent around 15 minutes to complete the questionnaire.

Results and discussion. Following Anderson and Gerbing's (1988) guideline, we conducted a series of confirmatory factor analyses with Mplus (version 7). This approach permitted the comparison between the hypothesized model and several alternatives to determine the best fitting model. Mulaik et al. (1989) cautioned that good models might suffer from misspecification and therefore researchers should consider alternative models. Therefore, four competing models were examined:

1. A single-factor model (all items represented a single dimension of sisterhood);
2. A two-factor model whereby one factor contained *selfishness* (social and belonging dimensions) and the other factor contained *selflessness* (support and encouragement, accountability, and common purpose);
3. A four-factor model whereby one factor represented the social dimension, one factor represented *reciprocal affect* (the combination of belonging/support and encouragement), one factor represented the accountability dimension, and one factor represented the common purpose dimension; and
4. The hypothesized 5-factor model.

The data were participants' raw scores on each item, and were analyzed using robust maximum likelihood estimation. Consistent with traditional approaches, we correlated the latent factors and uncorrelated the item error variances. We then compared each alternative model on several indicators. These fit indicators

and associated benchmarks were:

1. Normed chi-square (χ^2/df) statistic: less than 5.0 (Schumacker & Lomax, 2004)
2. Comparative fit index (CFI): greater than .95 (Hu & Bentler, 1999)
3. Tucker-Lewis index (TLI): greater than .95 (Hu & Bentler, 1999)
4. Standardized root mean square residual (SRMR): less than .08 (Hu & Bentler, 1999)
5. Root mean squared error of approximation (RMSEA). less than .07 (Hu & Bentler, 1999)

Considering the five proposed schema of sisterhood might be reflective of a one-dimensional construct, we mirrored the approach of McCreary and Schutts (2015) and compared the best-fitting alternative to a single-factor model. Results indicated that the five-factor model provided significantly better fit to these data than the single-factor model. In short, the single factor model of sisterhood insufficiently modeled the complexity of the construct in comparison to the five-factor proposed model.

As we increased the number of factors modeled, improvements in the CFI, TLI, SRMR, and RMSEA occurred. Each successive model reduced the χ^2 value in a statistically significant manner. However, no model outperformed the five-factor hypothesized structure. Therefore, confirmatory factor analysis supports previous findings that the sisterhood scale should comprise five unique factors that are moderately to strongly correlated. Table 3 displays the stepwise model evaluation results.

As shown in Table 3, the five-factor model fit these data well: The normed chi-square ratio

Table 3
Results of the Confirmatory Factor Analyses

Statistic	Null Model	One Factor	Two Factors	Four Factors	Five Factors
χ^2	12843.38	4552.11	2769.85	2208.75	1314.80
df	406	377	376	371	367
χ^2/df	31.63	12.07	7.37	5.95	3.58
CFI	.00	.66	.81	.85	.92
TLI	.00	.64	.79	.84	.92
SRMR	.38	.11	.08	.08	.05
RMSEA	.15	.09	.07	.06	.04

