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TOWARD A BROADER UNDERSTANDING OF FRATERNITY – DEVELOPING
AND VALIDATING A MEASURE OF FRATERNAL BROTHERHOOD

GENTRY MCCREARY AND JOSHUA SCHUTTS

The function of brotherhood as an element of the fraternal experience has been largely ignored in the literature of higher education. This study seeks to understand how fraternity members define and conceptualize brotherhood and to develop an instrument aimed at quantitatively measuring notions of brotherhood. This mixed-methods study is divided into two parts: (1) Part 1 employs a grounded-theory, qualitative approach to understanding how fraternity members define and conceptualize brotherhood, and (2) Part 2 employs three separate quantitative studies aimed at developing and validating a measure of the concept of brotherhood in fraternities. The findings of the study indicate that fraternity membership elicits four distinct schema of brotherhood – solidarity, shared social experiences, belonging, and accountability. The Fraternal Brotherhood Questionnaire (FBQ) is developed to measure these four schemas. Initial exploratory factor analysis (EFA) reveals a four factor solution explaining 64 percent of the variance. A subsequent EFA of a modified version of the FBQ reveals a four factor solution explaining 67 percent of variance in the overall model. Confirmatory factor analysis reveals a parsimonious four factor model of fraternal brotherhood.

The literature of higher education is teeming with studies demonstrating the positive impact of student involvement and engagement on a wide variety of outcomes, including academic success (Carini, Kuh, & Klein, 2006), persistence (Kuh, Cruce, Shoup, Kinzie & Gonyea, 2008), satisfaction (Zhao & Kuh, 2004), identity development (Endo & Harper, 1982; Astin, 1993) and cognitive development (Tinto, 1997). While the outcomes of involvement have been studied, the nature of that involvement and engagement, particularly the group dynamics of student organizations, has received little attention. Astin's Inputs-Environment-Outcomes model (1993) suggests that more attention should be devoted to the nature of the groups and activities with which students are involved in order to better understand the environments that these groups create and the outputs to which those environments ultimately lead.

A prevalent and long-standing fixture of student involvement on many U.S. college campuses has been the college fraternity. While the outcomes associated with fraternity membership

have been studied from a variety of perspectives (Allan & Madden, 2008; Bureau, Ryan, Ahren, Shoup, & Torres, 2011; Martin, Hevel, Asel, & Pascarella, 2011; McCabe & Bowers, 1996; Pascarella et al., 1996; Wechsler & Nelson, 2008), there is little scholarship devoted to the environmental group dynamics that influence the fraternity experience and the outcomes associated with fraternity membership.

In its earliest manifestations, the function of fraternity within the family unit was the relationship of siblings unified against authority, in a system designed to reward the standardization of members and to punish individual variations (Benne, 1969). These sibling relationships, a group of like-minded boys unified against the rule of authoritarian parents, are the historic and cultural foundations of the modern-day college fraternity. The word "fraternity" is derived from the Latin *frater*, literally translating to our "brother." It is reasonable, then, to think of the terms "fraternity" and "brotherhood" as interchangeable and synonymous. To understand one is to understand the other.

While the outcomes of the college fraternity have been examined from multiple angles, that most basic tenant of fraternity, the concept of brotherhood, has been virtually ignored in the literature. Given that the idea of brotherhood is the cultural and symbolic bedrock of the fraternity system (Benne, 1969), we find its absence from the literature of fraternities to be a troubling oversight. This study sought a better understanding of the concept of brotherhood within the American college fraternity, how it is understood and conceptualized by fraternity members, and how those individual and group conceptualizations impact the outcomes of the fraternal experience.

A study of brotherhood is a worthy undertaking. Research suggests that the environmental, contextual and social influences of any group are important to consider when attempting to understand the behavior of that group and the individuals within it (Trevino & Youngblood, 1990; Zimbardo, 2007). One need not spend a long time searching to see the pages of the popular press littered with examples of both the good deeds and misdeeds of the college fraternity. Why do some fraternity chapters engage in anti-social behavior while others are model organizations? To understand the way that fraternity members define and conceptualize brotherhood is to understand the way they define the experience itself, and would provide valuable framework for understanding the behaviors and cognitions of fraternity members as a peer group.

Methods

In order to develop an understanding of fraternal brotherhood, this study employed sequential exploratory strategy. This strategy is especially useful when testing elements of an emergent theory resulting from qualitative data (Morgan, 1998), generalizing a qualitative finding to different samples (Morgan, 1998) and when attempting to construct a new instrument (Creswell, 2009). Following the recommendations of

Creswell and Plano-Clark (2007), the research employed a three-phase approach. First, the researchers gathered and analyzed qualitative data. Next, the researchers used that data to build an instrument. Finally, that instrument was administered to a larger sample of students and the reliability and validity of that instrument were tested. Part 1 of our methods section details the grounded-theory approach employed in devising a theory of fraternal brotherhood. Part 2 of this section details the quantitative approaches employed in the development, testing and validation of an instrument designed to measure the four hypothesized schema.

Part 1

This study employed a grounded-theory approach in developing an initial understanding of how fraternity members define and conceptualize brotherhood. It is worth disclosing that the researchers are both alumni of college fraternities, and have spent a significant portion of their professional careers in the fraternity/sorority advising profession. These experiences have brought them into close contact with fraternity members and have provided them with countless hours of observation into the daily activities of fraternity members. From these observations, we developed an initial sense that fraternity members had various and assorted ways of defining brotherhood, and that those definitions permeated and influenced the culture of undergraduate fraternity chapters.

The qualitative portion of this study was accomplished through semi-structured focus group interviews. Participants, selected via convenience sampling, were solicited via email at a large, public research institution in the Southeastern United States. The focus group participants ranged in age from 18-22 and were all initiated members of men's fraternities. Each of the 14 participants were Caucasian and were members of historically white fraternities. The focus group involved partially-structured questioning – the students were asked to respond to

the questions “What is brotherhood” and “How do you distinguish friendship from brotherhood.” Follow up questions were asked to help understand and break responses down to their most fundamental nature. The researcher collected detailed notes which were subsequently coded in the manner suggested by Tesch (1990). The data were summarized and reduced, identifying patterns, frequencies and differences within the responses. Once coded, the data were categorized and the emerging themes were analyzed.

