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MESSAGE EFFECTS AND THE COMMUNICATION THEORY OF IDENTITY: DOES MAKING MESSAGE RECIPIENTS MINDFUL OF IDENTITY GAPS INFLUENCE THEIR HEALTH BEHAVIOR DECISIONS?

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MESSAGE EFFECTS AND THE COMMUNICATION THEORY OF IDENTITY:
DOES MAKING MESSAGE RECIPIENTS MINDFUL OF IDENTITY GAPS
INFLUENCE THEIR HEALTH BEHAVIOR DECISIONS?

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Communication and Information
at the University of Kentucky

By
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2018

ABSTRACT OF DISSERTATION

MESSAGE EFFECTS AND THE COMMUNICATION THEORY OF IDENTITY:
DOES MAKING MESSAGE RECIPIENTS MINDFUL OF IDENTITY GAPS
INFLUENCE THEIR HEALTH BEHAVIOR DECISIONS?

Situated within the context of college students' excessive drinking behaviors, the current study drew from dissonance theory, self-consistency theory, and hypocrisy induction methodology to evaluate the utility of the Communication Theory of Identity within persuasive health message design. Specifically, it examined whether hypocrisy induction manipulations that focused participants on salient identity layers made them mindful of corresponding identity gaps, which in turn caused them to experience cognitive dissonance that they sought to resolve by reporting intentions to change their excessive drinking behavior.

Participants ($N = 279$) completed an online experiment in which they were randomly assigned either to one of four treatment conditions (i.e., traditional hypocrisy, personal-enacted identity gap hypocrisy, relational-enacted identity gap hypocrisy, communal-enacted identity gap hypocrisy) or one control condition. When compared to those in the control condition, participants in the personal-enacted and communal-enacted identity gap hypocrisy conditions reported significantly lower future intentions to engage in excessive drinking. There were no significant differences across conditions, however, in terms of identity gap magnitude or level of cognitive dissonance. These findings are noteworthy, considering that identity gap magnitude was significantly positively related to levels of cognitive dissonance and significantly negatively related to future intentions to engage in excessive drinking. Analyses also explored potential moderating variables in this process, finding that issue involvement moderated the relationship between level of cognitive dissonance and future intentions to engage in excessive drinking, such that intentions were lowest when cognitive dissonance was high and issue involvement was low. Finally, analyses indicated that there was a significant association between experimental condition and level of state reactance, such that participants in the personal-enacted identity gap hypocrisy condition experienced significantly lower levels of state reactance than participants in other conditions. Moreover, there was a significant positive relationship between identity gap magnitude and level of state reactance.

The theoretical and contextual implications of these results are discussed. Namely, these results affirm that making message recipients mindful of identity gaps can be a viable persuasive health message design strategy; however, they also suggest that more research is needed to understand how best to make message recipients mindful of identity gaps and how best to integrate identity gaps into persuasive health messages.

KEYWORDS: Communication Theory of Identity, Excessive Drinking, Health Behavior, Hypocrisy Induction, Message Effects

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April 27, 2018_____
Date

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To Cláudio, who pushed me to want more out of life.

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Chapter One: Introduction

As one of the three goals that individuals concurrently pursue during interaction, identity concerns are central to most, if not all, communication encounters (Caughlin, 2010; Clark & Delia, 1979). This includes communication about health, as issues of identity are regularly implicated in health communication scholarship, namely in how they can be used to inform audience-centered persuasive health message design (Cho, 2012). For example, it is commonplace to match source or message factors to message recipients' salient group memberships or aspects of their self-concepts (Fleming & Petty, 2000). Additionally, persuasive health messages often are targeted or tailored to individuals' identifiable characteristics, such as age, gender, and ethnicity (Noar, Harrington, & Aldrich, 2009). Research indicates that adopting these approaches influences message recipients' perceptions of message sources' expertise and trustworthiness (O'Keefe, 2016), enhances their perceptions of message quality (Lavine & Snyder, 1996), improves the chances that they will process messages more carefully (Petty, Wheeler, & Bizer, 2000), and informs their normative beliefs about a behavior (Schultz, Tabanico, & Rendón, 2005).

Perhaps with these benefits in mind, Hecht and colleagues (Hecht, 2015; Hecht & Choi, 2012) have forwarded the Communication Theory of Identity (CTI) as a theoretical frame to inform health behavior message design. CTI illustrates the ways in which identity is created and expressed via everyday interactions with others (Hecht, 1993; Hecht, Collier, & Ribeau, 1993). One of its key propositions is that identity consists of four identity layers: personal, relational, communal, and enacted (Hecht, 1993). In terms of persuasive health message design, it has been suggested that messages can be tailored

to one or more of the identity layers that serve as the basis for individuals' attitude structures or behavior (Hecht, 2015; Hecht & Choi, 2012). For example, a message tailored to the personal layer would appeal to an individual's desires to be a better person while a message tailored to the communal layer would appeal to an individual's desires to behave in ways to are consistent with important social groups' prescriptions. Alternatively, Hecht (2015) suggests developing messages that make message recipients mindful of identity gaps, which manifest when two or more identity layers juxtapose one another (Jung & Hecht, 2004). Becoming mindful of identity gaps, Hecht (2015) argues, should cause individuals to experience cognitive dissonance that they seek to resolve by changing their health behavior. For instance, this line of reasoning would argue that a message that points out that individuals' health behavior (enacted layer) is inconsistent with an aspect of their self-concept (personal, relational, or communal layer) should cause psychological discomfort that they seek to minimize.

The latter approach is the focus of the current study. Although Hecht's (2015) theorizing has yet to be tested by health communication scholars, the extant literature on cognitive dissonance (Festinger, 1957), particularly research guided by self-consistency theory (Aronson, 1968, 1992; Thibodeau & Aronson, 1992), suggests that it is plausible. According to Festinger, individuals possess cognitions that may or may not fit together (i.e., are consonant or dissonant). When they recognize that their cognitions do not fit together, they experience "cognitive dissonance," an aversive psychological state marked by discomfort that they seek to alleviate via attitude or behavior change. Self-consistency theory furthers these ideas by positing that cognitive dissonance is most apparent when there is a discrepancy between individuals' cognitions about their self-concept and

cognitions about a behavior that is inconsistent with their self-concept (Aronson, 1992). These claims have been substantiated by decades of research employing hypocrisy induction methods, which involve participants advocating for others to engage in prosocial behaviors and then asking them to recall times when they failed to live up to their advocated behavior; making this discrepancy clear causes them to experience dissonance and motivates them to change their future behavior (Stone, 2012). Extending these ideas to CTI, if identity layers comprise one's self-concept and cognitive inconsistency between the self-concept and behavior is analogous to an identity gap, then it seems reasonable that the extant research that has employed dissonance theory, self-consistency theory, and hypocrisy induction methods can inform what would happen when messages make individuals mindful of identity gaps in relation to their health behavior.

The current study explores this line of reasoning in the context of college students' excessive drinking behaviors. Specifically, it investigates whether pointing out that excessive drinking behavior (enacted identity) is inconsistent with a valued personality trait (personal identity), role status (relational identity), or group membership (communal identity) via hypocrisy induction makes individuals become mindful of identity gaps and experience cognitive dissonance that they reduce by reporting lower future intentions to engage in excessive drinking.

Chapter Two: Literature Review, Hypotheses, and Research Questions

The Communication Theory of Identity's (CTI) central argument is that identity is not unitary, but rather multifaceted (Hecht, 1993). It is guided by two overarching presumptions. First, social life is dialectical or paradoxical; there are contradictions in all social life, which is reflected in the tension between individuality, relationship pressures, and collectivism (Hecht, 1993). Given these tensions, identity is viewed as changing/stable and subjective/ascribed (Hecht, 1993). Second, identity is layered. It is conceptualized as consisting of four frames, or layers, which differentially situate identity: (a) the *personal layer* refers to the hierarchically ordered identities in one's self concept or self-image and how one attributes these identities to oneself in different social situations; (b) the *enacted layer* refers to the identity one actually performs or expresses through communication; (c) the *relational layer*, which includes identities defined in terms of one's position in a particular role-based relationship (e.g., parent *or* child), identities defined in terms of one's other identities (e.g., parent *and* child), identities defined in terms of a relational unit (e.g., a parent-child unit), and identities others have ascribed to an individual (e.g., *good* parent, *good* child); and (d) the *communal layer* refers to one's social group-based identities (Hecht, 1993). Importantly, CTI posits that it is necessary to consider the relationship among the layers to develop a holistic understanding of identity (Hecht, 1993).

