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# Why Hazing? Measuring the Motivational Mechanisms of Newcomer Induction in College Fraternities

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## Abstract

Hazing behaviors as a part of group initiations have been theorized to contribute to a sense of group solidarity, to ensure loyalty and commitment of group members, to teach group-relevant skills and attitudes to group members, and to reinforce the social hierarchy within groups. In a survey of members of an international college fraternity ( $n=2833$ ), researchers propose and test a four-dimensional model of hazing motivation. Using exploratory factor analysis, the proposed four-factor model explains 74 percent of the overall variance and confirmatory factor analysis demonstrated acceptable model fit. Correlation and regression analysis suggested that social dominance-motivated hazing is strongly associated with hazing tolerance, moral disengagement, and a variety of measures related to organizational commitment and attachment.

## Keywords

Hazing – fraternity – solidarity – social dominance – commitment

## 1 Introduction

Why do teams and organizations haze their newest members? This question has puzzled social psychologists, anthropologists, and fraternity and sorority

advisors for decades. Hazing is not a problem limited to fraternities and sororities (Allen & Madden, 2008). Newcomer hazing is common across societies and cultures (Cimino, 2011; Herdt, 1998), yet in the United States, hazing resulting in severe injury or death appears to be more common in college fraternities (and to a lesser degree, sororities) than in any other type of organization (Nuwer, 1999). Understanding why fraternities and sororities engage in this behavior could be the most crucial step in preventing or at least reducing the severity of hazing in these organizations.

The most comprehensive attempts at explaining the motivational mechanisms of hazing are those undertaken by Cimino (2011, 2013) as well as Keating, Pomerantz, Pommer, Ritt, Miller, and McCormick (2005). Cimino (2011) advanced three sociological macro-theories that have been used to explain organizational hazing: solidarity, commitment, and social dominance. Cimino synthesizes those macro-theories into one evolutionary theory of hazing – that hazing is designed to prevent group newcomers from exploiting the automatic benefits of group membership (2011). In critiquing the merits of the three macro-theories, Cimino (2011) juxtaposes them against one another as seemingly contradictory, without allowing for the possibility that perhaps each is true in different situations among different groups, as suggested by Keating et al. (2005). Keating et al. (2005) suggested that different groups haze newcomers for different reasons, demonstrating that hazing among athletic teams tended to be more physical in nature, while hazing in fraternities and sororities was more likely to involve deviant behavior designed to build social attachment to the group, reinforce group hierarchy, or teach group-relevant skills and attitudes. Others have suggested that hazing also serves groups by allowing them to ensure and reinforce masculine behaviors or toughness through a challenging rite of passage (DeSantis, 2007; Kimbrough, 1997; Parks, 2014), and that hazing is designed to bind multi-generational groups over time through the maintenance of shared traditions (Keating et al., 2005; Nuwer, 2001).

Cimino's work, while incredibly useful in advancing a universal, context-neutral, individual-level theory of hazing motivation, does not entirely explain how groupthink (Janis, 1982) may influence hazing motivation within highly salient groups. Individual-level motivators that often predict behavior have been found to be less predictive among members of highly salient groups, like fraternities, where group culture often supersedes individual-level motivators as a predictor of behavior. For example, Corprew and Mitchell (2014) found that individual measures of hypermasculinity predicted rape-supportive attitudes among the general student population, but did not predict those same attitudes among fraternity members, suggesting that group culture, not individual-level hypermasculine traits, was the primary predictor of rape-supportive attitudes among fraternity men. It is reasonable to assume that group culture

may also be the stronger predictor of attitudes towards hazing, but Cimino's (2011, 2013) work does not allow for that possibility.

Keating et al. (2005) compared the different hazing behaviors of fraternities and sororities with student-athletes but did not fully unpack the motivations behind those behaviors. As noted by Keating et al. (2005) "from a functional perspective, different types of initiation experiences seem designed to preserve group features and cultivate group allegiance in particular ways" (p. 106). This study seeks to extend the work of Cimino (2011, 2013) and Keating et al. (2005) by seeking further understanding of the group-level motivators for newcomer induction. Specifically, this study seeks to develop and validate a measure of hazing motivation, which could then be used to compare hazing motivation at both the individual and group levels, testing four possible motivators for hazing derived from the literature: solidarity, loyalty/commitment, social dominance, and instrumental education.

## 2 Review of Literature

The relevant literature reviewed in this study is that which discusses the four hypothesized group-level hazing motivators: solidarity, loyalty/commitment, social dominance, and instrumental education.

### 2.1 *Solidarity*

The notion of hazing being designed to promote group solidarity is rooted in the work of Aronson and Mills (1959) and the study of group solidarity (Durkheim, 1951). Aronson and Mills postulated that severe initiation rituals were designed to create cognitive dissonance in the mind of the initiate. They suggested that this dissonance could be resolved in one of two ways: the initiate could convince himself that the initiation was not very unpleasant, or the initiate could exaggerate the positive characteristics of the group and minimize its negative aspects. Their study demonstrated that the latter happened with regularity – individuals who were subjected to a more embarrassing group initiation reported much more liking for the group when compared to those who endured no embarrassment or only moderate embarrassment (Aronson & Mills, 1959). Along these lines, Keating et al. (2005) also suggested that hazing was designed to create group dependence, a form of solidarity. Hazing as a means of establishing solidarity has also been proposed by some scholars (Alcorta & Sosis, 2005; Parks & Brown, 2005).