The qualitative data gathered indicated four unique themes related to how students defined brotherhood. We describe the qualitative data according to the primary themes that emerged in the analysis, including brotherhood based on solidarity, brotherhood based on shared social experiences, brotherhood based on belonging, and brotherhood based on accountability

Solidarity – “I’ve got your back, you’ve got mine...” Several fraternity members understood brotherhood to be a connection based on a commitment to mutual assistance. This theme appeared in multiple anecdotes, varying in altruism. Some responses could be described as highly altruistic. For example, one participant explained “brothers are there for one another. If a brother loses a parent or loved one, we would all be there to support him through the hard times.” Other responses could be described as less altruistic and more resembling of a gang mentality. One student observed “I am my brother’s keeper. That means if we’re out and he gets into trouble, it’s my job to have his back, no matter what.” Statements regarding fraternal solidarity as the basis of brotherhood were often preceded with statements such as “it is important that we have a unified brotherhood,” indicating that the building of solidarity may be an intentional outcome of membership in some organizations.

The empirical study of solidarity in groups is extensive, dating back to the early works of Durkheim (1951). Durkheim described social solidarity as the universal concomitant of group

action (1951). Durkheim discussed at length the connections between human emotion, ritualistic symbols and group solidarity, noting the emotion generated through the congregation of like-minded individuals. Emirbrayer (1995), discussing the usefulness of Durkheim’s ideas on solidarity through collective emotion noted that:

Collective emotions generated in such moments crystallize into patterns of emotional commitment and symbolic identification. These symbols are items on which the group focuses during rituals – such symbols come to represent membership in the group. Durkheim called them sacred objects. Emotions are the glue of solidarity and are what holds groups, and to a larger extent, society, together (p. 120).

Benne (1969) explored the idea of fraternity generally and traced the idea of fraternity back to its roots within the family unit. Comparing adult voluntary associations to the idea of siblings unified against the authoritarian parent, he noted that “any group with the primary goal of defense against authority develops rigid codes of loyalty and standards of uniform behavior” (p. 237). Students participating in the focus group frequently discussed the need of a “unified front” and the emphasis of their pledge education program in creating group unity. From a historical context, many fraternities trace their roots to an era of social change and their creation to a mutual desire to resist the norms of dominant culture (Smith, 1964). Solidarity, then, has historically been an important attribute in an organization taking a defensive position against outward authority.

Smith (1964) explored the notion of fraternal solidarity, suggesting that groups develop solidarity as an adaptive response to the need for implementing goals and that the commitment of the members to the group is contingent upon their commitment to the value of the goals of the group. Within such groups, he suggested, there is a gradual development towards the generation of a motive for the sustenance of group cohesion, independent of any external opposi-

tion. That is, in the life of a fraternity, solidarity eventually becomes an end rather than a means to an end, replacing whatever goal or value may have been the original impetus for the group's creation. This phenomenon was evident in our focus group research. Fraternity members saw the solidarity of their chapter, particularly the bonding and unification of their pledge class, as a primary goal of the fraternity experience, completely independent of any offensive or defensive position against external authority or the promotion of any ideal or value. When pushed to explain the reason for his fraternity's focus on unity, one exasperated focus group member explained "unity IS the point – there's not some underlying reason. That's what the fraternity is about."

Shared Social Experiences – "I do almost everything with my brothers..."

The notion of the fraternity as primarily a social outlet, and brotherhood as a collection of individuals who enjoy one another's company, was another theme that emerged from the focus group. When asked what the best part of brotherhood was, responses included "the friendships, the relationships. Just hanging around the house and being stupid with people you love." Another participant quipped "I know it sounds cliché, but it's the times you'll never remember with the people you'll never forget."

Another student shared this story when asked to recount the best example of brotherhood that he had seen:

I'll never forget our spring party week my freshman year. We had to work like crazy for a week to build our fort and boardwalk for the parties. We worked together and got it done. Then the parties started – I don't remember much, but it was a blast. We had worked so hard all year during pledgship [sic] and just trying to become part of the group. The spring party was a big release for us. We partied 24-7 for a week. It's the times like that when you really understand what being in a fraternity is all about. It's really hard to explain to someone if you've never

experienced it for yourself.

As most collegiate fraternal orders have adopted the moniker "social fraternity" to describe themselves, this emphasis on the social aspects of brotherhood seems a self-fulfilling prophecy. Indeed, the social aspect of the modern-day college fraternity is a well-documented phenomenon. As noted earlier, fraternity membership has been strongly linked to alcohol and drug abuse. Wechsler and Nelson (2008) found that 86% of men who live in fraternity houses are binge drinkers. A study by Columbia University found that nearly 64% of fraternity and sorority members are current binge drinkers, compared to only 37% of their non-affiliated counterparts (CASA, 2005). The CASA study found that fraternity and sorority members are more likely to be current marijuana users and are more than twice as likely to be current cocaine users. These findings are consistent with a number of studies that have suggested that fraternity and sorority members are significantly more likely to abuse alcohol or other drugs than their non-affiliated counterparts (Wechsler, Kuh, & Davenport, 1996; Cashin, Presley, & Meilman, 1998).

The emphasis on the social aspects of brotherhood did not limit itself to the party scene, however. Comments were also inclusive of the idea that brotherhood is about a sense of friendship that goes above and beyond friendship outside the context of fraternity. As one student noted,

It's a connection that goes beyond friendship. Once I joined a fraternity, I really lost interest in doing things with people outside my fraternity. It's like, before, in high school, you didn't have a whole lot of choice of who your friends were. You went to school, you saw the same people... your options were pretty limited. When I joined a fraternity, I was able to choose to join a group of people that I felt connected to. These are the people I want to spend all of my time with. It's not like hanging out with people in your dorm freshman year – anybody can do that. A fraternity is more than that.

In this sense, a brotherhood based on shared

social experiences may be representative of the amount of time spent with other group members. It also reflects the mentality that being in a fraternity is a deliberate choice to associate with a particular group of people. Derryberry and Thoma (2000) investigated the friendship density of peer groups and the impact of those friendships on moral development. They suggested that the low-density friendship networks of fraternity members were a likely cause of lower levels of moral judgment. Fraternity members are likely to identify closely with those in their group, limit their interactions with “outsiders,” and have an “us versus them” attitude (Derryberry & Thoma, 2000). This was reflected in the qualitative data. Students who identified brotherhood as a shared social experience more readily identified with group members and indicated less interaction with those outside of their organizations.

Belonging – “My brothers appreciate me for who I am...” Focus group participants spoke frequently and passionately about their feeling of the fraternity being their “home away from home” and the place where they “feel like part of a family.” Brotherhood as a sense of belonging that transcended friendship or social interactions was a common theme among several of the students studied. The fraternity was described as a place where students felt connected, and this psychological feeling of connection aroused strong emotion. One of the students explained,

My brothers appreciate me for who I am and what I bring to the group. From day one, it was a place where I just felt at home. I feel sorry for guys in fraternities who feel like they have to pretend to be something that they’re not. I’ve never felt that way. I feel like I can be myself, because I know that my brothers value the same things I value.