In conceptualizing the different layers of identity, CTI draws from social identity theory's (SIT) and self-categorization theory's (SCT) shared premise that individuals understand and react to the ebb and flow of relations between social groups, and, as a result, much of social life emerges from individual psychological processes interacting

within social contextual realities (Reid & Robinson, 2016). It incorporates SIT's argument that individuals have a need for self-esteem that they can meet either by comparing their achievements to a valued personal identity or by favorably comparing their group to rival out-groups; when the latter tack is used and individuals are satisfied with their membership in the in-group, it leads them to develop attitudes, beliefs, and behaviors that facilitate favoritism to the in-group and derogation of the out-group (Tajfel & Turner, 1979). It also incorporates SCT's argument that individuals have a hierarchical self-concept, with aspects of it becoming salient as a function of the social comparative context (Hogg & Reid, 2006). Thus, SIT's and SCT's ideas are most apparent within the personal and communal layers of identity.

CTI also draws from identity theory's focus on the individual aspects of the society-individual relationship in conceptualizing the different layers of identity (Hecht, Warren, Jung, & Krieger, 2005). Although multiple conceptualizations of identity theory exist (for a review see Stets, 2006), the one that seems most applicable to CTI is Stryker's (1968; Stryker & Statham, 1985) formulation, which focuses on how role-identities, identity salience, and identity commitment reflect the reciprocal relationship between self and society. Specifically, Stryker argues that society prescribes a set of stable positions, or "roles," that individuals can deploy to navigate a complex, organized, and differentiated society; whether these roles become a part of one's identity is dependent on the extent to which individuals internalize their cultural- and social structural-based expectations and use them to guide their behaviors. When these expectations are internalized, they become idealized self-conceptions, or "role-identities" (Stryker & Statham, 1985). Given the complexity of society and its impact on the amount and types

of roles that individuals are likely to occupy, individuals are likely to have multiple role-identities from which they choose depending on the context (Stryker, 1968). Their choice is dependent on the salience of an identity in that context and their overall commitment to that identity: the more salient the role-identity and the more committed individuals are to it, the more likely they will perform it (Stryker & Statham, 1985). Thus, identity theory's ideas are most apparent within CTI's the relational layer of identity.

CTI adds to the holistic view of identity through its conceptualization of the enacted layer of identity, which focuses on the essential role of communication within expressions of identity (Hecht, 1993). Importantly, CTI "posits that individuals internalize social interactions, relationships, and a sense of self through communication . . . [which] helps build, sustain, and modify one's identity" (Hecht & Choi, 2012, p. 139). From this perspective, identity is communication and communication is identity; they cannot be separated from each other (Hecht, 2015). Moreover, CTI argues that the four layers of identity "interpenetrate" or infuse into one another, such that it is difficult to examine one layer of identity without considering the others (Jung & Hecht, 2004). Therefore, even though the layers of identity are considered separately for analytic purposes, they are not truly separate from one another; they are interdependent.

Early CTI-driven research focused on the ways in which the different layers of identity emerge and are interdependent. Particularly informative were a series of seminal studies by Hecht and colleagues (Hecht & Faulkner, 2000; Hecht et al., 2002) that explored how Jewish Americans, including the lead character in the television show *Northern Exposure*, navigated between their communal Jewish identities and their personal, enacted, and relational identities. Hecht and Faulkner (2000) showed Jewish

Americans episodes of the show and then interviewed them to understand how they disclose their communal Jewish identity to others. They found that privacy issues were partially regulated at the personal level based on one's self-concept as Jewish American, while disclosure mostly occurred at the enacted level based on timing, target, and context of the conversation. Disclosure also occurred at the relational level based on the nature of the relationship with the target of the disclosure. Interestingly, privacy/disclosure negotiations were affected at the communal level because of Jewish Americans' positionality within the broader mainstream culture. On the basis of their findings, Hecht and Faulkner posited that identity layers, although often implicated on their own, interpenetrated, meaning that their participants considered multiple identity layers in their disclosure decisions. Namely, when these layers converged, participants noted that they were more likely to disclose their Jewish identity; but, when they diverged, they were more likely to closet that identity.

Building on the premise that interpenetrating identity layers sometimes juxtapose one another, Hecht et al. (2002) performed a content analysis of *Northern Exposure* episodes to explicate the problematic interpenetration of the main character's personal and communal identities, and then cross-validated their findings with a sample of Jewish Americans. They noted that participants were keenly aware of how residents of the small Alaska town portrayed in the series reflected the attributions that are made to Jews, in general, and they were sensitive to the possibility that others in their own communities could ascribe some of those negative attributions to them. These feelings, according to Hecht et al. (2002), were a big source of tension between identity layers, as were participants' discomforts with the communal representations of Jewish Americans as a

group. On the basis of these findings, Hecht et al. (2002) posit that "people who share personal labels and identification may differ in their enacted identities, whereas those who differ in these aspects of their personal identity may share enacted identities" (p. 868). This becomes particularly problematic when individuals feel estranged from a community when they identify with another personally because it positions them as members of an out-group.

Jung and Hecht (2004) built on Hecht et al.'s (2002) ideas about problematic interpenetration of identity layers by proposing the concept of *identity gaps* to empirically study these disconnects. Given the centrality of identity gaps in the extant CTI research and in the current study, a thorough review of the construct is merited.

According to Jung and Hecht (2004), interpenetration of identity layers is a dynamic and fluid nature of identity in which the layers dialectically contradict and coexist with one another. They posited that there is the potential for one (or more) of 11 identity gaps (six between any two layers, four among any three, and one among all four) to emerge in any communication interaction, because people are rarely consistent in how they communicate identity.[1]

In the first study of identity gaps, Jung and Hecht (2004) explicated two of these combinations: the personal-enacted identity gap and the personal-relational identity gap. They defined the former as "discrepancies between an individual's self-views and identities expressed in communication" (p. 269). For example, individuals may consider

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[1] This number is contested. Scholars have speculated about the role of within-layer gaps, which would raise the number of possible identity gaps to at least 15 (see Kam & Hecht, 2009). Moreover, some scholars have speculated that there are both individual- and community-level sets of the four identity layers, which would result in many more possible identity gap combinations (see Hecht, 2015).

themselves to be good listeners (personal layer) but fail to use active listening skills in their everyday interactions (enacted layer), resulting in a personal-enacted gap. They defined the latter as "discrepancies between an individual's personal identity and ascribed relational identity, that is, discrepancies between how an individual views him/herself and his/her perception of how others view him/her" (p. 268). For example, individuals may consider themselves to be friendly (personal layer), but this is not reflected in how possible relational partners view them as friends (relational layer). Jung and Hecht (2004) then developed separate Likert format measures of personal-enacted and personal-relational identity gaps using theoretical literature as a guide in developing their items, then confirming their validity with principal component analyses and reliability with Cronbach's alpha analyses.

Others have followed Jung and Hecht's (2004) lead in conceptualizing and operationalizing different identity gap types. Notably, Kam and Hecht (2009) adhered to this process when explicating and developing a measure of relational-enacted identity gaps. They defined relational-enacted identity gaps as discrepancies between how individuals behave and their perceptions of how a relational partner thinks they should behave. For example, they posit that relational-enacted identity gaps will emerge when young adults believe their grandparents expect them to be honor roll students (relational layer), but they actual have poor academic performance (enacted later). Kam and Hecht then created a Likert form measure of relational-enacted identity gaps akin to Jung and Hecht's (2004) measures. They then performed a series of confirmatory factor analyses to ensure the distinctiveness of their measure alongside Jung and Hecht's (2004), finding that the three measures "represented not only conceptually but also operationally and

empirically distinct constructs" (Kam & Hecht, 2009, p. 467). Most, if not all, of the published quantitative data-driven CTI research on identity gaps has been cross-sectional-survey-based and has employed one (or more) of these three measures to explore the relationship between identity gaps and outcomes.

Jung and Hecht (2004), for instance, focused on how undergraduate students' personal-enacted and personal-relational identity gaps were associated with communication satisfaction, feeling understood, and communication appropriateness and effectiveness. Importantly, correlational and post-hoc analyses revealed that the personal-enacted gap was negatively associated with all three outcomes, while the personal-relational gap was negatively associated with only feeling understood. Jung and Hecht (2004) argued that these results provided support for CTI's central tenet that identity is inherently communicative.

Jung, Hecht, and Wadsworth (2007) further studied the relationship between identity gaps and outcomes. Examining international college students' experiences with depression, they looked at the personal-enacted and personal-relational gaps in a path model in which the identity gaps mediated the effects of acculturation level and discrimination on depression level. Notable among their findings, the personal-enacted gap was positively associated with depression, while there was no association between the personal-relational gap and depression. Moreover, the personal-enacted identity gap served as a mediator between acculturation and discrimination and depression, such that those who were less acculturated and/or perceived greater discrimination experienced a larger personal-enacted identity gap, which, in turn, led them to experience more depressive symptoms. In a similar study with international students, Wadsworth, Hecht,

and Jung (2008) focused on the personal-enacted and personal-relational identity gaps in a path model in which the gaps mediated the effects of acculturation level and discrimination on levels of educational satisfaction and further tested the proposition that the personal-enacted gap predicts the personal-relational gap. Notable among their findings, there was a positive association between acculturation level and educational satisfaction, which was mediated by the personal-enacted identity gap.