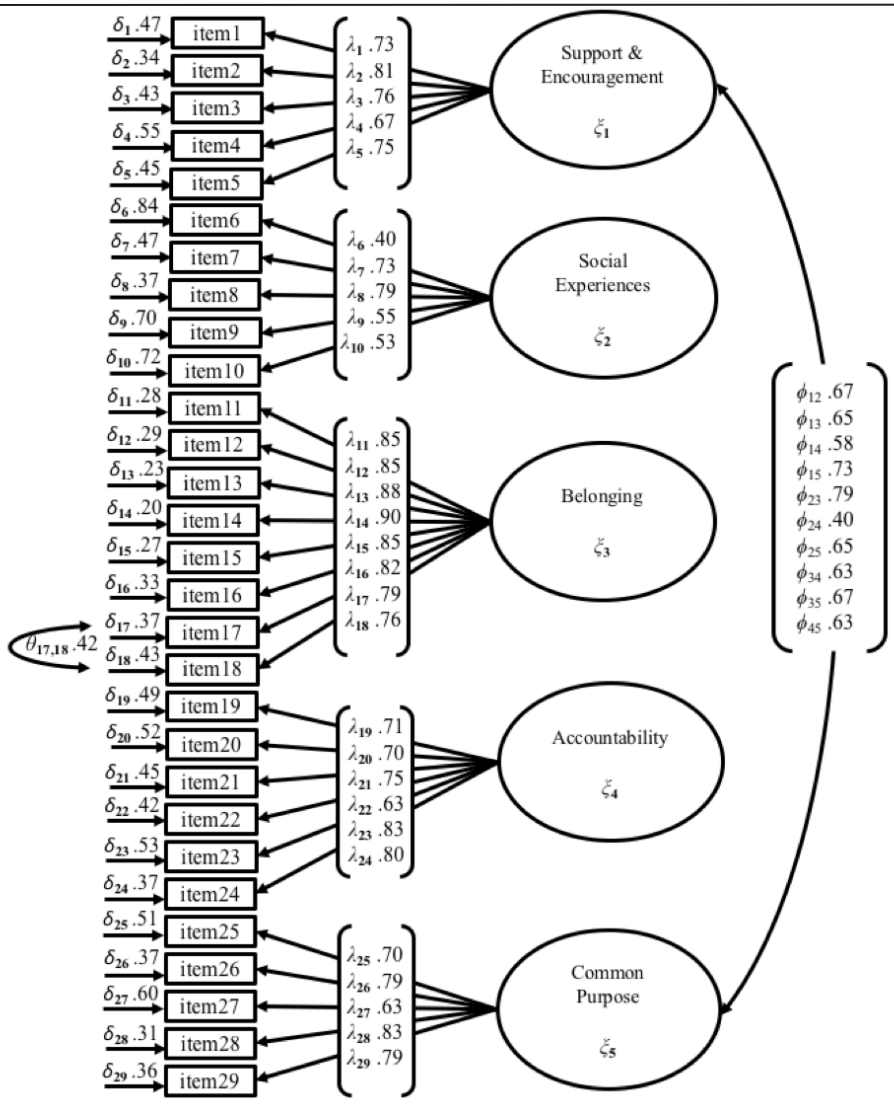
equaled 3.58 below 5.0, SRMR (.05) was less than .08, and the RMSEA (.044, [.041-.046]) was less than .07. The CFI (.92) and TLI (.92) did not reach the benchmark. All items loaded significantly ($p < .001$) onto their proposed factor.

We then sought to further refine the model by examining the potential correlation of item error variances within a factor. The decision to correlate item error variances was done in consideration of the conceptual validity to do so. One pair of items were correlated, $\theta_{17,18}$ ($r = .42$). Resulting fit indices indicated an improvement in fit over the unmodified version: $\chi^2(366) = 1198.03$, $p < .001$, ratio = 3.27; CFI = .93; TLI = .93; RMSEA = .041 [.038 - .043]; SRMR = .05. The full model is presented in Figure 2.

We determined that final estimates of internal consistency reliability were acceptable for each schema: social experiences ($\alpha = 0.74$), belonging ($\alpha = 0.95$), support and encouragement ($\alpha = 0.85$), accountability ($\alpha = 0.87$), AND common purpose ($\alpha = 0.86$). Furthermore, the social experience dimension was improved significantly compared to Study 1 ($\Delta\alpha = .14$).

Standardized factor loadings (λs), standardized item error variances (δs), and factor correlations

Figure 2
Structural model of sisterhood scale



(ϕs) are presented for the final model in Figure 2. The variances for each latent factor (Ξs) were fixed at 1.0 to obtain factor loadings for all items.

Study 3: Construct Validity

The ultimate objective of the scale development process is to demonstrate construct validity (Cronbach & Meehl, 1955). This was also the purpose of the present study. In addition to the face and content validity evidence presented during scale development (Study 1), we also examined two additional types of construct validity: convergent validity and discriminant validity. Convergent validity is demonstrated if the new scale correlates significantly, but not too highly, with other measures designed to assess

similar constructs. By contrast, discriminant validity is demonstrated if the new scale does not correlate with dissimilar measures. McCreary and Schutts (2015) informed several of the validity correlates chosen in this study.

Measures

Sisterhood (29 items, α = .93). The 29 items resulting from previous studies shown to measure five distinct dimensions, namely social experiences, belonging, support and encouragement, accountability, and common purpose. The items were measured on a 5-point Likert scale. By subscale, the α were: social experiences (0.74), belonging (0.95), support and encouragement (0.85), accountability (0.87), and common purpose (0.86).

Affective organizational commitment (6 items, 7-point Likert scale, α = .78) is defined as the psychological attachment and emotional connection a person feels to their organization (Meyer & Allen, 1991). Higher scores reflected a stronger degree of commitment.

Frequency of alcohol use is defined by the item "on average, how many nights per week do you consume five or more alcoholic drinks?" Higher scores reflected more self-reported alcohol use. The items were measured on an 8-point scale from 0-7 days per week.