In exploring the roots of group belonging, we can again turn to the work of Durkheim (1951). Noting the importance of belonging within one’s peer group, he noted that failure to achieve an adequate sense of belonging can lead

to stress, declines in mental and physical health and, ultimately, suicide. The need to belong is a fundamental human motivation and often has a very powerful influence on behavior (Durkheim, 1951; Baumeister & Leary, 1995). Understanding sense of belonging is important in understanding the fraternity experience. Feelings of belonging have implication for a wide variety of behaviors and cognitions for individuals that are part of groups, including the preferential treatment of in-group vs. out-group members, increased altruism and increased cooperation within a group (Turner, 1987).

Although there is scant literature regarding belonging as part of college fraternities, much has been written about the connection between a psychological sense of belonging and persistence and attainment within higher education. Within the context of higher education, Hurtado and Carter (2007) defined belonging as the psychological sense of identification and affiliation with the campus community. Sense of belonging is described as conceptually distinct from behavioral indicators such as participation or integration into the academic and social environment of a university (Hausmann, Ye, Schofield, & Woods, 2009) in that it is the psychological manifestation of that participation and integration. Hausmann and her colleagues (2009) found psychological belonging had strong direct effects on institutional commitment and indirect effects on intention to persist and actual persistence.

Accountability – “My brothers make me a better person...” The final unique theme that emerged was that of a brotherhood based on accountability to group standards and expectations. Fraternity members discussed this schema within the context of the values, standards and expectations of the group. Brotherhood, to them, goes beyond friendship or belonging and represents a mutual commitment to make one another better through systems of accountability. As one participant noted,

Brotherhood is about our obligations to one another. When you become a member of our fra-

ternity, you commit yourself to our ideals. If you don't live up to those ideals, it is our responsibility to one another to hold you to them.

In discussing this idea, students frequently used words like “duty,” “obligation,” and “responsibility” to discuss their feelings toward their brothers. Brotherhood, for them, was a duty to instill group values in members through mechanisms of individual accountability. An example of this idea is found in this comment:

Our chapter has a standards board. Members who have issues or do things against our bylaws are called in front of the standards board. Our goal is not to punish, but to help everyone live up to the expectations of our brotherhood.

The accountability discussed by members is not a hierarchical accountability of power and control, with directives coming from individuals in places of authority. Rather, it resembles that system of accountability described by Gelfand, Lim and Raver (2004) as a “Collectivistic, loose, and egalitarian culture” (p. 154). This culture of accountability includes individuals being accountable to their groups, and their accountability to the organization is mediated through these smaller subgroups. Comparatively, connections of accountability are expected to be weaker than in hierarchical groups due to the fact that there are fewer standards that are less clear. Many of the standards are largely implicit and informally communicated through group norms and symbols within the organization. Finally, there exists mutual accountability between individuals and leaders of the group, with group leaders being held to the same standards as rank and file members, leading to less rigidity and more negotiation of standards and expectations (Gelfand et al., 2004).

The study of accountability within groups dates back to the ancient Greek philosophers. Plato, Zeno, and Aristotle discussed accountability within the context of social control, punishment, and justice (Schlenker, Britt, Pennington, Murphy & Doherty, 1994). It has been said that much of the energy of groups, both formal and

informal, is consumed by devices of control in efforts to reduce variations in group behavior and produce stable patterns of activity (Katz & Kahn, 1966). Gelfand et al. (2004) established a definition of accountability – “the perceptions of being answerable for actions or decisions, in accordance with interpersonal, social and structural contingencies, all of which are embedded in particular sociocultural contexts”(p.137) – that seems to perfectly capture the notions of the brotherhood based on accountability discussed by the fraternity members in our focus group.

In summary, our hypothesized schema can be summarized as brotherhood based on solidarity, shared social experiences, belonging, and accountability. In the section that follows, we describe our efforts in creating and validating a quantitative measure of these four schema.

Part 2

If the four hypothesized dimensions of brotherhood reflect distinct schema, it should be possible to develop independent measures of these schema. Nunnally (1978) notes, “factor analysis is intimately involved with questions of validity...[and] is at the heart of the measurement of psychological constructs” (p. 112-113). We begin with the exploration of theory, and utilize exploratory factor analysis to generate theory (Henson & Roberts, 2006). Because the present research seeks to coalesce theory into new application, EFA becomes appropriate in situations where strong a priori theory or modeling is absent (Daniel, 1989). We find that procedure employed in Studies 1 and 2a. Study 2b was built upon the premise of testing the initial empirical model resulting from Study 1 (and refined in 2a) by performing a confirmatory (2b) factor analysis which presupposes a given model framework exists.

Study 1: Development of Hypothesized Brotherhood Measure

Subjects and data collection procedures.

Data were collected in the fall of 2012 from students above the age of 18 from four-year colleges and universities. The study involved convenience sampling, as colleagues of the researchers volunteered to distribute the instrument to their students. Approximately 9,000 electronic questionnaires were distributed via email to students; of these 301 (3.3%) were completed. Students responded anonymously, but were given the option to submit their email address on a secondary website in order to win a gift-card prize. 25 participants (8.3%) were freshman, 75 sophomore (24.9%), 96 junior (31.9%), 87 senior (28.9%), and 18 alumni (6.0%) classification. 213 participants (70.8%) were from public institutions and 136 (29.2%) were from private institutions. 259 participants (86.0%) were white and 79 (14.0%) were non-white or of mixed descent. Regionally, 107 participants (36.5%) were from colleges or universities in the Northeastern United States, compared to 190 participants (63.1%) from the Southeastern United States. The remaining participants were from elsewhere in the United States.

Online questionnaires were distributed by the researcher to campus fraternity advisors that agreed to participate in the research study. In all, 19 different campuses, representing all geographical regions of the United States, distributed the survey to their fraternity population. Accompanying each questionnaire was an informed consent letter explaining the purpose of the study. Duplication of internet protocol (IP) addresses was prevented as a measure to combat concerns over the same student participating multiple times. Participation in the study was entirely voluntary.

Measures. A pool of 40 items was generated for purposes of scale construction. The researchers, given information gleaned from the emergent qualitative focus group process and consistent with theory, wrote all items. Each item was worded to correspond with one of the conceptualizations of brotherhood described heretofore, and included statements taken di-

rectly from the focus group transcriptions. The order of the items on the questionnaire was random. Responses to all 40 items were made on five-point scales ('strongly disagree to 'strongly agree'). No items were negatively worded and reverse-scored.