Other studies have added nuanced understanding about the relationship between identity gaps and outcomes. For instance, in a study of the direct and mediating effects of Korean immigrants' personal-enacted and personal-relational identity gaps on depression, Jung and Hecht (2008) found that both types of gaps had positive associations with depression (although the personal-enacted gap had the strongest impact on depression of all variables). Moreover, Jung and Hecht (2008) found that personal-relational gaps mediated the effect of all three situational variables used in the study (i.e., intercultural communication competence, middleperson status, perception of racial hierarchy) on depression, whereas the personal-enacted gap only mediated the effect of intercultural communication competence on depression. Similarly, in a study of young adult grandchild-grandparent dyads, Pusateri, Roache, and Kam (2016), found that both personal-relational and personal-enacted identity gaps had a negative association with communication satisfaction and perceptions of future caregiving intentions.

Thus, the reviewed literature instills confidence that, at a minimum, there are relationships between identity gaps and outcomes. One potential relationship, first forwarded by Hecht and Choi (2012) and echoed by Hecht (2015), is the one between identity gaps and cognitive dissonance. Exploring this relationship would be particularly

beneficial for those interested in developing persuasive health behavior messages, they

argue, because becoming aware of identity gaps should arouse dissonance that

individuals seek to alleviate by changing their behavior. While this hypothesis makes

intuitive sense, it has yet to be tested—at least within this theoretical context—by health

communication scholars. However, this argument closely parallels the one that

undergirds behavior change research guided by dissonance theory (Festinger, 1957) and

self-consistency theory (Aronson, 1968; Thibodeau & Aronson, 1992). Therefore,

reviewing theorizing and research conducted within these perspectives may illuminate

how best to explore the relationships among identity gaps, cognitive dissonance, and

behavior change.

Dissonance Theory

While several forms of cognitive dissonance research abound (for a review, see

Harmon-Jones & Mills, 1999), they all stem from Festinger's (1957) seminal work, in

which he outlined the process through which individuals attempt to resolve

inconsistencies in their "cognitions," or elements of knowledge. According to Festinger,

individuals' cognitions can be irrelevant or relevant to one another. In situations when

they are relevant to one another, they may or may not fit together; those that logically

follow from each other are considered "consonant," and those that do not are considered

"dissonant." When individuals recognize a dissonant set of cognitions, they experience

"cognitive dissonance," an aversive psychological state in which they feel uncomfortable.

Because they do not enjoy feeling uncomfortable, individuals are motivated to adopt

strategies that alleviate their discomfort.

Festinger (1957) posited that the extent to which individuals are motivated to reduce dissonance is determined by the magnitude of dissonance between their cognitions, or the "dissonance ratio." The dissonance ratio varies based on the importance of the cognitions that are in conflict, as well as the proportion of relevant cognitions that conflict with the dissonant ones. When the number and importance of consonant cognitions are held constant, it is expected that the magnitude of dissonance will increase as the number or importance of dissonant cognitions increase; conversely, when the number and importance of dissonant cognitions are held constant, it is expected that the magnitude of dissonance will decrease as the number or importance of consonant cognitions increases. In turn, individuals' motivations to reduce dissonance increase as its magnitude increases.

There are several different strategies individuals can adopt to reduce dissonance. Festinger (1957) explains that individuals can minimize the magnitude of their dissonance by removing dissonant cognitions or by adding new consonant cognitions. They also could increase the importance of existing consonant cognitions, reduce the importance of existing dissonant cognitions, or reconcile their existing dissonant cognitions through behavior change. Festinger provides an example of habitual smokers to illustrate these propositions. They likely will experience dissonance upon learning that smoking has adverse health consequences because it is dissonant with their cognitions of smoking as a pleasurable activity in which they continue to engage. Assuming they are motivated to reduce this discomfort, they have a few options to do so. At the most basic level, they can quit smoking; changing this behavioral cognitive element would bring it in line with the notion that smoking is bad for their health and, thus, reconcile any existing

dissonant cognitions. They may decide that they want to continue smoking, however. In this situation, they could engage in a few rationalization processes that both ease their discomfort and allow them to continue to smoke. For example, they can eliminate the dissonant cognition that smoking is bad for their health or add consonant cognitions about how the social benefits of smoking outweigh its possible health risks. Additionally, they could reduce the importance of dissonant cognitions by minimizing smoking's health risks in relation to other behaviors or increase the importance of consonant cognitions by emphasizing the importance of smoking in his or her life.

Typically, research focused on using dissonance for behavior change utilizes either the effort justification approach or the counterattitudinal advocacy approach, both of which encourage individuals to enact a behavior that is dissonant with their existing attitudes and beliefs towards an issue, albeit in different ways (Stone, 2012). Effort justification assumes that individuals experience dissonance when they experience no gain after exerting high effort (Stone, 2012). They attempt to reduce dissonance by altering their perceptions of how much they gained from the experience, which helps justify their effort; and these new, positive attitudes result in new, positive behaviors (Stone, 2012). Counterattitudinal advocacy assumes that individuals experience dissonance after they advocate for a position that is inconsistent with their pre-existing attitudes or beliefs in low-incentive conditions. They attempt to reduce dissonance by changing their pre-existing attitudes to bring them in line with those for which they just advocated, which precipitates behavior change (Stone, 2012). So, using the previous example of habitual smokers, the effort justification approach would argue that individuals who experience dissonance when they perceive failure after smoking again

after weeks of quitting should reframe the outcome; as a result, efforts should focus on instilling the idea that the time they spent refraining from smoking affirms that they are capable of quitting. By altering their perceptions of their gains, individuals would become more positive toward quitting long-term, which leads them to initiate and maintain quitting behaviors over time. The counterattitudinal advocacy approach, on the other hand, would argue that individuals will experience dissonance when they have preexisting beliefs that smoking is good and are asked to advocate for a position that states the opposite. If they are motivated to reduce this dissonance, they will bring their pre-existing attitudes about smoking in line with those for which they advocated, and their behavior should follow suit.

Although effort justification and counterattitudinal advocacy have their merits, Stone (2012) argues that they are limited in three ways. First, they are not effective at changing behavior when individuals hold strong attitudes about issues; in these situations, individuals are more likely to trivialize their discrepant behavior than to change it to reduce dissonance. Second, they incorrectly assume that a change in attitudes translates to a change in behavior when, in fact, there are multifaceted processes that dictate this relationship, as evidenced in the several meta-analyses that have examined the attitude-behavior link and its complexity (e.g., Glasman & Albarracín, 2006). Third, they assume that behavior change is the only means through which individuals can restore cognitive consistency when they experience dissonance; instead, they can simply change their attitudes to make them congruent with their behavior. Therefore, according to Stone (2012), traditional dissonance-based approaches to behavior change work only when they intentionally or unintentionally overcome these limitations. Specifically, they need to

avoid high-involvement topics, encourage consistency between attitudes and behaviors, and minimize the opportunity to use dissonance-reduction options other than behavior change. If these conditions are not met, he argues, dissonance-based interventions are destined to fail.

Stone's (2012) argument underscores the fact that, despite the construct's successes, theorizing about dissonance also has had its share of controversy. This controversy, which primarily stems from differing explanations about the underlying mechanisms that drive individuals' motivation to reduce dissonance, has resulted in the development of several revisions of dissonance theory (Harmon-Jones & Mills, 1999). The revision favored by Stone, a self-consistency interpretation of dissonance (Aronson, 1968; Thibodeau & Aronson, 1992), is particularly germane to the current study.

Self-Consistency Theory

Developed shortly after Festinger first conceptualized cognitive dissonance, Aronson's (1968; Thibodeau & Aronson, 1992) self-consistency theory builds on the dissonance-as-cognitive inconsistency conceptualization by focusing specifically on inconsistencies between individuals' self-concept and their behavior. Circumstances that cause individuals to question their moral character and behavioral competence and consistency are particularly distressing for individuals, according to self-consistency theory (Thibodeau & Aronson, 1992). Importantly, from a self-consistency perspective, the dissonance-arousing effects of a behavior vary based on its psychological significance to individuals (Thibodeau & Aronson, 1992). In other words, contrary to Festinger's (1957) argument, a discrepancy between cognitions about a behavior, on its own, is not in and of itself sufficient to arouse dissonance; instead, dissonance is aroused when

individuals assess that their enactment of the behavior threatens their self-integrity, which they measure against conventional morals and values of honesty and sincerity.[2] Consider, then, the previously discussed example of habitual smokers. Whereas Festinger would argue that individuals would experience dissonance because they realize the enjoyment of smoking conflicted with the reality that smoking was bad for their health, self-consistency theory would argue that this is not sufficient to arouse dissonance. According to self-consistency theory, their sense of morality would need to be in question for them to experience dissonance. Specifically, they would need to feel that smoking conflicts with what they believe to be society's expectations of them as people with strong self-integrity.