Durkheim discussed the connections between human emotion, ritualistic symbols, and group solidarity, noting the emotion generated through rituals such as hazing were instrumental in the binding of individuals to the

collective. Emirbrayer (1996), discussing the usefulness of Durkheim's ideas on understanding group solidarity, 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).

McCreary and Schutts (2015) demonstrated that attitudes related to the solidarity elements of brotherhood among fraternity members (i.e. “I’ve got your back and you’ve got mine”) were strongly related to attitudes about the severity of hazing that should take place within an organization. Their study found correlations between higher solidarity attitudes and the tolerance of more severe forms of hazing – specifically within fraternities. This finding suggests that if solidarity is the most salient form of brotherhood within a fraternity, then hazing is very likely to be used as the primary mechanism by which that solidarity is instilled in newcomers to the group. Not only does a challenging initiation create cognitive dissonance that results in higher valuation of the group as suggested by Aronson and Mills (1959), but it also requires new members to work together to accomplish tasks (Nuwer, 2001) and instills a sense of accomplishment (Allan & Madden, 2008), both of which contribute to feelings of group solidarity.

## 2.2 *Loyalty/Commitment*

Thomas Paine famously quipped “that which we obtain too cheap, we esteem too lightly” (Paine, 1776). Along these lines, hazing may also be designed as a test to ensure that newcomers to a group are fully committed to the group and will be loyal group members once fully initiated. Cimino’s universal theory of hazing motivation (2011), which suggests that hazing is designed to prevent freeloading, is intricately intertwined with the notion of hazing designed to ensure the commitment of potential members. Before Cimino’s automatic benefits are bestowed on a new member, there is first a test of loyalty designed to ensure that the newcomer is fully committed to the group, its aims, and its purposes.

The notion of hazing being designed to instill and ensure the loyalty and commitment of newcomers are well-represented in the literature. Jones (2004) has suggested that fraternity pledges subject themselves to hazing to demonstrate their worth to the organization they are pledging. Smith (1964) suggested

that difficult and lengthy initiations are designed to allow fraternity pledges to demonstrate their commitment to the group. As noted by Cimino (2011), many hazing rituals often provide no direct benefit to the recipient of the hazing, suggesting that continued participation in these activities implies some level of commitment. While Cimino (2011) doubts whether subjecting oneself to being screamed at by a group of angry men is an accurate indicator of one's long-term loyalty to the group, fraternity members report that it makes them feel more like part of the group (Allen & Madden, 2008). Even outside the sphere of fraternities, researchers have commented that gang initiations are designed to weed out the weak (Vigil, 1996) and that hazing among sports teams is designed to have rookies demonstrate their commitment to the team (Johnson, 2000).

### 2.3 *Social Dominance*

Both Cimino (2011) and Keating et al. (2005) investigate the theory that some hazing is designed to reinforce group hierarchy. As noted by Cimino (2011), the idea that hazers are seeking to establish their authority over newcomers is well-documented in the literature. Nuwer (2001) traced the history of hazing in American colleges to the tradition of "fagging" in English institutions, where new students were expected to perform errands and complete tasks for older members in a show of deference to their authority. Durkheim (1912) noted that hazers seek to establish an aura of superiority and authority over group newcomers. The commonality of these practices are particularly common in athletics, as rookies are often forced to carry equipment, clean locker rooms, and perform other acts of labor (Nuwer, 2001). Bryshun (1997) suggested that these tasks are assigned to rookies as a way for veterans to consolidate their positions of authority over new members of the team. Similarly, Robidoux (2001) suggested that veterans on sports teams flaunt their authority over rookies through hazing designed to reinforce the social hierarchy on the team.

Keating et al. (2005) found that hazing activities associated with social deviance were more likely in groups with highly differentiated levels of power between leaders and new members, suggesting that this hazing was designed to reinforce group hierarchy and maintain social control. Keating et al. (2005) also found that men who were subjected to psychologically uncomfortable initiations were more likely to rate the members of the group as more powerful when compared to men whose initiations were free of discomfort. Moreland and Levine (1989) also suggest that a function of initiation is to assimilate newcomers to the organization's hierarchical structure. Allen and Madden (2008) found that personal servitude and errand running was a hazing behavior commonly reported among fraternity and sorority members, a behavior that is

associated with social dominance (i.e., first-year students do whatever we tell them to do).