Results. A principal axis factor analysis (PAF) was conducted on the 40 items with oblique rotation (promax, $\kappa = 4$). The Kaiser-Meyer-Olkin measure (KMO = .91) verified the sampling adequacy, which is well above the acceptable limit of .50. Bartlett's test of sphericity, $\chi^2 (190) = 3,076, p < .001$, indicated that correlations between items were sufficiently large for PAF. An initial analysis was run to obtain eigenvalues for each factor in the data. Three factors had eigenvalues over Kaiser's criterion of 1 and in combination explained 56.2% of the variance. The scree plot showed inflections that would justify retaining four factors (thereby explaining 63.4 % of the variance). Partially, solidarity accounted for 7.2% (EV = .935) of the total variance, shared social experiences for 37.2% (EV = 7.03), belonging for 8.7% (EV = 1.27), and accountability for 10.3% (EV = 1.70). A parallel analysis and minimum average partial test also resulted in four factor solutions. Henson and Roberts (2006) offer, "Because the factor retention directly affects the EFA results obtained, researchers are advised to use multiple criteria and reasoned reflection" (p. 399). Given the sample size, the convergence on the scree plot, parallel analysis and minimum average partial, four factors were retained in the final analysis.

Table 1a displays the item descriptions, means and standard deviations. Table 1b shows the factor loadings, p (i.e. pattern matrix), item-factor correlations, r_s (i.e. structure matrix), and communalities (h^2) after rotation. Items that did not load to any factor were excluded. Items that cross-loaded to multiple factors were also excluded. The remaining 20 items that cluster on the same components suggest that factor 1 represents solidarity, factor 2 the shared social experience, factor 3 belonging, and factor 4 ac-

countability. Brotherhood based on solidarity ($\alpha = .71$), shared social experiences ($\alpha = .93$), belonging ($\alpha = .83$), and accountability ($\alpha = .84$) all had high reliabilities. It is important to note that an oblique rotation strategy (e.g. promax) was used for two reasons: First, our hypothesis was that the schema of brotherhood are generally correlated; and, second, oblique structures usually fit sample data better because they estimate more parameters (Henson and Roberts, 2006). We find support for this logic when exploring Table 2, the correlation matrix, means, and standard deviations at the factor level.

The four resulting schema are independent

yet significantly inter-related. No factor exceeds correlations that would suggest potential issues of multi-collinearity. This provides evidence for the discriminant validity of the resulting four schema. Taken together, the results of the present study suggest that each of the brotherhood dimensions identified as 'schemas of brotherhood' can be reliably measured empirically. The significant positive relationship between each of the subscales supports a connection between the literature conceptualization and the ability to quantitatively measure those attitudes and beliefs.

Table 1

Item descriptions, means and standard deviations of hypothesized brotherhood scale

Item description	Mean	SD
1. I would never 'sell out' a brother who did something wrong.	3.62	1.10
2. It is my responsibility to always keep a brother's secret.	4.26	.882
3. My fraternity recruits by showing men that we are brothers for life, no matter what.	4.10	.913
4. Once a brother, always a brother.	4.29	.972
5. The top priority of my fraternity's pledge program is to build a unified, bonded pledge class.	4.33	.911
6. I tend to mostly hang out with my fraternity brothers.	4.14	.867
7. I tend to mostly do things with my fraternity brothers.	4.08	.935
8. My fraternity brothers and I do almost everything together	3.97	.999
9. My fraternity brothers are the people I prefer to spend most of my time with.	4.19	.845
10. The first people I ask to do things with me are my fraternity brothers.	4.22	.871
11. I take comfort in knowing that my fraternity brothers appreciate me for who I am.	4.41	.723
12. I take comfort in knowing that my fraternity brothers allow me to be myself.	4.46	.709
13. My brothers accept me despite my flaws.	4.40	.726
14. My fraternity is a tight-knit group of men.	4.18	.822
15. I expect my fraternity to confront me if I violate our shared expectations.	4.32	.730
16. It bothers me when my fraternity brothers fail to uphold our high standards.	4.33	.758
17. It bothers me when I fail to uphold our high standards.	4.27	.789
18. Brotherhood is best demonstrated when members are held to the chapter's standards	4.11	.899
19. It is important that all brothers demonstrate their commitment to the chapter's standards.	4.46	.618
20. I believe all members should be instructed on the fraternity's expectations.	4.62	.567

Table 1b

Rotated factor pattern and structure matrices among the items of hypothesized brotherhood scale.

Item	h^2	Factor 1: <i>Solidarity</i>		Factor 2: <i>Shared Social Experiences</i>		Factor 3: <i>Belonging</i>		Factor 4: <i>Accountability</i>	
		p	r_s	p	r_s	p	r_s	p	r_s
Item 1	.406	<u>69</u>	<u>62</u>						
Item 2	.535	<u>75</u>	<u>73</u>		37				34
Item 3	.415	<u>49</u>	<u>62</u>		41		45		34
Item 4	.258	<u>44</u>	<u>49</u>				32		
Item 5	.258	<u>38</u>	<u>46</u>				40		
Item 6	.775		42	<u>92</u>	<u>88</u>		36		40
Item 7	.767		46	<u>86</u>	<u>88</u>		42		45
Item 8	.690		41	<u>83</u>	<u>83</u>		42		40
Item 9	.739		45	<u>79</u>	<u>85</u>		52		46
Item 10	.707		52	<u>77</u>	<u>83</u>		44		42
Item 11	.686		33		38	<u>85</u>	<u>82</u>		46
Item 12	.670		34		38	<u>86</u>	<u>82</u>		39
Item 13	.618		41		41	<u>75</u>	<u>79</u>		45
Item 14	.369		39		36	<u>53</u>	<u>59</u>		
Item 15	.520		38		35		55	<u>56</u>	<u>69</u>
Item 16	.400				38			<u>64</u>	<u>60</u>
Item 17	.609		33		43		47	<u>73</u>	<u>78</u>
Item 18	.469						35	<u>72</u>	<u>68</u>
Item 19	.580		35		39		36	<u>77</u>	<u>76</u>
Item 20	.466						39	<u>68</u>	<u>68</u>

Note: Factor loading underlined and italicized by factor; Decimals omitted; loadings < 32 suppressed; Communality coefficient is denoted by h^2 ; Pattern matrix coefficient is denoted by p ; Structure matrix coefficient is denoted by r_s

Table 2

Factor means, standard deviations, inter-correlations, and internal consistency reliability Estimates

Schema	Mean	SD	F1	F2	F3	F4
F1. Solidarity	4.12	.653	(.71)			
F2. SSE	4.10	.798	.517	(.93)		
F3. Belonging	4.36	.609	.481	.478	(.83)	
F4. Accountability	4.35	.548	.428	.482	.540	(.84)

Note: All correlations significant at $p < 0.001$; Cronbach alpha coefficient reported on the diagonal. Overall $\alpha = .90$

Study 1: Development of Hypothesized Brotherhood Measure

Subjects and data collection procedures.