Therefore, unlike the classic approaches for using dissonance to encourage behavior change via attitude change, the self-consistency approach attempts to arouse dissonance by having individuals sense a challenge to their self-concept via hypocrisy induction. Indeed, because hypocrisy induction focuses specifically on changing a behavior that is inconsistent with individuals' strongly held attitudes, it is not appropriate for situations that require changing attitudes first (Stone, 2012). Initially forwarded by Aronson, Fried, and Stone (1991), hypocrisy induction involves a two-step process of making individuals aware of preexisting inconsistencies between their attitudes and behavior. First, to induce a hypocritical discrepancy, individuals publicly advocate for a behavior about which they have strongly held attitudes by encouraging others to engage

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[2] Arguably, what counts as "conventional morals and values" is contextual, relative, and subjective. Thus, some may consider the theory's assumption that there are universal norms about what it means to be honest and sincere is an inherent limitation of self-consistency theory.

in the behavior, usually in the form of delivering a speech or writing a letter. For hypocrisy induction to work, this advocacy should be consistent with their current attitudes, so as not to cause too much discomfort. Then, to arouse dissonance, they are made mindful of the times that they have failed to engage in the behavior, which typically is achieved by having them list their past failures or reasons for not performing the advocated behavior. This step arouses dissonance because individuals are forced to acknowledge that they have not always practiced what they preach; and, in turn, they likely will be motivated to make their behavior consistent with the attitudes they advocate to others as a means of dissonance reduction. In other words, hypocrisy induction is focused on increasing the strength and consistency between the attitude-behavior link, rather than changing attitudes as a precursor to changing behavior, as is common to most other persuasion research.

Indeed, according to Stone (2012), behavior change supersedes other dissonance-reduction strategies when individuals are faced with their hypocrisy. He offers two reasons that this is the case. First, because it is likely that individuals strongly hold the attitudes that they are willing to advocate to others, they are likely highly resistant to change; and, it is easier to alter one's hypocritical behavior to bring it into line with attitudes than it is to add or remove cognitions to bring attitudes into line with the hypocritical behavior. Second, because individuals generally perceive hypocrisy as a threat to their self-integrity, they are likely to strive to restore their perceptions of self-integrity; and, this is most directly accomplished by aligning their future behavior with their advocated attitudes. Consequently, Stone argues that hypocrisy induction is well-suited to overcome the limits of classic dissonance approaches because it uses

individuals' strong attitudes toward an issue to its benefit and encourages the mechanisms that strengthen the relationship between attitudes and behaviors.

Hypocrisy induction achieves its effects via manipulations of *public commitment*, or the degree to which participants take active role in preaching about a prosocial behavior to others, and *mindfulness*, or the degree to which participants are made aware of their own insufficient enactment (Aronson et al., 1991). In lab-based experiments, participants are first randomly assigned into conditions that differ based on the extent to which they make a public commitment and/or are made mindful: those who do both activities represent the full experimental condition, those who do neither serve as controls, and those who do one or the other signify a middle ground through which the main and interaction effects of the manipulations can be compared. In early studies (e.g., Aronson et al. 1991), commitment was manipulated by having participants think that researchers were looking for the optimal deliverers of a message about a prosocial health behavior to high school students and that college students were the best choice for this because they could easily remember what it was like to be a high school student and because high school students could relate to them better than adults or celebrities. To manipulate public commitment, participants in the non-control conditions were then instructed to develop and deliver a videotaped speech about the merits of that behavior that, they were told, would be shown to high school students. To manipulate mindfulness, participants in the non-control conditions were then asked to complete an activity, such as listing their past failures in engaging in that behavior or thinking about common excuses for not engaging in that behavior. All participants then completed measures related to behavior, whether it be intentions to engage in the behavior in the future or actual

behavioral measures. Analyses then explored the relationships between treatment conditions and outcomes. While scholars have adopted different ways to manipulate commitment and mindfulness (e.g., Fried, 1998; Fried & Aronson, 1995), the basic structure of this procedure remains.

Hypocrisy induction has been used to substantiate self-consistency theory's assumptions in a variety of contexts, which has established hypocrisy induction as a viable means for encouraging various types of behavior change (for a review, see Stone & Fernandez, 2008), including health behavior change (for a review, see Stone & Focella, 2011). Aronson et al.'s (1991) seminal study of condom use among American college students was the first to apply these methods in a health context. They manipulated both public commitment (i.e., the degree to which participants took an active role in preaching condom use to others) and mindfulness (i.e., the degree to which participants were made aware of their own insufficient condom use) to examine these variables' main and interaction effects on past use of condoms, future intentions to use condoms, and post-experiment condom use. They found that those participants who both made a public commitment to use condoms and were made to be highly mindful of their past failure to use condoms (i.e., those in the "hypocrisy" condition) were not any more likely than those in other conditions (i.e., commitment only; mindful only; low mindful, no commitment) to report future intentions to use condoms, although this was perceived to result from a possible ceiling effect in responses to the dependent variable. However, participants in the hypocrisy condition were more likely to admit past failure, which allowed them to overcome denial in the immediate period following the experiment. In turn, data suggested that those who engaged in hypocrisy induction used condoms more

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often following the experiment, although these trends did not carry over for participants who only either publicly advocated for condom use or were made mindful of their past failures. It should be noted, however, that these trends were not subjected to statistical analyses due to a limited amount of data. Regardless, on the basis of these findings, Aronson et al. (1991) argued that having individuals first advocate for a prosocial health behavior and then recall their past high-risk behaviors for hypocrisy induction to work helps them overcome the denial that can result from other cognitive dissonances-based behavior change approaches.

Stone, Aronson, Crain, Winslow, and Fried (1994) sought to build on Aronson et al.'s (1991) findings by exploring the ways in which manipulating both public commitment for and mindfulness about past failures to use condoms, as well as accounting for gender, influenced the ways in which college students sought to reduce dissonance following hypocrisy induction. They assessed future condom use in three ways, one distal (self-reports of future intent) and two proximal (condom-purchasing behavior and AIDS information gathering). Most notable among their findings are those related to condom-purchasing behavior, which included a significant main effect for mindfulness and a significant commitment-by-mindfulness interaction; across genders, those who made both a public commitment and were made mindful of their past failures to use condoms reported buying condoms most frequently and buying the largest number of condoms of any participants. On the basis of these findings, Stone et al. (1994) concluded that the hypocrisy manipulation has distinct motivational effects that necessitate individuals to come to grips with their high-risk behaviors.

Stone, Weigand, Cooper, and Aronson (1997) conducted two experiments to further explore why and how individuals take behavioral action following hypocrisy induction. Unique to this study were their manipulations of mindfulness and dissonance reduction. They manipulated mindfulness by offering participants a list of excuses people give for not using condoms. Participants then were asked to either identify which of the excuses they had used themselves (and, if needed, list other excuses they had used) or those they had heard others use (and, if needed, list other excused they had heard others use). They then manipulated dissonance reduction by offering participants one of two behavioral options. All participants received a few dollars for their involvement. However, some were presented with an option (i.e., make an anonymous donation to the homeless) that was designed to help them to reduce dissonance indirectly (i.e., by engaging in an unrelated prosocial behavior) or an option (i.e., purchase condoms) that was designed to help them to reduce directly (i.e., by engaging in a related prosocial behavior). They found a main effect for the availability of dissonance reduction routes and an interaction effect for mindfulness and availability of dissonance reduction. Participants who reflected on personal reasons for not using condoms in the past were more likely to use one of the dissonance reduction methods than those who reflected on normative reasons for not using condoms; moreover, and importantly, participants preferred the direct route to dissonance reduction, buying condoms, when it was made available. On the basis of these findings, Stone et al. (1997) posited that hypocrisy induction results in two independent motivational processes, one specific need to restore self-integrity and a more general need to repair self-worth. They further explored this possibility in the second experiment in which they reversed the conditions of the first

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experiment, with donating to the homeless being the direct route and buying condoms

serving as the indirect route, finding similar trends as in the first experiment and,

therefore, supporting their assumption that hypocrisy motivates a specific need to restore

self-integrity and, when given the chance, individuals will engage in behavior that

directly reduces dissonance instead of behavior that only does it indirectly.

Thus, these early studies contributed a fair amount of knowledge about ways to

encourage condom use as a means for AIDS prevention, while also significantly

advancing theory. Other research in this area has been much more focused on developing

context-specific knowledge. Perhaps the most comprehensive of this work has been a

series of studies by Fointiat and colleagues (2004; Fointiat, Morisot, & Pakuszewski,

2008; Fointiat, Somat, & Grosbras, 2011) that has applied hypocrisy induction to French

students' safe driving behaviors. For instance, Fointiat (2004) tested the basic premise of

hypocrisy induction in this context, finding that participants who both advocated for and

were made mindful of their past failures to engage in safe driving practices were more

likely to perform corrective behavior, in this case installing a tachometer in their car.