Importance of maintaining social status (4 items, 5-point Likert scale, α = .63) is defined as the degree of importance one places on maintaining the social status afforded them by virtue of membership in their organization. Higher scores reflect a greater desire to maintain such status. The items were: "the social status of my sorority on campus was an important factor in my decision to join," "meeting cool people and going to great parties were important factors in my decision to join my sorority," "my sorority works hard to maintain or improve its social prestige on campus—it is important that we have the best girls, and mix with the top fraternities," and "my chapter often considers how our actions will be perceived by other sororities and fraternities on campus when we make decisions."

Moral disengagement (24 items, a 5-point Likert scale, α = .91) is defined as the degree to which an individual can rationalize their unjust or unethical actions. Higher scores reflected a greater ability to rationalize such actions (Bandura, 1996).

Perceived organizational support (8 items, 7-point Likert scale, α = .70) is defined the degree to which the individual feels the organization values their contributions and cares about their well-being (Eisenberger et al., 1986). Higher scores reflected greater support beliefs.

Person-organization fit (3 items, 7-point Likert scale, α = .91) is defined as the congruence between an individual's beliefs and values and the culture, values, and norms of the organization (Cable & Judge, 1997).

Subjects and procedure. The subjects of this study were the same individuals from Study 2. In addition to completing questions about sisterhood, respondents also answered additional items included for the purpose of establishing construct validity. Participants typically spent around 10 minutes completing these additional items.

Hypotheses

As recommended by Hinkin (1998), the convergent and discriminant validity of the sisterhood scale was sought by examining the correlations with theoretically similar and different constructs. Table 4 presents the hypothesized convergence relationships. Evidence for discriminant validity will be demonstrated by: (1) the factor correlations from Study 1 and Study 2 not exceeding 0.80 (Kennedy, 2003); (2) the AVE values exceeding 0.50; (3) correlations of other subscales or validation measures less than the square root of AVE for a given construct, and (4) the non-

Table 4
Validity Hypotheses

1a	Alcohol use will be positively related to the social experience dimension of sisterhood
1b	Alcohol use will be negatively related to the accountability dimension of sisterhood
1c	Alcohol use will not be related to the overall sisterhood scale
1d	Alcohol use will not be related to the belonging, support and encouragement, and common purpose dimensions of sisterhood
2	The importance of maintaining social status will be positively related to the social experience dimension of sisterhood
3	Affective organizational commitment will be positively related to the belonging dimension of sisterhood
4	Perceived organizational support will be positively related to the support and encouragement dimension of sisterhood
5	Moral disengagement will be negatively related to the accountability dimension of sisterhood.
6	Person organization fit will be positively related to the common purpose dimension of sisterhood.

correlation between the overall sisterhood scale and frequency of alcohol use. No studies have shown a relationship between overall sisterhood beliefs and alcohol use. Rather, we contend that only two of the schema should theoretically be related to alcohol use: the social experience dimension and the accountability dimension.

Convergent Validity

Convergent validity was established in several manners. First, t-tests from Study 2 indicated that the high item loadings to their respective factors were significant (Lowry & Gaskin, 2014). Second, we calculated the average variance extracted (AVE) statistic for each factor (Fornell & Larcker, 1981). Lowry and Gaskin (2014) noted that a construct should have an AVE value above 0.5. The AVE statistics for sisterhood (.75) and its subscales were: social experiences (.38), belonging (.70), support and encouragement (.55), accountability (.54), and common purpose (.57). The observed correlations and AVE statistics demonstrated acceptable convergent validity for all but one of the subscales. The AVE of social experiences was lower than 0.5. We checked the factor loadings and concluded that validity is not a concern The correlations are presented in Table 5. The square root of AVE is presented along the diagonal. Statistics for the overall sisterhood scale were also computed.

The correlations between alcohol use and (a) the social experience dimension of sisterhood (n = 1361, r = .12, p < .001) and (b) the accountability dimension of sisterhood (n = 1361, r = -.15, p < .001) were significant and in the expected direction. The correlation between the importance of maintaining social status and the social experience dimension of sisterhood (n = 1361, r = .30, p < .001) was significant and in the expected direction. The correlation between affective organizational commitment and the belonging dimension of sisterhood (n = 1361, r = .48, p < .001) was significant and in the expected direction. The correlation between perceived organizational support and the support and encouragement dimension of sisterhood (n = 1361, r = .30, p < .001) was significant and in the expected direction. The correlation between moral disengagement and the accountability dimension of sisterhood (n = 1361, r = .48, p < .001) was significant and in the expected direction. The correlation between person-organization fit and the common purpose dimension of sisterhood (n = 1361, r = .63, p < .001) was significant and in the expected direction. Therefore, we found support for Hypotheses 1a, 1b and Hypotheses 2–6.