Study 2: Exploratory and Confirmatory Factor Analyses of Brotherhood

The purpose of Study 2 was to test the results from Study 1 on a more diverse and nationalized purposive sample of fraternity members. Study 2 was split into two sub-studies. Given the identified 20 items, conservative measurement theory suggests that a ratio of respondents to items be at or above 10:1 (i.e. 200 participants) for each study.

Method. Subjects and data collection procedures. Following the same procedure used in Study 1, data were collected in the spring of 2013 from fraternity members who were at least 18 years of age and enrolled at American four-year colleges and universities. In addition to professional contacts of the researchers who likewise agreed to participate in the study and distribute the online questionnaire to their fraternity members, opportunities to participate in the study were also presented to participants of two fraternity regional leadership conferences in the southeastern United States. The eastern half of the United States is represented within the sample, in addition to Texas, Louisiana, Arkansas and Oklahoma.

As before, duplication of internet protocol (IP) addresses was prevented as a measure to combat concerns over the same student participating multiple times. In total, 14,857 questionnaires were distributed and 647 (4.4%) were completed. Because the goal of this study was to perform both exploratory (Study 2a) and confirmatory (Study 2b) factor analyses, the resulting sample was split at random. For CFA, the model was confirmed with minimum fit indices (≥ 0.90) using the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI). Global fit was also estimated using Root Mean Square Error of Approximation (RMSEA). External validity was addressed by gathering a moderately sized sample

purposively by targeting participation efforts to achieve diversity based on university type (public vs. private), student classification level, and geographic area.

Measures. The 20-items representing the four hypothesized schema of brotherhood (i.e. solidarity, shared social experiences, belonging, and accountability) from Study 1 were included in the questionnaire. Because the belonging factor had fewer items, two additional items were developed and included to improve reliability. As before, the order of the items on the questionnaire was randomized.

Study 2a: Exploratory factor analysis.

Demographics. This half of the sample ($n = 319$) was composed of 60 freshmen participants (18.8%), 84 sophomore (26.3%), 88 junior (27.6%), 81 senior (25.4%), and 6 alumni (1.9%) classification. 235 participants (73.7%) were from public institutions and 84 (26.3%) were from private institutions. 278 participants (87.1%) were white, 21 (6.6%) were non-white, and 20 (6.3%) were of mixed or multiple descent.

Results. To replicate Study 1, a principal axis factor analysis (PAF) exploratory factor analysis was conducted on the 21 item Fraternal Brotherhood Questionnaire (FBQ) with oblique rotation (promax, $\kappa = 4$). The Kaiser-Meyer-Olkin measure ($KMO = .92$) verified the sampling adequacy, which is well above the acceptable limit of .50. Bartlett's test of sphericity, $\chi^2(231) = 4,415, p < .001$, indicated that correlations between items were sufficiently large for PAF. An initial analysis was run to obtain eigenvalues for each factor in the data. Four factors had eigenvalues over Kaiser's criterion of 1 and in combination explained 67.7% of the variance.

Partially, solidarity accounted for 7.6% ($EV = 1.20$) of the total variance, shared social experiences for 14.6% ($EV = 2.81$), belonging for 36.1% ($EV = 7.63$), and accountability for 9.3% ($EV = 1.72$). The scree plot showed inflections that would justify retaining four factors. A parallel analysis and minimum average partial cor-

relation also resulted in four factor solutions. Given the sample size, the convergence on the scree plot, parallel analysis, and minimum average partial, four factors were retained in the final analysis. Table 3a displays the item descriptions, means and standard deviations. Table 3b shows the factor loadings, p (i.e. pattern matrix), item-factor correlations, r_s (i.e. structure matrix), and communalities (h^2) after rotation.

We again find support for the hypothesized four-factor model by observing similar pattern and structure alignment within these data. Brotherhood based on solidarity ($\alpha = .75$), shared so-

cial experiences ($\alpha = .94$), belonging ($\alpha = .93$), and accountability ($\alpha = .87$) all had high reliabilities. Table 4 shows the correlation matrix, means, and standard deviations at the factor level.

The addition of two items to the belonging measure significantly improved the reliability of the scale and the overall variance explained by the four-factor model. Study 2 provides further construct validity support to Study 1, and demonstrates that a parsimonious 22-item version of the FBQ that significantly captures the constructs related to brotherhood.

Table 3

Item descriptions, means and standard deviations of hypothesized brotherhood scale.

Item description	Mean	SD
1. I would never 'sell out' a brother who did something wrong.	3.53	1.18
2. It is my responsibility to always keep a brother's secret.	4.16	.961
3. My fraternity recruits by showing men that we are brothers for life, no matter what.	4.18	.957
4. Once a brother, always a brother.	4.19	1.05
5. The top priority of my fraternity's pledge program is to build a unified, bonded pledge class.	4.14	1.17
6. I tend to mostly hang out with my fraternity brothers.	4.13	.948
7. I tend to mostly do things with my fraternity brothers.	4.11	.963
8. My fraternity brothers and I do almost everything together.	3.84	1.10
9. My fraternity brothers are the people I prefer to spend most of my time with.	4.17	.924
10. The first people I ask to do things with me are my fraternity brothers.	4.22	.962
11. I take comfort in knowing that my fraternity brothers appreciate me for who I am.	4.37	.855
12. I take comfort in knowing that my fraternity brothers allow me to be myself.	4.42	.827
13. My brothers accept me despite my flaws.	4.39	.838
14. My fraternity is a tight-knit group of men.	4.20	.959
15. My fraternity brothers include me in the things they are doing.	4.30	.806
16. My fraternity brothers make me feel as if I belong.	4.39	.824
17. I expect my fraternity to confront me if I violate our shared expectations.	4.52	.713
18. It bothers me when my fraternity brothers fail to uphold our high standards.	4.47	.743
19. It bothers me when I fail to uphold our high standards.	4.47	.788
20. Brotherhood is best demonstrated when members are held to the chapter's standards	4.29	.880
21. It is important that all brothers demonstrate their commitment to the chapter's standards.	4.55	.652
22. I believe all members should be instructed on the fraternity's expectations.	4.69	.598