#### 2.4 *Instrumental Education*

Keating et al. (2005) suggest that instructing group members on important group-relevant skills and attitudes is an essential outcome of hazing. They note that the success of athletic teams often depends on the physical endurance of team members, and confirmed that sports teams are more likely than fraternities or sororities to use hazing practices designed to promote physical endurance. Similarly, fraternities and sororities require the establishment of distinct and exclusive social networks, and Keating et al. (2005) found their initiation activities to comprise mainly of social deviance designed to emphasize the uniqueness of in-group membership. Nuwer (2001) and DeSantis (2007) have observed that fraternities use hazing as a mechanism of accountability to ensure that new members learn the information they are required to learn before initiation, such as fraternity history, creeds, and the names and personal details of older brothers. New members who do not take such lessons seriously are likely to be singled out for additional or more severe hazing (DeSantis, 2007; Nuwer, 2001). Allen and Madden (2008) found that students subjected to hazing often report gains in important skills as a result of their hazing experiences, notably improved time management and study skills.

### 3 **Methods**

#### 3.1 *Participants*

Data were collected in 2016 from a survey of the undergraduate members of one men's inter/national fraternity. The fraternity is a member of the North American Interfraternity Conference. Questionnaires were distributed to every member of the organization. Responses were obtained from all 81 of the fraternity's chapters in North America. The researchers sent 3,820 invitations to participate and received 2,833 valid responses (response rate = 74.1%). By chapter, the number of responses ranged from four to 93. By ethnicity, the sample was 78.9% White, 6.1% Asian, 5.9% Hispanic/Latino, 2.5% African-American, and 6.5% Other. By class year, the sample was 22.1% freshman, 29.8% sophomore, 26.8% junior, and 21.3% senior. First-generation students made up 13.3% of the sample. Legacy members (those whose close relative was a member of the fraternity) made up 8.7% of the sample. Finally, the sample was diverse on the level of leadership members reported having within their chapter: 34%

were general members, 16.7% were committee members, 19.7% were committee chairs, and 29.6% were executive board members.

### 3.2 *Measures*

All hazing rationale items were measured using a 5-point agreement scale (1=strongly disagree; 5=strongly agree). The researchers selected construct items that were theoretically and conceptually related to the various dimensions of hazing rationale beliefs based on the extant literature. An initial pool of 18 items was generated for purposes of scale construction. The researchers wrote all items based on a review of the extant literature. Each item was worded to correspond with one of the conceptualizations of hazing motivation described heretofore. The order of the items on the questionnaire was random. No items were negatively worded and reverse-scored. In addition to the hazing rationale items, the researchers also measured a variety of other constructs to establish external validity. Except for the hazing tolerance item, all scales were 5-point agreement scales (1=strongly disagree to 5=strongly agree). These measures included:

**Hazing tolerance.** A single question based on the work of Ellsworth (2004). The question presents a series of progressively more intense activities that students increasingly agreed were considered hazing. The item is framed to assess at what activity on the scale an individual would leave the organization participation were expected or required.

**Solidarity brotherhood.** A 5-item scale from McCreary and Schutts (2015) that assesses the support and unity dimension of fraternal brotherhood. Cronbach's alpha in this study was .77.

**Belonging brotherhood.** A 5-item scale from McCreary and Schutts (2015) that assesses the deep meaningful connections dimension of fraternal brotherhood. Cronbach's alpha in this study was .92.

**Accountability brotherhood.** A 5-item scale from McCreary and Schutts (2015) that assesses the personal and group adherence to shared expectations dimension of fraternal brotherhood. Cronbach's alpha in this study was .88.

**Affective organizational commitment.** A 6-item scale from Meyer and Allen (1991) defined as the psychological attachment and emotional connection that a person feels to their organization. Cronbach's alpha in this study was .87.

**Normative organizational commitment.** A 6-item scale from Meyer and Allen (1991) defined as the psychological attachment and intrinsic sense of obligation that a person feels to their organization. Cronbach's alpha in this study was .83.

**Organizational identification.** A 6-item scale from Edwards and Peccei (2006) that assesses the degree to which the organization is a major part of a person's social identity. Cronbach's alpha in this study was .88.

**Moral disengagement.** An 8-item scale from Detert, Klebe Trevino, and Sweitzer (2008) that is an adaptation of Bandura, Barbaranelli, Caprara, and Pastorelli's (1996) scale that assesses the extent to which an individual can rationalize their unethical or amoral actions. Cronbach's alpha in this study was .89.

**Need for cognition.** An 18-item scale from Cacioppo and Petty (1982) that refers to an individual's tendency to seek, acquire, process, and reflect on information. Cronbach's alpha in this study was .89.

**Self-esteem.** A 10-item scale from Rosenberg (1965) that measures global self-worth. Cronbach's alpha in this study was .89.

**Positive relations with others.** A 9-item scale from Ryff and Keyes (1995) that assesses the extent to which individuals engage in mature and healthy relationships with others. Cronbach's alpha in this study was .89.

## 4 Results

Two primary steps were conducted to determine the reliable factor structure of the hazing rationale scale. First, an exploratory factor analysis (EFA) was conducted on the 18 proposed items using a random half of the sample. SPSS (version 24) was used to conduct the exploratory factor analysis. The optimal factor structure that resulted from the EFA was then cross-validated on the remaining half of the sample using confirmatory factor analysis (CFA). The CFA analyses were conducted using MPlus (version 7). The results of the EFA and CFA are presented in Table 1.