Additionally, Fointiat et al. (2008) found that there was a curvilinear relationships

between the amount of past failures that participants recalled during hypocrisy induction

and the extent of their behavior change, such that those who listed the most

transgressions were least likely to change their future behavior; they related these

findings to Aronson's (1999) and Fried's (1998) claims that although recalling too many

serious transgressions can cause individuals to feel extreme dissonance, it may trigger

denial and/or make it difficult to envision correcting past transgressions. Finally, in line

with Fried and Aronson's (1995) study on misattribution, Fointiat et al. (2011) found that

participants who advocated for and then were made mindful of their failure to adhere to safe driving regulations were less likely to attribute their dissonance to external factors and less likely to trivialize their failures.

Other individual studies support hypocrisy induction as a behavior change strategy. Morrongiello and Mark (2008) tested hypocrisy induction as a means of reducing young Canadian children's injury-risk playground behaviors, finding that those children who advocated for safe behaviors and remembered their unsafe behaviors both reduced their actual risk behaviors and lowered their intentions to engage in other, more general risky behaviors. In a study of Canadian college students' smoking behaviors, Peterson, Haynes, and Olson (2008), found that those participants who advocated against smoking and remembered their past smoking failures were more likely to want to improve their health behavior in the future; importantly, self-esteem moderated these effects, so that those with high self-esteem were more likely to rationalize their inconsistent actions, rendering them less likely to want to improve their health behavior in the future. Bator and Bryan (2009, as cited in Stone [2012]) tested hypocrisy induction as a means of increasing American college students' fitness center use, finding that those students who advocated for regular use of the facility and listed reasons that they did not exercise regularly reported significantly greater intentions to exercise regularly and entered the fitness center more than those who did not complete the hypocrisy induction manipulations.

Collectively, then, the reviewed studies lend credence to the viability of hypocrisy induction in different health contexts. In general, participants are most likely to engage in dissonance-reduction activities when they are first encouraged to make a public

commitment to a prosocial health behavior and then forced to recall times when they failed to practice what they preach; and they prefer to take direct routes to bring their cognitions in line with one another, primarily via behavior change. Yet, there is still much to learn about the process through which hypocrisy induction works, in general, and in health behavior change research, in particular (Stone & Fernandez, 2008; Stone & Focella, 2010). Indeed, Stone and Fernandez (2008) argued that, since intra-individual factors may be implicated in the hypocrisy-dissonance-behavior change process, further research is needed to understand how potential individual difference variables impact hypocrisy induction's effects.

The current study heeds this call by parsing out different aspects of the self-concept to understand the extent to which they are viable targets for hypocrisy induction. Individuals' self-concepts involve a combination of self-schemas that incorporate personal, role-based, and social identities (Markus & Wurf, 1987). To date, however, hypocrisy induction has primarily focused on the personal aspects of one's self-concept in its emphasis on moral and competent character. An exception to this is research on vicarious hypocrisy induction, which addresses the social   aspect of one's self-concept by having individuals witness a hypocritical behavior of a prototypical in-group member; however, the methodology used in this research diverges in several ways in comparison to traditional hypocrisy induction studies (see Focella, Stone, Fernandez, Cooper, & Hogg, 2016; McKimmie et al., 2003). However, the overwhelming focus on the personal layer of identity in hypocrisy induction research is problematic because substantial evidence exists that the salience of a given identity is context-dependent and is influenced by a wide range of factors. Thus, it seems plausible that hypocrisy

induction's effectiveness can be maximized by focusing on different salient identity layers. Additional theorizing and research that explores this possibility is needed.

Since it draws from the notion that identity is multifaceted, CTI offers a promising guide for such an exploration. Recall Hecht's (2015) hypothesis that making individuals aware of an identity gap causes dissonance that they seek to reduce via behavior change. This is a very similar argument, if not the same argument, that is used in traditional hypocrisy induction research. Specifically, if the personal identity layer is synonymous with the personal aspects of individuals' self-concept and the enacted identity layer is synonymous with individuals' behavior, it seems reasonable that individuals perceiving hypocrisy in their behavior is synonymous with perceiving a personal-enacted identity gap. If this is the case, then it also is possible that hypocrisy induction research can inform what happens when individuals are made aware of other types of identity gaps in which a different identity layer is salient and is in conflict with the enacted layer, namely relational-enacted and communal-enacted identity gaps. Granted, these are only three of the potential identity gaps that have been discussed in CTI research, and the logic discussed to this point may extend to other types of identity gaps. However, as this study is the first of its kind, the decision was made to focus on those identity gaps that, given their inclusion of the enacted layer, most closely align with the self-concept/behavior disconnect that is central to self-consistency theory and hypocrisy induction research.

Contextual Background: College Students' Excessive Drinking Behavior

The current study applies the previously discussed reasoning within the context of college students' drinking behavior. Heavy alcohol consumption plays a prevalent role in

the college experience for many undergraduate students in the United States (Poe, 2010; Wechsler et al, 2002). Given the numerous health risks associated with heavy alcohol consumption (see Hingson, Heeren, Winter, & Wechsler, 2005), a large swath of health behavior research has focused on developing interventions to reduce its prevalence among college students (see Hingson, 2010). Often, this research relies on the term "binge drinking," although scholars have advocated for a reconceptualization of the terms used in this research. For example, Lederman et al. (2003) recommend against using "binge drinking" and attaching a specific drink range to it, activities which, they assert, students perceive as inflammatory and creates an unrealistic image of what is happening that is easy to deny given its prevalence among peers. To mitigate the potential of this happening in the current study, the term "excessive drinking" is used. According to the Centers for Disease Control (2018), excessive drinking includes (a) binge drinking, defined as 4 or more drinks consumed on one occasion for women and 5 or more drinks consumed on one occasion for men; (b) heavy drinking, defined as 8 or more drinks per week for women or 15 or more drinks per week for men; (c) any alcohol used by pregnant women; and (d) any alcohol used by those under the age of 21 years. With research indicating that more than half of students report drinking behaviors that meet one or more of these criteria (e.g., Wechsler & Kuo, 2000), it is difficult to argue against categorizing their drinking behavior as excessive.

The problem is that students often do not categorize their drinking behavior as excessive or in problematic terms (Lederman, Stewart, Goodhart, & Laitman, 2003; Polonec, Major, & Atwood, 2006). It should not be surprising, then, that norm-based alcohol reduction campaigns have been limited in their success (Cameron & Campo,

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2006; Campo et al., 2003; Scott-Sheldon, Demartini, Carey, & Carey, 2009). These efforts often focus on changing students' perceptions of drinking norms, as perceived normative support of drinking by friends and other students (Borsari & Carey, 2001), as well as socialization and conformity goals (Chauvin, 2012), are strong motivators in college students' drinking decisions. Importantly, norms also influence students' assessments of problematic drinking behaviors, with these assessments varying on their (often inaccurate) perceptions of campus-wide alcohol use (Wechsler & Kuo, 2000). To that end, students underestimate their drinking in relation to their peers and overestimate peers' disapproval of alcohol use (Borsari & Carey, 2001).

The results around norm-based alcohol reduction campaigns suggest that a new approach is needed. This is not a new argument. Carey, Scott-Sheldon, Carey, and DeMartini's (2007) found that individual-level interventions for college drinkers not only reduce alcohol use but also reduce alcohol-related problems. Additionally, Scott-Sheldon et al. (2009) found that interventions were more likely to improve attitudes when they were tailored to and delivered to individuals, rather than targeted to and disseminated at a group "college student" level. On the basis of these findings, Scott-Sheldon et al. explain that individual-level alcohol interventions are well-suited to overcome some of the limitations of group-level ones, including those related to message processing (e.g., likelihood of being read, remembered, and understood) and the discussions they elicit, as well as the challenges posed by targeting messages to a non-salient social identity. How best to structure these individual-level interventions, therefore, becomes an important issue.

The approach forwarded in the current study may offer a viable option for these interventions, especially in light of a recent study by Wombacher, Matig, Sheff, and Scott (Forthcoming) on college students' blackout drinking behaviors. Wombacher et al. conducted two studies to explore why students (do not) black out drink, the first of which, a qualitative exploration, is particularly informative. In this study, they found that students recognize that blacking out is an unhealthy behavior; however, because this recognition contradicts group norms about alcohol consumption, they appeared to experience cognitive dissonance that they managed via a variety of rationalization strategies. Importantly, Wombacher et al. suggested that their participants added cognitions about how much they engage in the behavior relative to others, about their ability to control their own behavior (and thus their responsibility for it), and about how long they will engage in the behavior. Engaging in these processes, Wombacher et al. argued, enabled their participants to black out without being burdened by the stigma and dissonance associated with blackout drinking. If these findings are transferrable to the current study, then students likely recognize that excessive drinking is an unhealthy behavior that contradicts their strongly held attitudes about appropriate behavior.