Table 3b*Rotated factor pattern and structure matrices among the items of hypothesized brotherhood scale.*

Item	h^2	Factor 1: <i>Solidarity</i>		Factor 2: <i>Shared Social Experiences</i>		Factor 3: <i>Belonging</i>		Factor 4: <i>Accountability</i>	
		p	r_s	p	r_s	p	r_s	p	r_s
Item 1	.475	<u>.76</u>	<u>.67</u>						
Item 2	.497	<u>.72</u>	<u>.70</u>						
Item 3	.461	<u>.51</u>	<u>.64</u>		40		49		
Item 4	.396	<u>.60</u>	<u>.63</u>				37		
Item 5	.258	<u>.39</u>	<u>.48</u>				37		
Item 6	.783			<u>.91</u>	<u>.88</u>		46		
Item 7	.796		40	<u>.88</u>	<u>.89</u>		49		
Item 8	.749		40	<u>.82</u>	<u>.86</u>		51		
Item 9	.737		33	<u>.86</u>	<u>.86</u>		48		
Item 10	.726		35	<u>.85</u>	<u>.86</u>		47		
Item 11	.769		41		44	<u>.92</u>	<u>.88</u>		
Item 12	.700		38		42	<u>.86</u>	<u>.83</u>		34
Item 13	.767		44		44	<u>.90</u>	<u>.87</u>		32
Item 14	.527		46		47	<u>.62</u>	<u>.71</u>		
Item 15	.682		45		52	<u>.77</u>	<u>.82</u>		
Item 16	.748		43		51	<u>.83</u>	<u>.86</u>		32
Item 17	.593						32	<u>.74</u>	<u>.77</u>
Item 18	.608							<u>.81</u>	<u>.76</u>
Item 19	.617							<u>.77</u>	<u>.78</u>
Item 20	.419							<u>.62</u>	<u>.64</u>
Item 21	.622							<u>.78</u>	<u>.79</u>
Item 22	.425							<u>.62</u>	<u>.64</u>

Note: Factor loading underlined and italicized by factor; Decimals omitted; loadings < .32 suppressed; Communality coefficient is denoted by h^2 ; Pattern matrix coefficient is denoted by p ; Structure matrix coefficient is denoted by r_s

Table 4*Factor means, standard deviations, inter-correlations, and internal consistency reliability estimates*

Schema	Mean	SD	F1	F2	F3	F4
F1. Solidarity	4.04	.756	(.75)			
F2. Shared Social	4.15	.883	.548	(.94)		
F3. Belonging	4.38	.782	.338	.195	(.93)	
F4. Accountability	4.61	.570	.512	.403	.221	(.87)

Note: All correlations significant at $p < 0.001$; Cronbach alpha coefficient reported on the diagonal. Overall $\alpha = .91$

Study 2b: Confirmatory factor analysis of brotherhood.

Demographics. This half of the sample ($n = 328$) was composed of 62 freshmen participants (18.9%), 88 sophomore (26.8%), 106 junior (32.3%), 87 senior (20.7%), and 4 alumni (1.2%) classification. 275 participants (83.3%) were from public institutions and 75 (22.9%) were from private institutions. 253 participants (77.1%) were white and 29 (8.8%) were non-white, and 24 (7.3%) were of mixed or multiple descent.

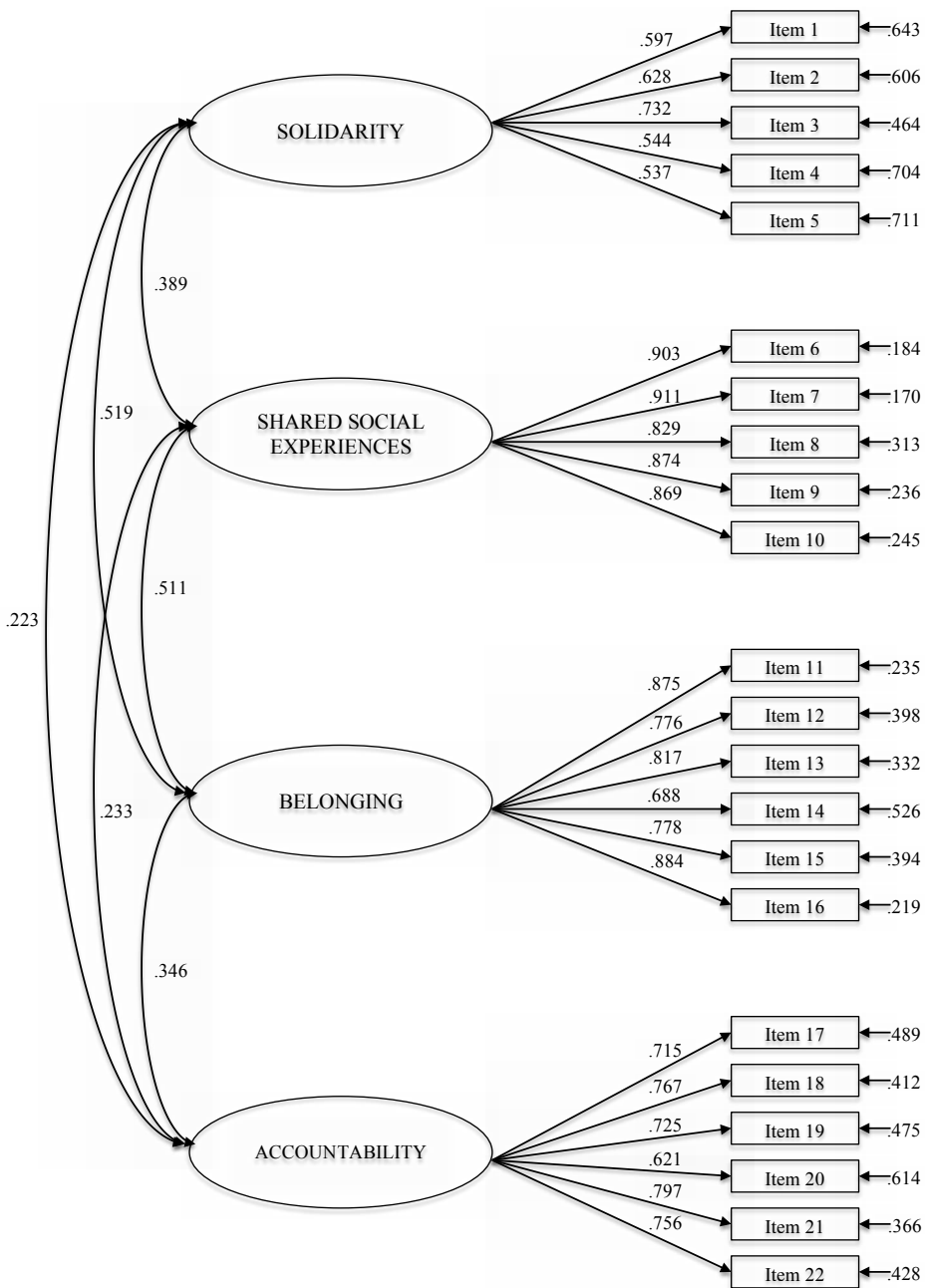
Results. The four latent schema of brotherhood (solidarity, shared social experiences, belonging, and accountability) and their observed items were analyzed in *MPlus* (version 7). The hypothesized factor loadings were allowed to vary freely and all constructs were allowed to intercorrelate. Robust maximum likelihood estimation (MLMV) was used to estimate the measurement model. To assess fit, the Satorra-Bentler χ^2 , Tucker-Lewis index (TLI), comparative fit index (CFI), standardized root mean square residual (SRMR), weighted root mean square residual (WRMR), and the root mean square error of approximation (RMSEA) were examined. Hu and Bentler (1999) suggest that comparative fit indices (e.g. CFI and TLI) should be greater than 0.95, although 0.90 has been considered acceptable. RMSEA values should generally be less than 0.05 (Schumacker & Lomax, 2004), although values of 0.05 to 0.08 may also be considered ac-