TABLE 1 Results from EFA and CFA on random halves of the sample

	EFA <sup>a</sup>	CFA <sup>b</sup>
<b>Factor 1: Instrumental Education</b>		
1. Educating Associate members shows them how our chapter works.	0.78	0.87 (0.25)
2. It is important for Associate members to learn about the expectations of membership.	0.89	0.90 (0.19)
3. Educating Associate members is most effective when it teaches them about chapter expectations.	0.84	0.82 (0.33)

TABLE 1 Results from EFA and CFA on random halves of the sample (*cont.*)

		EFA <sup>a</sup>	CFA <sup>b</sup>
4.	It is important to teach Associate members what they can and cannot do as part of the chapter.	0.81	0.88 (0.23)
5.	Associate members should be able to demonstrate what it means to be a contributing member of our chapter.	0.78	0.89 (0.20)
<b>Factor 2: Social Dominance</b>			
1.	I have something that Associate members of our chapter want, and I have the power to make them do anything to get it.	0.78	0.76 (0.42)
2.	I have the right to treat Associate members as I please.	0.87	0.86 (0.26)
3.	It is important for Associate members of our group to prove how tough they are.	0.92	0.89 (0.21)
4.	I like it when Associate members of our group demonstrate physical toughness.	0.71	0.72 (0.48)
<b>Factor 3: Solidarity</b>			
1.	Associate members who make it through will be thankful in the end.	0.47	0.75 (0.45)
2.	The bonding of the Associate members is the most important part of our Associate member process.	0.80	0.79 (0.37)
3.	Our Associate member activities are designed to bring people together.	0.82	0.91 (0.18)
4.	One of the main outcomes of our Associate member process is to unify the group.	0.92	0.91 (0.17)
<b>Factor 4: Loyalty &amp; Commitment</b>			
1.	Associate members must demonstrate their loyalty to the chapter.	0.75	0.89 (0.21)
2.	Associate members must show that they are committed to the chapter.	0.72	0.91 (0.17)
3.	It is important for Associate members of our chapter to place the chapters' needs over their own.	0.49	0.42 (0.83)
4.	Associate members who aren't 100 percent committed to the chapter won't make it.	0.50	0.42 (0.82)

TABLE 1 Results from EFA and CFA on random halves of the sample (*cont.*)

	EFA <sup>a</sup>	CFA <sup>b</sup>
5. It is important that Associate members show how much they value membership in our chapter.	0.64	0.78 (0.39)

Notes: EFA = exploratory factor analysis, CFA = confirmatory factor analysis

a Values are factor loadings from the pattern matrix after oblique rotation generated from principal axis factoring

b Values are standardized estimates,  $\lambda$ , with respective item error variance ( $\delta$ ) generated from MLMV estimation CFA

#### 4.1 *Rationale for EFA*

A principal axis factor analysis was conducted on the 18 items with using a random half of the sample. Principal axis factoring was appropriate because the items are hypothesized to reflect the underlying rationale beliefs that students' use to justify hazing behaviors. We used an oblique rotation strategy (direct oblimin) to account for the relationships among the factors. Moreover, we hypothesized that the latent rationale beliefs might be used in combination with each other (i.e., the underlying beliefs might be inter-related to some extent). Fabriger, Wegener, MacCallum, and Strahan (1999) commented that oblique rotations are appropriate even if the factors are uncorrelated. Beavers, Lounsbury, Richards, Huck, Skolits, and Esquivel (2013) recommended that oblique strategies be used at first. We do not have strong theoretical evidence to suggest that the hypothesized rationale beliefs are not related to one another and therefore contend that an oblique rotation strategy will best display the true relationship among the factors.

#### 4.2 *EFA Results*

The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis,  $KMO=.92$ , and all  $KMO$  values for individual items were greater than .83, which was well above the acceptable limit of .50 (Field, 2013). Item communalities ( $h^2$ ) after extraction ranged from .35 to .85. Four factors emerged with eigenvalues greater than 1.00 and in combination explained 74.71% of the variance. The scree plot showed inflections that would justify retaining four factors. Based on the recommendation of Hensen and Roberts (2006), we also conducted a parallel analysis and minimum average partial test. Results of both tests further confirmed a four-factor structure. After accounting for

shared variance, the structure matrix revealed no significant cross-correlations among items and multiple factors. The items that clustered on the same factor suggested factor 1 represented “instrumental education” ( $EV=7.70$ , 42.81% of total variance); factor 2 represented “social dominance” ( $EV=3.53$ , 19.61% of total variance); factor 3 “solidarity” ( $EV=1.13$ , 6.27% of total variance); and factor 4 “loyalty & commitment” ( $EV=1.08$ , 6.02% of total variance). The factors all had strong internal consistency reliability ( $\alpha > .80$ ). The overall scale  $\alpha$  was .86.