Thus, the central argument of the current study is as follows. Engaging in excessive drinking behaviors becomes part of college students' enacted identity (i.e., "excessive drinker"). However, as an unhealthy behavior, excessive drinking may conflict with more valued, positive aspects of college students' identity, namely their (a) "unique" personal identity, (b) "best friend" relational identity, and (c) "member of the [university name] student community" communal identity. Identity gaps emerge when these disconnects between identity layers are considered problematic. Engaging in

hypocrisy induction activities in which students publicly advocate against excessive

drinking and recall their past failures in practicing what they preach should magnify these

disconnects, which causes identity gaps to emerge. Becoming mindful of identity gaps

should, in turn, cause students to experience cognitive dissonance that they seek to

resolve by reporting lower future intentions to engage in excessive drinking[3]. There are

several variables that are expected to moderate these relationships, however. First, theory

and research suggest that self-monitoring, relational obligation, and in-group

identification should moderate the relationships between, respectively, the

personal-enacted identity gap, relational-enacted identity gap, and communal-enacted

identity gap and cognitive dissonance. Second, theory and research suggest that issue

involvement, self-efficacy, and self-esteem should moderate the relationship between

cognitive dissonance and future intentions to engage in excessive drinking. Additionally,

it is possible that there are unintended effects of engaging in hypocrisy induction

activities and becoming mindful of identity gaps, namely reactance, that could challenge

the utility of this approach for behavior change messaging. This line of thought is

presented graphically in Figure 2.1 and will be discussed in detail in the following pages.

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[3] The current study focuses on the personal-enacted, relational-enacted, and communal-enacted identity gaps, as they most closely parallel hypocrisy induction's approach of making salient the disconnect between individuals' unfavorable behaviors (i.e., enacted identity) and their favorable cognitions of their self-concept (i.e., personal, relational, and communal identity) salient. Holding the enacted identity constant should enable comparisons to be made.

Figure 2.1. Visual representation of hypotheses and research questions.

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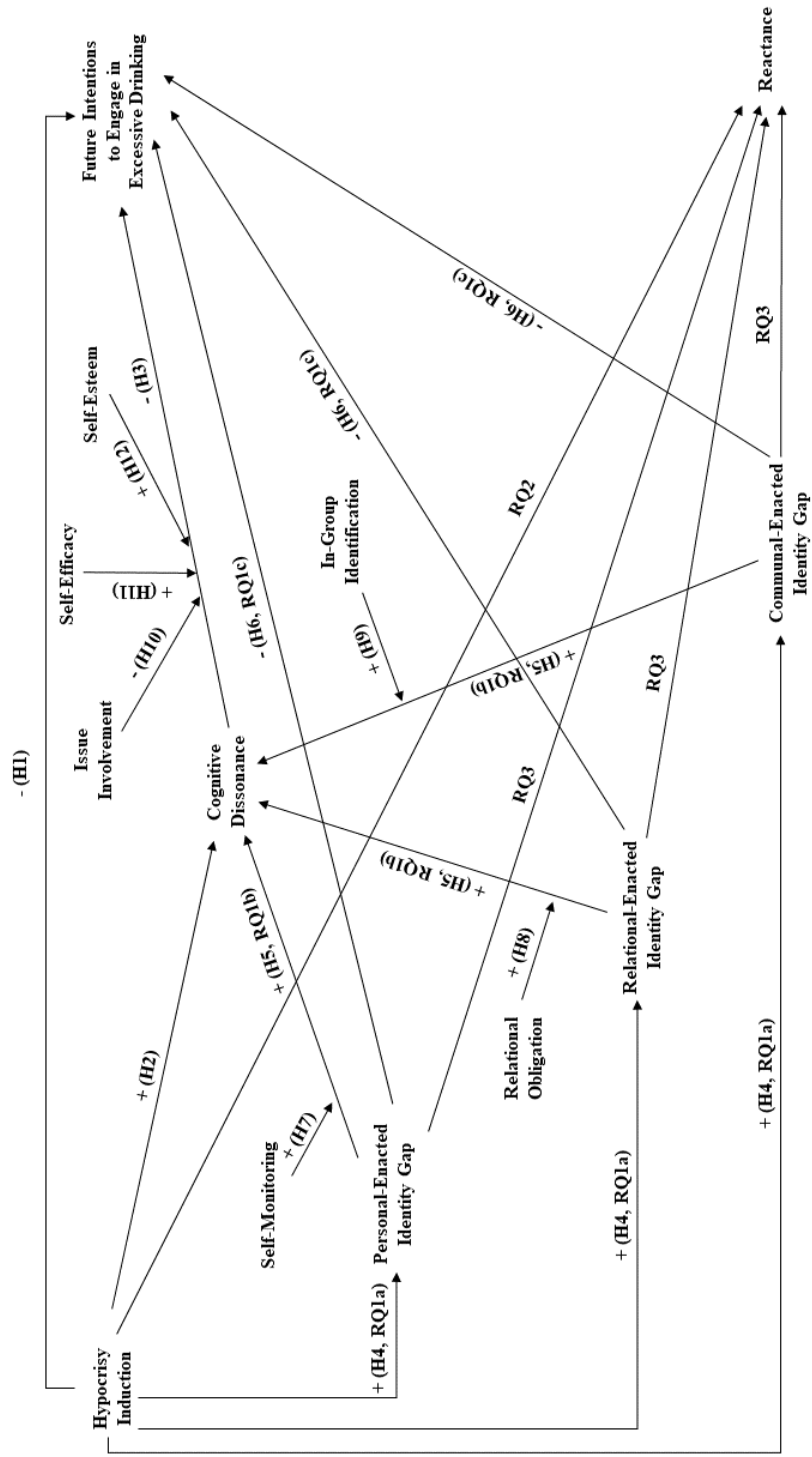
Hypotheses and Research Questions

The central hypothesis of research that employs hypocrisy induction methods is that the combination of public commitment and mindfulness of past failures manifests itself in behavioral change; this is expected to occur because individuals experience cognitive dissonance after completing hypocrisy induction activities (Stone, 2012). Therefore, individuals who publicly state their anti-excessive drinking attitudes and then reflect on their past failures to practice what they preach should report lower intentions to engage in excessive drinking in the future than those who do not because it causes them to experience a higher level of cognitive dissonance that translates into lower future intentions to engage in excessive drinking. Therefore, it is hypothesized that:

> H1: Participants who publicly commit to their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors will report lower future intentions to engage in excessive drinking than those who do not publicly commit to their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors.

> H2: Participants who publicly commit to their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors will experience a higher level of cognitive dissonance than those who do not publicly commit to their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors.

> H3: There is a negative relationship between the level of cognitive dissonance participants experience and their future intentions to engage in excessive drinking.

Recall, however, Thibodeau and Aronson's (1992) argument that the dissonance-arousing effects of a behavior vary based on its psychological significance to individuals. In other words, it is not the assessment of the behavior, itself, but rather how discrepant the behavior is with individuals' self-concept that causes dissonance. This can be explored by examining the role of identity gaps within the path from hypocrisy induction to behavior change. Specifically, completing hypocrisy induction manipulations should lead individuals to report larger magnitude identity gaps. Those who experience larger identity gaps should experience more dissonance, and, in turn, report lower intentions to engage in excessive drinking in the future. Therefore, it is hypothesized that:

H4: Participants who publicly commit to their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors will report larger magnitude identity gaps than those who do not who do not publicly commit to their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors.

H5: There is a positive relationship between identity gap magnitude and the level of cognitive dissonance.

H6: There is a negative relationship between identity gap magnitude and future intentions to engage in excessive drinking.

It is unknown, however, what is the most effective method for generating identity gaps, arousing dissonance, and encouraging lower future intentions to engage in excessive drinking behavior. Thus, the following research question is asked:

RQ1: Are there significant differences in the extent to which different approaches to hypocrisy induction (traditional hypocrisy, personal-enacted identity gap hypocrisy, relational-enacted identity gap hypocrisy, communal-enacted identity gap hypocrisy) are associated with (a) identity gap magnitude, (b) level of cognitive dissonance, or (c) future intentions to engage in excessive drinking.

In terms of the potential moderators of the relationship between identity gaps and dissonance, three variables appear to be particularly salient. First, research on self-monitoring suggests that low and high self-monitors will respond differently when they become mindful of a personal-enacted identity gap. According to Snyder (1974), self-monitoring theory posits that individuals differ in expressive control and discrepancies often exist between one's public appearances and private self; the behavior of high self-monitors reflects their consideration of who the situation wants them to be and how they can be that person, while low self-monitors strive to project their true self regardless of the demands of the situation. Moreover, high self-monitors believe in the various public appearances they create while low self-monitors believe that only public appearances that accurately reflect the private self are principled. Therefore, the realization that they are engaging in discrepant behavior that ascribes them as an "excessive drinker" is likely to cause dissonance to the extent that students value maintaining their personal responsible identity. It seems plausible, then, that, when individuals become mindful of a personal-enacted identity gap, low self-monitor students will experience more dissonance when they become mindful of a gap between their personal identity and their discrepant "excessive drinker" enacted identity because they strive to maintain consistency between their inward thoughts and their outward actions. Conversely, high self-monitor students

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will experience less dissonance in these situations because they are used to adapting their outward behavior based on the expectations of others/the situation, rather than who they believe themselves to be. Thus, it is hypothesized that:

H7: The positive relationship between personal-enacted identity gap magnitude and level of cognitive dissonance is strongest when self-monitoring is low.