Discriminant Validity

We assessed the discriminant validity of sisterhood and its subscales by examining the correlations between unrelated measures, the factor correlations from Study 1 and Study 2, and the AVE statistic for each subscale. As a measure of discriminant validity, correlations with other constructs and between subscales should be smaller than the square root of the AVE of the construct in question (Lowry & Gaskin, 2014). In Study 1 and Study 2, results indicated that no two sisterhood dimensions suffered from multicollinearity, suggesting they each independently measured some related aspect of the sisterhood construct. Furthermore, no external measure correlation coefficient exceeded the square root AVE calculation for the overall sisterhood scale or its subscales. The only concern was the correlation between belonging and social experiences ($r = .64$, $p < .001$) and the square root of AVE (.62).

Frequency of alcohol use was also used to examine discriminant validity. Theoretically, alcohol use should not correlate with the overall sisterhood scale. Evidence is presented in Table 5 that demonstrates the convergence

Table 5

Correlations of the Study 3 Variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Sisterhood scale	.75								.58			
2. Social experiences	.78**	.62							.65			
3. Belonging	.88**	.64**	.84						.63			
4. Support and encouragement	.79**	.56**	.60**	.74					.51			
5. Accountability	.65**	.35**	.35**	.50**	.67				.64			
6. Common Purpose	.82**	.54**	.62**	.64**	.57**	.75			.25			
7. Affective organizational commitment	.46**	.36**	.48**	.34**	.18**	.35**	—					
8. Frequency of alcohol use	.00	.12**	.04	-.01	-.15**	-.05	.01	—				
9. Importance of maintaining social status	.12**	.30**	.07*	.02	.03	.07*	.09*	.20**	—			
10. Moral disengagement	-.20**	-.09**	-.11**	-.23**	-.24**	-.21**	-.06*	.19**	.17**	—		
11. Perceived organizational support	.41**	.27**	.48**	.30**	.13**	.31**	.74**	.00	.09**	-.09**	—	
12. Person-organization fit	.65**	.45**	.56**	.50**	.43**	.63**	.37**	-.02	.05	-.20**	.33**	—

Note. $n = 1361$. *$p < .05$. ** $p < .01$. The sisterhood diagonal represents $\sqrt{AVE}$.

between accountability and social experiences dimensions of sisterhood and alcohol use. Table 5 also illustrates the non-significant correlation between the overall sisterhood scale and frequency of alcohol use (n = 1361, r < .001, *ns*). Moreover, the support and encouragement (n = 1361, r = -.01, *ns*), belonging (n = 1361, r = .04, *ns*), and common purpose (n = 1361, r = -.05, *ns*) schema of sisterhood were also not related to alcohol use. Our concern that the belonging and social experience dimensions may not be discriminant from one another based on AVE statistic findings is reduced by the finding that alcohol use was significantly correlated with the social dimension, but not the belonging dimension. If the two were essentially analogous, we would have expected significant correlations between alcohol use and both dimensions. These findings supported the discriminant validity of the sisterhood scale.

Discussion

This study is an extension of the theoretical framework of sisterhood proposed by Cohen et al. (2017). We described the procedures used to develop and validate a scale to measure conceptualizations of sisterhood within the college sorority. The structure of this scale is generally consistent with the theoretical schema of sisterhood offered by Cohen et al. (2017). As a result of scale development, item analysis, and validation efforts, a 29-item sisterhood scale was determined to be reliable and valid across two independent samples of college sorority women. A confirmatory factor analysis found a stable five-factor structure, consisting of the following dimensions: social experience, belonging, support and encouragement, accountability, and common purpose. The construct validity for the sisterhood scale and its associated subscales, including content, face, convergent, and discriminant validity was also demonstrated by scale development and item analysis procedures in addition to correlations with theoretically related and unrelated measures. Taken together, we find strong evidence for the construct validity of the sisterhood measure.

The conceptual relationship of sisterhood to the brotherhood schemas described by McCreary and Schutts (2015) is also of note. The items used to conceptualize the belonging and accountability schemas in this study was very similar to the McCreary and Schutts items for the same construct. Future studies should explore a unified scale that can be tested for invariance by gender. In the fraternity sample, McCreary and Schutts reported the mean belonging score as 4.38. By contrast, this mean belonging score in this study of sorority members was 4.04. These differences are important because belonging has been shown to correlate with persistence, graduation, and institutional commitment (Hausmann, Ye, Schofield, & Woods, 2009). Understanding why women might feel a diminished sense of belonging within their sorority experience should be of great interest to both scholars and decision makers.