### 4.3 *Rationale for CFA*

Consistent with traditional CFA approaches, we correlated the latent factors and uncorrelated the item error variances. Factor loadings were fully estimated, meaning the latent factor variances were each fixed at 1.0. Model adequacy was assessed relative to several benchmarks:  $\chi^2/df \leq 5.0$  (Schumacker & Lomax, 2005); CFI  $\geq .95$  (Hu & Bentler, 1999); root mean square error of approximation (RMSEA)  $\leq .070$  (Hu & Bentler, 1999); and standardized root mean square residual (SRMR)  $\leq .080$  (Hu & Bentler, 1999). The data analyzed consisted of the participants’ raw scores and were analyzed using robust maximum likelihood estimation (MLMV) to account for any non-normality in the random half of the sample data. MLMV estimation produced a weighted root mean square residual statistic (WRMR).

### 4.4 *CFA Results*

The null model was a terrible fit to these data:  $\chi^2(153, n=1422) = 8761.83, p < .001, \chi^2/df=57.23; CFI=.00; RMSEA=.199 [.195-.202]; SRMR=.390; WRMR=15.59$ . A single-factor model (i.e., all items are just hazing rationale broadly, with no underlying factors) was an improvement over the null model, but still unacceptable:  $\chi^2(135, n=1422) = 3548.75, p < .001, \chi^2/df=26.29; CFI=.60; RMSEA=.133 [.130-.137]; SRMR=.166; WRMR=7.52$ .

The four-factor model generated from the EFA fit these data significantly better than the null model:  $\chi^2(129, n=1422) = 712.53, p < .001, \chi^2/df=5.52; CFI=.93; RMSEA=.056 [.052-.060]; SRMR=.080; WRMR=3.74$ . To improve model fit, we examined 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 within the loyalty & commitment factor was correlated,  $\theta_{3,4} (r=.48)$ . The pair of items were “It is important for associate members of our chapter to place the chapters’ needs over their own” and “Associate members who aren’t 100 percent committed to the chapter won’t make it.” The resulting fit indices were an improvement over the unmodified version:  $\chi^2(128, n=1422) = 556.57, p < .001, \chi^2/df=4.34; CFI=.95,$

RMSEA=.049 [.044-.053], SRMR=.075, WRMR=3.56. Table 1 also presents the factor loadings from the CFA. As with the previous analysis, all of the had high Cronbach's  $\alpha$  scores (>.80). The overall scale  $\alpha$  was .88.

#### 4.5 *Construct Validity*

A review of the literature suggested that the factors were associated with several external measures. We created factor scores by averaging item responses based on the established factor structure. Factor scores were created in the complete sample ( $n=2833$ ). We evaluated factor scores against scores from 11 external measures to provide further sources of evidence for the validity of the hazing rationale construct scores. We adopt the modern, unitary perspective advanced by Messick (1989) and draw on the recommendations of Cisek, Rosenberg, and Koons (2008).

Our review of the relevant literature informed the development of the item statements. The statements at face value, appear to represent the underlying factors. Furthermore, the relevant aspects of content for each factor appear to be present in the items developed. The researchers presented the original item statements to several content experts in their profession and received consensus that the items reflected the underlying nature of the content described within the literature.

Structural evidence also provided valuable information for validity conclusions. The factor structure, as represented by strong factor loadings in the EFA and CFA suggested the internal structure of the factors are strong. Moreover, the item-total correlations and Cronbach's alpha values (which also provide reliability evidence) further informed the structural element of validity.

Having confidence in the structure and content, we next evaluated the 11 external measures for further evidence of construct validity. The correlations among the factors and external measures add information about the convergent and discriminant nature of the hazing rationale scores. Regression analyses revealed that factor 1 "instrumental education" was predicted by nine of the 11 external variables. Factor 2 "social dominance" was predicted by six of the 11 external variables. Factor 3 "solidarity" was predicted by ten of the 11 external variables. Lastly, factor 4 "loyalty & commitment" was predicted by eight of the 11 variables. Results of multiple regression analyses are summarized in Table 2. The  $R^2$  values for each factor ranged from .27 to .47.

We also calculated the average variance extracted (AVE) statistic for each factor (Fornell & Larcker, 1981). Zhang, Wang, and Owen (2015) stated that convergence could be demonstrated by factor AVE statistics exceeding 0.50. The AVE statistics for each factor were: instrumental education (.76), social dominance (.66), solidarity (.35), loyalty & commitment (.42). Because the

TABLE 2 Results from multiple regression analyses for each of the four factors from the complete sample