Second, compliance-gaining research suggests that the extent to which individuals feel obligated to do what a relational partner wants will influence how they respond when they become mindful of a relational-enacted identity gap (Aune & Basil, 1994). Aune and Basil (1994) found that participants felt greater obligation to comply with compliance requests when they perceived and acknowledged a relationship with the source. It seems plausible, then, that, when they become mindful of a relational-enacted identity gap, students who have a high role obligation to their best friend should be more affected than students who have a low role obligation to their best friend when they are made mindful of their past excessive drinking failures. Accordingly, high role-obligation students will respond favorably to messages that point out a gap between their relational "best friend" identity and their discrepant enacted "excessive drinker" identity because they are used to adapting their outward behavior based on the expectations of important relational partners. Thus, it is hypothesized that:

H8: The positive relationship between relational-enacted identity gap magnitude and level of cognitive dissonance is strongest when relational obligation is high.

Third, in terms of the communal-enacted identity gap, research guided by self-categorization theory reveals that group identity (i.e., the communal layer of identity) is a key determinant of persuasion due to its influence on individuals' normative beliefs

(Schultz, Tabanico, & Rendón, 2005). As Hogg and Reid (2006) explain, individuals who

associate themselves with a group look toward others within that group for guidance, in

the form of a prototypical group member, on how to think and behave. And, because they

> know, and strive to know, with some precision how well they themselves match
> the prototype, how well others match the prototype, and how prototypical others
> think one is...social influence (true persuasion) is described by the internalization
> of a contextually salient in-group norm, which serves as a basis for self-definition,
> and thus attitude and behavior regulation. (Hogg & Reid, 2006, pp. 13-14)

Therefore, it seems likely that, when students become mindful of a communal-enacted

identity gap, those students who more highly identify with their in-group (i.e., others with

a communal "member of the [university name removed] student community" identity)

will respond differently than those who do not. Namely, high identifiers are likely to be

more concerned than low identifiers about the gap between these identities and, thus,

experience more dissonance that they then seek to resolve through attitude or behavior

change. Thus, it is hypothesized that:

> H9: The positive relationship between communal-enacted identity gap magnitude
>
> and level of cognitive dissonance is strongest when in-group identification is high.

In terms of the potential moderators of the relationship between cognitive

dissonance and future intentions to engage in excessive drinking, three variables appear

to be particularly salient. First, research grounded in social judgment theory (Sherif &

Sherif, 1967) has dedicated substantial attention to the extent to which individuals'

involvement with an issue influences persuasive outcomes. A major finding of this line of

research is that individuals who are high in value- and impression-relevant involvement

are less persuaded by counter-attitudinal advocacies than low-involvement subjects

(Johnson & Eagly, 1989, 1990). Therefore, the level of involvement that students have

with an issue, in this case the enacted "excessive drinking" behavior, should influence whether becoming aware of an identity gap is a viable persuasive strategy in this context. Specifically, those students who have a low level of involvement with the issue should be more motivated to change their behaviors when they experience dissonance than those students who have a high level of involvement with the issue. Thus, it is hypothesized that:

> H10: The negative relationship between the level of cognitive dissonance and future intentions to engage in excessive drinking is strongest when issue involvement is low.

> Second, social cognitive theory posits that individuals' perceived sense of self-efficacy in performing a health behavior will dictate whether they perform that behavior (Bandura, 2004). Indeed, Stone (2012) muses that individuals may not be mentally prepared for initiating a new behavior following hypocrisy induction due to a lack of skills or resources that are needed to perform it. Thus, it is hypothesized that:

> H11: The negative relationship between the level of cognitive dissonance and future intentions to engage in excessive drinking is strongest when self-efficacy is high.

> Third, previous hypocrisy induction research that adheres to a self-standards model of self-consistency has noted the possibility that self-esteem levels determine whether those who experience dissonance will seek to correct their behaviors. First proposed by Aronson (1999), this perspective predicts that those with high and stable self-esteem will experience more dissonance and will be more likely to seek to reduce dissonance than those with high and unstable or those with low self-esteem when they

use their personal standards to assess their behavior because they hold more positive

expectancies for their behavior. And, this speculation was supported in Peterson et al.'s

(2008) study. Thus, it is hypothesized that:

> H12: The negative relationship between the level of cognitive dissonance and
>
> future intentions to engage in excessive drinking is strongest when self-esteem is
>
> low.

Finally, Stone and Focella (2011) note that the potential for resistance to a

message is an important limitation to using hypocrisy induction to change behavior,

explaining that hypocrisy induction can backfire when it causes individuals to feel

negative emotions rather than dissonant feelings. One common lens through which to

examine resistance, the theory of psychological reactance, posits that individuals

experience a negative emotional state (i.e., reactance) when they believe their autonomy

is threatened (Brehm & Brehm, 1981); and persuasive messages are an inherent threat to

autonomy because they, "by definition, advocate that people hold a particular opinion,

perform some behavior, or even refrain from performing some behavior" (Jenkins &

Dragojevic, 2011, p. 560). In terms of the current study, then, it is possible that inducing

hypocrisy (through any method) could backfire if it causes individuals to believe their

autonomy is threatened. Relatedly, it is possible that students who feel a certain level of

threat to their free will to enact an "excessive drinker" identity would not experience

dissonance, but rather state reactance when they become mindful of larger magnitude

identity gaps. Therefore, it is possible that individuals who have publicly committed to

anti-excessive drinking attitudes would not experience dissonance but rather state

reactance when faced with the reality that they are "hypocrites." Thus, the following research questions are posed:

RQ2: Do participants who publicly state their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors experience greater reactance than those who do not publicly state their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors?

RQ3: Is there a relationship between identity gap magnitude and state reactance?

Chapter Three: Methods

Data were collected via an online post-test only experiment upon receiving institutional review board approval. The experimental design adhered to the procedure employed in hypocrisy induction research, although minor adaptations were made to help the experiment better fit the theory and context under investigation. A visual representation of the experimental design is provided in Appendix A.

Participants

Participants were 279 undergraduate students from a large university in the southern United States. Participants were recruited via the Department of Communication's undergraduate student research participation pool and received minimal course credit for their participation. To be eligible to participate, students needed to be at least 18 years of age and have consumed alcohol.

Participants completed demographic measures of age, sex, and race. Participants' average age was 20.29 years (range = 18 to 47, SD = 2.36). The sample included 192 (68.8%) females, 86 (30.8%) males, and 1 (0.4%) intersex individual. Most of the participants were White/Caucasian (n = 235, 84.2%), with the remaining participants identifying racially as Black/African American (n = 39, 14%), Hispanic/Latino (n = 8, 2.9%), Asian (n = 5, 1.8%), American Indian/Alaskan Native (n = 3, 1.1%), and Native Hawaiian/Pacific Islander (n = 1, 0.4%).[4]

Participants also answered two items about their typical drinking behavior (i.e., "About how many alcoholic drinks do you have when you drink socially with your

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[4] For race, participants were instructed to select all that apply, which accounts for the discrepancy in the total amount of responses in relation to the overall sample size.

friends?" and "What type of alcoholic beverage are you most likely to consume when drinking socially with your friends?"). Participants reported drinking an average of approximately five drinks per drinking experience ($M = 4.80$, $SD = 2.53$), which approximates the amount of drinks typically classified as binge drinking. During these experiences, they consumed liquor ($n = 91$, 32.6%); beer ($n = 57$, 20.4%); wine ($n = 33$, 11.8%); or some combination of liquor, beer, and wine ($n = 96$, 34.4%).

Procedure

Data collection began after participants read the study's informed consent and agreed to participate. Because hypocrisy induction relies on participants having initially prosocial attitudes that they can advocate to others, participants began by completing a two-fold screening measure of their attitudes towards excessive drinking. Rather than focusing on normative perceptions of quantity of drinks and its relationship to "excessive drinking," participants were prompted to think about "excessive drinking" in terms of the CDC's guidelines: (a) binge drinking, defined as 4 or more drinks consumed on one occasion for women and 5 or more drinks consumed on one occasion for men; (b) heavy drinking, defined as 8 or more drinks per week for women or 15 or more drinks per week for men; (c) any alcohol use by pregnant women; and (d) any alcohol use by those under the age of 21 years. Their attitudes toward excessive drinking were then assessed via a measure adapted from Dillard and Shen (2005). The measure included seven 7-point semantic differential questions. The stem for these questions ("Excessive drinking is…") was followed by the following word pairs: bad/good, foolish/wise, unfavorable/favorable, negative/positive, undesirable/desirable, unnecessary/necessary, detrimental/beneficial. Responses to these items were transformed into a composite variable representing global

pre-test attitudes toward excessive drinking. The measure demonstrated a Cronbach's alpha reliability of .90 ($M = 1.98$, $SD = 0.93$), which is in line with previous research (Dillard & Shen, 2005). Participants were then instructed to think about their responses to these items before indicating whether they were in favor of, neutral toward, or against excessive drinking. Only those participants who selected that they were against excessive drinking advanced to the next step.