ceptable (Kline, 2005). Yu and Muthén (2002) also report WRMR values should generally be less than 1.0. The four-factor model fit the data adequately, $\chi^2(203) = 358.3, p < .001$; SRMR = .066; WRMR = 1.43, RMSEA = .048 [90CI: .040 - .056]; CFI = .93; TLI = .92).

With parsimony in mind, no modifications were made to the model. The resulting factor loadings from the CFA values in Figure 1 reflect accurate construct formation. The model fit results were further tested against an underlying 1-factor structure (i.e. Brotherhood is simply one large construct without underlying schema or dimensions). The four-factor model proved to be a significantly greater fit to the data (Δ SRMR = .10, Δ WRMR = 1.40, Δ CFI = .44, Δ TLI = .49, Δ RMSEA = .081 [Δ 90CI: .082 - .080]). As such, we retain the four-factor model. Figure 1 displays the measurement model with standardized loadings. All correlations were in the expected direction given theory and prior EFA results, and were above 0.22 ($ps < .001$). The strongest schema relationships were between belonging and solidarity ($r = .519$), and belonging and shared social experiences ($r = .511$). Given some non-normality in the responses (negative skew), it stands to reason that the error adjustment (WRMR) would exceed the Yu and Muthén suggestion. Because of the strong affective arousal elicited by the nature of brotherhood (all items are generally viewed positively), this non-normality is expected.

Figure 1

Structural Model of Brotherhood. All values significant $p < .001$



External Validity of FBQ

As Studies 1, 2a and 2b demonstrated, the Fraternal Brotherhood Questionnaire meets nearly all established criteria related to internal instrument reliability. In order to establish its utility as a measure of the fraternal experience, external validation is also required. As part of Study 2, participants were also asked to complete a variety of other instruments for the purpose of establishing convergent validity.

The schema of solidarity should correlate with one’s tolerance of hazing. Group unity has been identified as a primary intended outcome of hazing activities (Allan & Madden, 2008; Cimino, 2011). A hazing-tolerance measure was adapted from the work of Ellsworth (2006), in which students were asked to indicate the maximum level of hazing they found acceptable as part of their chapter’s new member experience, beginning with mild forms of hazing and ending in severe hazing. Of the four schema measured, only solidarity was significantly correlated with the hazing tolerance measure ($r = .208, p < .001$).

The schema of shared social experiences should be related to an individual’s consumption of alcohol. As this schema was built around the notion of the fraternity as a social outlet, and since binge drinking rates are significantly higher among fraternity members compared to non-affiliated students (Wechsler & Nelson, 2008), fraternity members who view the fraternity as a social outlet should report higher occurrences of binge drinking than those who do not. The researchers asked participants to indicate the number of nights per week that they consumed five or more drinks in one sitting. Shared social experience was significantly correlated with binge drinking ($r = .244, p < .001$). This was the strongest relationship to binge drinking among the four schema.

The schema of belonging ($r = .663, p < .001$) was the most correlated with “perceived organizational support,” a construct that has been shown previously to measure the degree to which a member feels the organization cares about their

well-being, supports, and values their contributions (Eisenberger et al., 1986). Furthermore, belonging ($r = .567, p < .001$) was also the most correlated with “organizational identification”, a construct that has been demonstrated to measure belonging (Umphress & Bingham, 2011), and can be thought of as the psychosocial attachment between an individual and an organization (Edwards et al., 2006).

A fraternity or “brotherhood” should have attachment-related aspects to it, and significant correlations were additionally observed with the other three schema; the correlations with shared social experiences ($r = .432, p < .001$), solidarity ($r = .406, p < .001$), and accountability ($r = .373, p < .001$) serve to support that belief. Individuals become attached to the organization because their idealized beliefs about brotherhood are both salient and fluid in terms of individual priority.

Brotherhood based on accountability reflects one’s belief that individuals should be held responsible for their actions, particularly when those actions run counter to the standards and expectations of the group. Two instruments were used in this study to validate the schema of accountability. The Moral Disengagement (MD) Scale is a 32-item instrument developed by Bandura and his colleagues and measures the degree to which individuals fail to self-censure their actions and allow themselves to engage in transgressive behavior (Bandura et al., 1996). It stands to reason that individuals who focus on accountability are less likely to disengage from their moral self in order to support unethical behavior. Indeed, brotherhood based on accountability had a strong negative relationship with moral disengagement ($r = -.353, p < .001$). This was the strongest relationship between MD and of any of the four schema. The Unethical Pro-organizational Behavior scale is a 5-item instrument developed by Umphress et al. (2010) to measure behavior that is by definition unethical in nature, and is performed with the intent to benefit the organization in some manner. Ac-

countability also had a strong negative relationship with UPB ($r = -.207, p < .001$). This was the strongest relationship between UPB and any of the brotherhood schema.

Limitations

Results of any study should be considered in the context of its limitations. In all of the studies, random selection of participants and assignment to conditions was not possible given the institutional collaboration needed to implement this study. Purposive sampling based on institutional location, type (i.e. public vs. private), and size was considered when soliciting partnerships with institutional communities.