Variable	Correlation w/ factor	Beta	t	p
<b>F1. Instrumental Education</b> ( $R^2 = .47$ , $\sqrt{AVE} = .87$ )				
Organizational identification	.57	.29	15.01	<.001
Accountability brotherhood	.54	.25	13.05	<.001
Normative commitment	.48	.13	6.62	<.001
Self-esteem	.42	.13	6.47	<.001
Need for Cognition	.35	.11	6.65	<.001
Belonging brotherhood	.38	-.07	-3.47	.001
Moral disengagement	-.32	-.06	-3.91	<.001
Positive relations with others	.40	.05	2.39	.017
Hazing tolerance	-.07	.03	2.13	.033
Solidarity brotherhood	.23	.02	1.20	.231
Affective commitment	.47	.01	0.66	.509
<b>F2. Social Dominance</b> ( $R^2 = .34$ , $\sqrt{AVE} = .81$ )				
Moral disengagement	.50	.34	18.41	<.001
Hazing tolerance	.32	.16	9.93	<.001
Affective commitment	-.30	-.14	-5.74	<.001
Solidarity brotherhood	.11	.13	7.04	<.001
Positive relations with others	-.32	-.12	-5.44	<.001
Need for Cognition	-.34	-.11	-6.28	<.001
Organizational identification	-.15	.04	1.82	.069
Accountability brotherhood	-.22	-.03	-1.25	.213
Self-esteem	-.26	.02	0.91	.365
Normative commitment	-.17	.01	0.57	.572
Belonging brotherhood	-.17	.01	0.30	.765
<b>F3. Solidarity</b> ( $R^2 = .42$ , $\sqrt{AVE} = .59$ )				
Organizational identification	.52	.22	10.94	<.001
Solidarity brotherhood	.39	.21	12.14	<.001
Self-esteem	.40	.12	5.95	<.001
Accountability brotherhood	.45	.11	5.55	<.001
Normative commitment	.46	.11	5.38	<.001

TABLE 2 Results from multiple regression analyses (*cont.*)

Variable	Correlation w/ factor	Beta	<i>t</i>	<i>p</i>
Positive relations with others	.40	.09	4.12	<.001
Hazing tolerance	.03	.07	4.73	<.001
Need for Cognition	.25	.06	3.45	.001
Moral disengagement	-.24	-.04	-2.32	.021
Affective commitment	.46	.05	2.18	.029
Belonging brotherhood	.41	-.02	-0.95	.341
<b>F4. Loyalty &amp; Commitment (<math>R^2 = .27</math>, <math>\sqrt{AVE} = .65</math>)</b>				
Organizational identification	.38	.22	9.97	<.001
Solidarity brotherhood	.35	.19	10.30	<.001
Normative commitment	.35	.19	8.60	<.001
Accountability brotherhood	.29	.13	5.96	<.001
Moral disengagement	.05	.13	6.84	<.001
Hazing tolerance	.16	.12	7.25	<.001
Self-esteem	.18	.11	4.78	<.001
Belonging brotherhood	.22	-.09	-3.90	<.001
Affective commitment	.23	-.04	-1.68	.094
Positive relations with others	.13	-.04	-1.60	.109
Need for Cognition	.04	-.03	-1.57	.116

AVE statistics were below 0.50 in two of the factors, we reviewed the factor loadings and determined there were no significant concerns. Zhang, Wang, and Owen (2015) also stated that the discriminant nature of scores and interpretations could be demonstrated by observing correlations among the factors and the external measures smaller than the square root of the factor AVE statistic. Finding support for such provides evidence of the uniqueness of the factors and the discriminant nature of the factor itself. The only concern was the correlation between “instrumental education” ( $\sqrt{AVE}=.87$ ) and “solidarity” ( $\sqrt{AVE}=.59$ ),  $r=.74$ ,  $p<.001$ .

#### 4.6 Final Scale Descriptive Statistics

Having established acceptable factor analysis results and multiple sources of validity evidence, we sought to summarize the final scale. Item and factor

means, standard deviations, and item-total correlations from the complete sample ( $n=2833$ ) are presented in Table 3. Factor correlations from the EFA and

TABLE 3 Item and factor means, standard deviations and item-total correlations from the complete sample

	<i>M</i>	<i>SD</i>	Item-total correlation
<b>Factor 1: Instrumental Education (<math>\alpha = .94</math>)</b>	<b>4.12</b>	<b>0.67</b>	
1. Educating Associate members shows them how our chapter works.	4.12	0.74	.83
2. It is important for Associate members to learn about the expectations of membership.	4.18	0.73	.88
3. Educating Associate members is most effective when it teaches them about chapter expectations.	4.06	0.76	.81
4. It is important to teach Associate members what they can and cannot do as part of the chapter.	4.12	0.75	.84
5. Associate members should be able to demonstrate what it means to be a contributing member of our chapter.	4.11	0.74	.85
<b>Factor 2: Social Dominance (<math>\alpha = .88</math>)</b>	<b>2.17</b>	<b>0.85</b>	
1. I have something that Associate members of our chapter want, and I have the power to make them do anything to get it.	2.22	0.99	.71
2. I have the right to treat Associate members as I please.	1.99	0.93	.79
3. It is important for Associate members of our group to prove how tough they are.	2.11	1.00	.82
4. I like it when Associate members of our group demonstrate physical toughness.	2.35	1.06	.67
<b>Factor 3: Solidarity (<math>\alpha = .90</math>)</b>	<b>4.03</b>	<b>0.72</b>	
1. Associate members who make it through will be thankful in the end.	4.02	0.80	.69

TABLE 3 Item and factor means, standard deviations and item-total correlations (*cont.*)

		<i>M</i>	<i>SD</i>	Item-total correlation
2.	The bonding of the Associate members is the most important part of our Associate member process.	3.93	0.87	.76
3.	Our Associate member activities are designed to bring people together.	4.07	0.77	.82
4.	One of the main outcomes of our Associate member process is to unify the group.	4.07	0.80	.84
<b>Factor 4. Loyalty &amp; Commitment (<math>\alpha = .81</math>)</b>		<b>3.46</b>	<b>0.68</b>	
1.	Associate members must demonstrate their loyalty to the chapter.	3.79	0.88	.70
2.	Associate members must show that they are committed to the chapter.	3.95	0.80	.67
3.	It is important for Associate members of our chapter to place the chapters' needs over their own.	2.88	1.01	.50
4.	Associate members who aren't 100 percent committed to the chapter won't make it.	2.88	0.97	.51
5.	It is important that Associate members show how much they value membership in our chapter.	3.77	0.83	.67

*Notes:*  $n=2833$

CFA are presented in Table 4. The EFA values are displayed above the diagonal, whereas the CFA results are displayed below the diagonal.