The development of an instrument to measure sisterhood is of great value to scholars and practitioners. With a valid and reliable tool, these individuals are better equipped to study the effect of interventions on the various dimensions of sisterhood. This is best accomplished when a profile of healthy levels of sisterhood is established. It is possible that programming and targeted interventions intended to promote more transcendent forms of sisterhood (e.g., accountability and common purpose) could be developed from this research. It also stands to reason that sorority members may be amenable to such interventions when presented as ways to improve their conceptualization of sisterhood. Developing a more robust understanding of the basic tenants of the sorority experience is critical to improving the experience for members and aligning that experience with desired educational outcomes.

Limitations

Any research should be viewed within the context of its limitations. The present research contains a number of limitations that must be considered before attempting to generalize these results to all sorority members. First, the organizations that were surveyed in this study are members of the National Panhellenic Conference (the umbrella group governing the 26 historically White national sororities). As a result, caution should be used in generalizing these findings to sorority members from organizations that are historically Black, Hispanic, or multicultural in nature. Future research should seek to replicate this study among members of culturally-based groups. In addition, the present research relied upon web-based surveys that were emailed to participants. In order to generalize the findings, we must assume that participants answered the surveys in a truthful manner. Lastly, the present research is based on the qualitative findings of Cohen et al. (2017), which was conducted by way of focus groups with sorority members attending a national convention. As noted in that study, members of other organizations, because of rituals or espoused organizational values, may conceptualize sisterhood in different ways. Although the present research surveyed members of two national sororities (including the one used in the Cohen et al.'s 2017 study), additional research with members of various organizations should be conducted to ensure that the five-factor model of sisterhood demonstrated in this study is generalizable across various organizations.

Implications for Future Research

The value of identifying a model of sisterhood in the college sorority lies in such a model's ability to diagnose or predict organizational outcomes. An opportunity exists to further explore gender differences on related schema of brotherhood and sisterhood, as well as case studies and profiles of chapters with different levels of sisterhood. Further research should also investigate the relationships among sisterhood and its dimensions with other constructs in social science research.

Perhaps the greatest opportunity for further research involves using the sisterhood scale longitudinally to capture how sisterhood develops in an organization, chapter, or individual over time. What experiences help and hinder such development? Are there optimal chapter sizes or key factors in the student experience that tend to bring about the highest forms of sisterhood in the majority of members? As Cohen et al. (2017) observed, sorority women spoke of the transcendent and developmental nature of sisterhood, regularly stating that many women come into the organization seeking and experiencing the social aspects of sisterhood, but over time come to understand and experience the more altruistic forms of sisterhood. Longitudinal designs are also well positioned to provide evidence to the causal nature of sisterhood development. Further research is necessary to establish whether a specific order of sisterhood dimensions exists as an individual progresses toward transcendent sisterhood.

Future research should also make use of multi-level modeling in order to better understand how sisterhood and related constructs differ at the individual level within chapters, at the chapter level within a campus community, or at the campus level within a national sample. In addition, future research should examine regional differences, as well as inherent differences related to sorority housing, recruitment timing/style, alumnae interaction, socio-economic and student employment status, and other individual and chapter-level variables.

Additional factors that influence a sorority woman's transcendence toward accountability and common purpose also merit further examination. In particular, sequential explanatory strategy (Creswell, 2013) may be useful to identify and profile sorority chapters that measure exceptionally high on various schema of sisterhood. An exhaustive qualitative

inquiry could be conducted on those exemplars to determine what cultural fixtures contribute to the high levels of sisterhood in those chapters. Being able to identify organizational and individual factors that both contribute to and inhibit transcendent sisterhood should be of great interest to scholars and practitioners. Based on the work of Cohen et al. (2017) we surmise that factors such as chapter size, leadership level within the organization, living in a chapter facility, and the culture of a sorority chapter's internal self-governance/standards process (among other things) may impact the highest forms of sisterhood. Further research is necessary to be certain of this conjecture.

In conclusion, this research supports the assertion that sisterhood is a multidimensional construct. The results of these studies provide robust psychometric support for a 29-item measure of sisterhood across five distinct schemas. Use of the sisterhood instrument may enrich theory of organizational behavior and sisterhood through an exploration of the different dimensions of sisterhood from a cross-sectional and longitudinal perspective.

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