Exploratory factor analysis requests a degree of thoughtful researcher judgment (Henson & Roberts, 2006). Tabachnick and Fidell (1996) stated, "One of the problems with [factor analysis] is that there is no criterion variable against which to test the solution" (p. 636). Interpretation is left to the researcher and should be evaluated in parallel with the rigor of the method performed. The self-reported nature of the instrument also presents potential concerns related to validity.

This study relied on a national sample of students that was disproportionately white, so caution must be given when generalizing to all students. Because white students were oversampled, the study provides a closer look at the white fraternity member's conceptualization of brotherhood. Future research should specifically target culturally-based fraternities to determine if differences exist based on race.

Discussion and Implications for Research and Practice

This study has demonstrated that the construct of brotherhood within the college fraternity has unique schema that can be quantitatively measured, and that those schema are related to a variety of outcomes associated with the college fraternity experience. This research should be of tremendous practical value to both research-

ers studying the impacts of fraternity membership on college students, as well as student affairs practitioners who work with college fraternity populations.

A number of observations can be made from these findings. First, a number of negative outcomes appear to be associated with brotherhood based on solidarity and shared social experiences. As noted by Emirbayer (1995), solidarity within groups fosters strong emotions around so-called "sacred objects" associated with the group. In the focus groups in this study, solidarity was often discussed in conjunction with the emphasis on unity as part of fraternity new member programs. Combined with the finding that solidarity is most strongly correlated with hazing tolerance, it appears likely that hazing rituals may be among those "sacred objects" providing the glue that holds groups together. This would suggest that hazing may be more difficult to eradicate in groups measuring high on solidarity, as that hazing may be viewed as a key component of the chapter's identity.

Brotherhood based on shared social experiences also appears to have problematic influences. In addition to being strongly linked with alcohol use, it also had strong, positive correlations with moral disengagement, a construct closely linked with moral development (McCreary, 2012; Carroll, 2009). This confirms the findings of Derryberry and Thoma (2000), who suggested that the social networks inherent in the fraternal experience were a driving factor in reduced levels of moral judgment. Based on this, it is likely that groups who measure high in shared social experiences would be more likely to make decisions as a group based on conventional moral schema, particularly those centered around maintaining norms in order to achieve social status on campus.

Brotherhood based on belonging was strongly related to organizational identification (Umpress & Bingham, 2011). Similar constructs have been shown to drive retention and persistence within higher education (Hausmann et al.,

2009). As such, it appears likely that this schema is related to organizational retention, although additional research is necessary to be certain. If this hypothesis held true, it would be of significant benefit to practitioners interested in bolstering student and/or organizational retention.

As noted by Gelfand et al. (2004), accountability involves being answerable for actions and decisions within certain cultural contexts. The strong negative relationship between brotherhood based on accountability and unethical, pro-organizational behavior (Umphress et al., 2010) suggests that, at least within the context of a fraternity, a sense of being held responsible for your actions and decisions within the organization is a very powerful driver of behavior. This is of incredible significance to practitioners seeking to align organizational behavior with espoused values – by fostering increased levels of accountability within an organization, one may be able to reduce the unethical behavior stemming from that organization.

The present study provides a valuable framework for practitioners seeking to better align the fraternity experience with the respective goals and missions of the institutions at which they exist. Knowing that ideas about brotherhood are related to alcohol consumption, hazing tolerance, moral disengagement, and organizational identity and attachment, it seems logical that brotherhood may be a valuable tool with which to alter and improve the fraternal experience. It is our experience that fraternity members are hesitant to engage in open dialogue about difficult topics, such as hazing, but are eager to engage in dialogue about brotherhood. Using brotherhood as a developmental outcome may serve as a useful way to engage students in conversations regarding other, more difficult topics.

In exploring the four schema of brotherhood, we suspect that these ideas may not limit themselves to the college fraternity experience, but may in fact represent a larger organizational dynamic in highly salient groups. It is reasonable to think of a college football team, a religious group,

or a living/learning community fostering varying levels of solidarity, social experiences, belonging and accountability. We suggest an adaptation of the FBQ into an instrument that might measure these ideas in other salient groups so that comparisons can be made and we might better understand how these group dynamics affect the outcomes associated with group membership and whether differences exist between fraternity members and members of other salient groups on the fit of the hypothesized model or in the mean distribution of the four schema.

The students surveyed in this research were predominately white. Previous research (Kimbrough, 1997) has indicated that student in Black Greek Letter Organizations (BGLO's) are more likely to view the membership intake process as a rite of passage and an opportunity for potential members to demonstrate both loyalty to the organization and unity with other members of the organization, ideas that are closely aligned with our schema of solidarity. In our research, solidarity accounted for the smallest amount of variance in the overall brotherhood model. We suspect that, among BGLO's, solidarity may play a larger role in explaining members' conceptualizations of brotherhood, and future research should investigate whether the overall model of brotherhood proposed in this study varies based on race. This study might be replicated in culturally-centered fraternal organizations to gauge if the focus of the chapter might be influential in how students build and conceptualize brotherhood. In the same vein, this research was conducted exclusively with men's organizations. We have no doubts that many of the ideas behind schema of brotherhood measured by the FBQ are also present in the ideas of sisterhood held by sorority members. Future research should extend the study of brotherhood into a study of sisterhood within collegiate sororities.

This research has demonstrated that the FBQ should prove useful in studying a variety of areas within the fraternal experience. Our review of the literature would suggest studying broth-

erhood within the context of fraternity hazing, substance abuse, retention and persistence, unethical behavior, attachment and belonging, organizational satisfaction, moral development, and identity development. In particular, research suggests that organizations with high levels of accountability are more likely to produce ethical behavior (Beu & Buckley, 2001). While additional research is necessary, the present study suggests that moving fraternity members from a focus on the solidarity and social aspects of brotherhood towards a focus on the belonging and accountability aspects of brotherhood should result in a number of pro-social gains in the overall fraternity experience. Future research should determine how those advances in brotherhood

are best achieved.

This instrument also opens the doors to study the effect of interventions aimed at promoting healthier ideas of brotherhood, once we understand what healthy brotherhood is. Better understanding this basic tenant of the fraternity experience should provide researchers and practitioners with useful information that will allow for more depth in understanding the outcomes associated with membership in highly salient groups. It is likely that programs and interventions focused on the advancement of brotherhood will provide an alternative point of entry for student affairs practitioners looking to align the activities of modern-day college fraternities with their historical roots and espoused values.

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