## 5 Discussion

A reliable and valid measure of hazing rationale beliefs is needed to complement the extensive body of research about hazing in general. This study extended previous conceptual advances and resulted in a clearer picture of the motivational mechanisms of fraternity members. Factor analysis was a logical

TABLE 4 Factor correlations from EFA and CFA results

	Instrumental education	Social dominance	Solidarity	Loyalty & commitment
Factor 1: Instrumental Education	—	-.36	.64	.38
Factor 2: Social Dominance	-.21	—	-.13	.26
Factor 3: Solidarity	.73	-.10	—	.50
Factor 4: Loyalty & Commitment	.65	.13	.63	—

Notes: EFA = exploratory factor analysis, CFA = confirmatory factor analysis

Correlations from EFA results are presented above the diagonal

Correlations from CFA results are presented below the diagonal

next step because it refines the broader rationale concepts by quantifying the underlying attitudes. Moreover, evaluating emergent factors about other concurrently measured concepts provides support for the validity and uniqueness of the factor labels and scales.

While the proposed hazing rationale scale represents a promising step forward in quantifying the motivational mechanisms of hazing within groups, explaining nearly 75% of the overall variance in hazing motivation, the proposed model fails to account for 25% of the variance, indicating that other possible motivators exist. In reviewing the extant literature, two likely candidates emerge.

Hazing may be motivated by the desire to have students demonstrate masculinity or mental/physical toughness. The idea of hazing as a proving ground for prospective members to demonstrate their levels of masculinity or mental or physical toughness is well-documented in the literature. DeSantis (2007) has argued that toughness in and of itself is the purpose of the fraternity initiation process and provided the rationale for fraternity hazing. Hazing that is particularly violent in nature, designed to provide a rite of passage, has been noted as particularly problematic in culturally-based fraternities (Mangan, 2015). Similarly, Kimbrough (1997) has suggested that hazing in black Greek-letter organizations (BGLO's) is often viewed as a rite of passage designed to demonstrate toughness, and tolerance of pain in the form of branding or paddling is often expected as part of that experience. Hazing in historically black fraternities is also undergirded by the need to establish a strong black masculine identity among members, and it has been suggested that homophobia

may be at the root of this need (Parks, 2014). Hazing in fraternities has also been described as a form of sadomasochistic, homoerotic bonding in which new members are expected to sacrifice their masculinity to become part of the group (Finley & Finley, 2007). Allen and Madden (2008) found that students subjected to hazing often reported that being subjected to hazing made them feel stronger.

Also, hazing may also be motivated by the need to maintain traditions within groups, promoting inter-generational solidarity (as opposed to intra-generational solidarity, as measured in this study) within multi-generational groups. Nuwer (1999) has suggested that hazing is designed, in part, to promote group identity through a passing down of certain hazing traditions in the form of sacred rites of passage. Leemon (1972), in his unique ethnographic examination of fraternity hazing, suggested that hazing serves as a rite of passage by which organizations promote continuity. Future research of this nature should consider these two candidates as possible explanations of the 25 percent of variance left unexplained in the present study.

The four factors of hazing motivation identified in this study are strongly related to many of the other constructs measured in this study, and these relationships are quite illuminating. Several noteworthy relationships among these data exist. First, the correlations between the four factors of hazing motivation and the hazing tolerance measure indicate that those groups with a high social dominance mentality ( $r=.32$ ) are more likely to engage in more severe forms of hazing than those groups with high loyalty and commitment ( $r=.16$ ), solidarity ( $r=.03$ ) or instrumental education ( $r=-.07$ ) mentalities. This finding is important, particularly for prevention practitioners working with teams and organizations involved or potentially involved in hazing, as it suggests that a team culture involving strong social dominance attitudes is one in which severe hazing is most likely to manifest.

Social dominance also demonstrated a very strong relationship with moral disengagement ( $r=.50$ ). In fact, of the four motivational mechanisms, social dominance is the only one with a significant positive correlation with moral disengagement. Loyalty/commitment hazing demonstrated no significant relationship with moral disengagement ( $r=.03$ ), and both solidarity ( $r=-.24$ ) and instrumental education ( $r=-.32$ ) were inversely correlated with moral disengagement. Teams, organizations, and groups with a strong social dominance mentality are more likely to rationalize and justify unethical behavior (including hazing) than those groups with low social dominance scores.

Lastly, social dominance, unlike the other three motivations of hazing measured in this study, had inverse relationships with key aspects of organizational commitment and attachment. It was shown to be inversely correlated

with affective commitment ( $r=-.30$ ), normative commitment ( $r=-.17$ ), organizational identification ( $r=-.15$ ), belonging ( $r=-.17$ ), self-esteem ( $r=-.26$ ) and positive relations with others ( $r=-.32$ ). Social dominance was the only motivational mechanism measured in this study to have inverse relationships with these constructs, suggesting that a team or organization with a strong social dominance mindset is less likely to have committed members who feel a strong sense of attachment to the organization compared to groups with a low social dominance mindset.

These findings related to social dominance – when viewed collectively – have profound implications, particularly for school administrators seeking to address hazing culture within teams and organizations. These data would suggest that, in addition to examining the perceived severity of the hazing (i.e., propensity to result in physical or emotional injury), administrators should also examine the underlying motivation behind these behaviors. Social dominance-motivated hazing, even if not seemingly severe, may be indicative of a problematic group culture in which anti-social behaviors, including more severe forms of hazing, are more likely to eventually manifest. In addressing and sanctioning hazing behavior, administrators should be keenly alert for signs of social dominance mentality within a group, understanding that such a motivation is likely to carry with it additional problematic baggage within the team or organization demonstrating that behavior.

On the other hand, these data would suggest that hazing motivated by teaching new group members essential lessons about the team or organization (instrumental education) could be considered altruistic. As this motivation was inversely correlated with both moral disengagement ( $r=-.32$ ) and hazing tolerance ( $r=-.07$ ), and positively associated with measures of organizational commitment and attachment, it could be argued that groups engaged in hazing for instrumental education be handled differently from others, mainly from groups engaged in social dominance hazing. Conceptually, it would seem that groups or individuals with high motivation for instrumental education would be more open to educational interventions designed at redirecting any hazing behavior, although additional qualitative research would be necessary to determine whether or not this was true.

## 6 Limitations

While this study employed a robust national sample and a strong response rate, the demographics of our sample present some limitations. First, our sample was overwhelmingly white and included only members of a single

historically white fraternity, limiting our ability to generalize these findings to other groups. Future studies should seek to replicate these findings through invariance testing with culturally-based fraternities, sports teams and other groups commonly associated with hazing to determine if the motivations measured in this study are universal or whether they vary between different types of groups. Also, the study only examined the hazing motivations of college-aged men. Are these motivations different among adolescents, who are increasingly engaged in hazing behaviors (Alan & Madden, 2007), or with women? Again, invariance testing on these populations should be employed to determine whether differences exist.

Lastly, the methodological methods used in this study, namely exploratory and confirmatory factor analysis, carry with them inherent limitations. Exploratory factor analysis requires a degree of thoughtful judgment on the part of the researcher (Henson & Roberts, 2006). Tabachnick and Fidell (1996) state, "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 in performing these analyses and, as such, results and conclusions should be evaluated in parallel with the rigor of the method performed.

## 7 Implications for Research and Practice

The findings of the present study should prove beneficial to ongoing research related to hazing motivation by extending the qualitative work of both Cimino (2011, 2013) and Keating et al. (2005) through the development of a quantitative measure of hazing motivation. The instrument developed in the present study can be used to better understand hazing motivation at the individual, organizational, and campus levels. Future research should include hierarchical linear modeling designed to understand the impact that campus and/or organizational cultures have on individual motivations for hazing. Future research should also use a longitudinal approach designed to understand the extent to which hazing motivation changes over time, particularly during the duration of membership in an organization commonly associated with hazing (i.e., a college fraternity or sports team). As we began in this study, future research should also seek a better understanding of how other group-level constructs impact hazing motivation. Harvesting data within some nested structure (i.e., people within chapters) lends itself to multilevel linear modeling. Such a technique would more accurately account for group-level differences, and better delineate campus and regional differences. Lastly, this instrument may be

useful in mixed-methods approaches, such as sequential explanatory strategy, in identifying outlying groups worthy of additional qualitative study aimed at helping researchers better understand the dynamics of hazing motivation within these groups.

These findings should also be of particular interest to practitioners, particularly those concerned with the prevention or adjudication of hazing in schools and colleges. As suggested in the general discussion, a social dominance motivation appears to be particularly problematic within groups. In examining the hazing behaviors that might be classified under social dominance, some seemingly innocuous examples can easily be identified: errand running, cleaning, and acts designed to humiliate or degrade new group members immediately come to mind. In the eyes of many practitioners, these examples of hazing would not arouse a high degree of suspicion or warrant harsh penalties based on their perceived severity or likelihood to cause physical or emotional harm. However, the findings of this study would suggest that if these behaviors are present, and motivated by a social dominance mentality, then practitioners would be wise to pay closer attention to the groups engaged in those behaviors. These findings also suggest that administrators should consider the motivational mechanisms of hazing when sanctioning groups involved in hazing behavior. A seemingly innocuous incident of hazing may be indicative of a much deeper cultural problem within a group – especially if that hazing activity is motivated because of social dominance rather than instrumental education beliefs.

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