Random assignment and manipulation. All remaining participants were randomly assigned into experimental conditions, either a single no hypocrisy (control [$n = 60$]) condition or one of four hypocrisy treatment condition groups (traditional hypocrisy [$n = 51$], personal-enacted identity gap hypocrisy [$n = 58$], relational-enacted identity gap hypocrisy [$n = 57$], communal-enacted identity gap hypocrisy [$n = 53$]).

Once assigned to their condition, participants proceeded to the manipulation stage of the experiment. Participants in the four hypocrisy groups first completed a public commitment manipulation in which they advocated against excessive drinking, which was meant to reinforce their prosocial attitudes (Stone, 2010). In the Aronson et al. (1991), Stone et al. (1994), and Fried and Aronson (1995) condom use studies, commitment was manipulated by having participants think that researchers were looking for the optimal deliverers of safe sex messages to high school students, and that college students were the best choice for this because they could easily remember what it was like to be a high school student and because high school students could relate to them better than adults or celebrities (Stone et al., 1994). Consequently, they were instructed to develop and deliver a videotaped speech about the merits of safer sexual behaviors that, they were told, would be shown to high school students.

In the current study, however, this manipulation was updated to account for the current digital media landscape. Specifically, participants in the hypocrisy conditions were led to believe that the state in which the university is located was creating a social media campaign about excessive drinking and was soliciting students' help in the campaign's messaging. Participants were instructed to first review a fact sheet on excessive drinking from the CDC (see Appendix B) and then to pledge their willingness to avoid excessive drinking behaviors via a tweet that would appear on the state's official Twitter account. The type of pledge differed based on which of the hypocrisy groups participants were assigned.

Participants in the three identity gap conditions first were instructed to "Think about what it means to you to be..." followed by either "*you*" (personal-enacted identity gap hypocrisy), "*someone's best friend*" (relational-enacted identity gap hypocrisy), "*a member of the [university name] student community*" (communal-enacted identity gap hypocrisy). They then were instructed to compose a tweet to others that reflects the targeted identity layer. Participants in the "personal-enacted identity gap hypocrisy" group were instructed to "Compose a tweet that lets people *like you* know why they should not engage in excessive drinking." Participants in the "relational-enacted identity gap hypocrisy" group were instructed to "Compose a tweet that lets *your best friend* know why they should not engage in excessive drinking." Participants in the "communal-enacted identity gap hypocrisy" group were instructed to "Compose a tweet that lets *members of the [university name] student community* know why they should not engage in excessive drinking." Participants in the "traditional hypocrisy" group were not instructed to "think about what it means to be..." Instead, in line with traditional

hypocrisy induction research that focuses on individuals' sense of "moral competence" and the discrepancy between their behavior and society's expectations, they were instructed to "Compose a tweet that lets people know why they should not engage in excessive drinking."

Participants in the hypocrisy groups then completed a mindfulness manipulation, which requires them to think about times when they have engaged in excessive drinking and, therefore, failed to practice what they preach (Stone, 2010). Mindfulness was operationalized by having participants recall their excessive drinking transgressions in two ways. First, they were asked to report the amount of times they engaged in excessive drinking in the last six months. Second, they were asked to provide the details (e.g., when, why, how much, what happened) of these experiences. Across the four treatment conditions, participants reported about four excessive drinking experiences in the six months prior to their participation on average (range = 0 to 14, $M = 3.88$, $SD = 3.48$). A one way analysis of variance indicated that there were no significant differences in the amount of excessive drinking experiences across groups, $F(3, 215) = 1.05$, $p = .37$.

Participants in the no hypocrisy (control) condition did not complete either the commitment or mindfulness manipulations. Instead, they were instructed to read the CDC fact sheet and then to answer questions to gauge their comprehension of the material.

Variable assessment. Experimental condition served as the primary independent variable in the current study. The measures used to assess the dependent and moderating variables are discussed below. All items are available in Appendix C. Descriptive statistics for these variables and their correlations are presented in detail in Table 3.1.

Table 3.1. Descriptive statistics and correlations (N = 279).

	M	SD	α	1	2	3	4	5	6	7	8	9	10	11	12
1.	3.01	1.43	.77	-	-.52†	-.24†	-.22†	-.23†	.04	.07	-.15*	-.09	-.28†	-.33†	-.04
2.	4.22	1.51	.93		-	.26†	.24†	.30†	.19**	-.10	.21†	.06	.12*	.16**	-.13*
3.	4.01	0.93	.79			-	.63†	-.24†	.16**	-.04	.05	-.12*	.20**	.02	-.14*
4.	3.62	0.99	.75				-	.54†	.16**	.00	-.02	-.08	.14**	-.06	-.17**
5.	3.14	1.22	.92					-	.31†	-.03	.10	-.06	.17**	.05	-.19**
6.	3.38	1.24	.85						-	-.02	-.07	-.01	-.09	-.07	-.18**
7.	3.97	0.64	.69							-	.03	.09	-.05	-.08	.05
8.	5.16	1.00	.78								-	.32†	.14*	.31†	.12*
9.	5.18	1.16	.94									-	.08	.27†	.31†
10.	5.73	1.08	.91										-	.13*	.05
11.	4.89	1.14	.97											-	.25†
12.	5.13	1.06	.90												-

Note. 1. Future intentions to engage in excessive drinking, 2. Cognitive dissonance, 3. Personal-enacted identity gap, 4. Relational-enacted identity gap, 5. Communal-enacted identity gap, 6. Reactance, 7. Self-monitoring, 8. Relational obligation, 9. In-group identification, 10. Issue involvement, 11. Self-efficacy, 12. Self-esteem. * $p < .05$, ** $p < .01$, † $p < .001$

Dependent variables. All participants, regardless of condition, completed measures of the study's dependent variables: future intentions to engage in excessive drinking cognitive dissonance, identity gaps, and reactance.

Future intentions to engage in excessive drinking. Behavior change, and not attitude change, is the primary dependent variable in hypocrisy induction research. As Stone (2010) notes, "becoming aware of their 'hypocrisy' should motivate people to change their behavior—rather than their attitudes—to reduce dissonance, so that they can maintain their crucial beliefs about their own honesty and sincerity" (p. 150). Previous hypocrisy induction research indicates that direct measures of behavior, such as buying condoms and taking shorter showers, are the best indicators of hypocrisy induction's effectiveness; however, proxy measures, such as future intentions to engage in the prosocial behavior, also have proven useful. Therefore, as monitoring participants' actual drinking behaviors is not feasible, behavioral intention was the primary dependent variable in the current study.

Future intentions to engage in excessive drinking was assessed with an adaptation of the multidimensional method used by Hu and Sundar (2010). This method involves asking participants how likely they would be to act on the advice that is offered in a persuasive message and recommend that advice to another person. Participants rated their responses to these two items on a seven-point scale (1 = *strongly disagree*; 7 = *strongly agree*). Scores on these items were transformed into a composite variable representing behavioral intentions. This approach yielded an acceptable reliability ($\alpha = .77$, $M = 3.01$, $SD = 1.43$), which is in line with previous research (see Hu & Sundar, 2010).

Cognitive dissonance. Elliot and Devine's (1994) measure of psychological discomfort was used to assess cognitive dissonance. As no direct measure of cognitive dissonance exists, this "dissonance thermometer" serves as a proxy measure of the affect associated with feelings of psychological discomfort (Elliot & Devine, 1994). Devine, Tauer, Barron, Elliot, and Vance (1999) argue that this measure is particularly well suited for hypocrisy induction research because it focuses on the actual experience of dissonance, rather than the ways in which people seek to reduce it via cognitive or behavior change; thus, it provides a more accurate representation of its presence. The measure instructs participants to indicate how they are feeling "right now" on a three-item, seven-point scale (1 = *not at all*; 7 = *applies very much*). The stem for these questions ("I feel…") is followed by the following words: comfortable, uneasy, and bothered. Responses to these items were transformed into a composite variable representing dissonance. The measure demonstrated excellent reliability (α = .93, M = 4.22, SD = 1.51), which is line with previous research (see Elliot & Devine, 1994).

Identity gaps. Participants completed three identity gap measures. Participants rated their responses to all three identity gap measures on a seven-point scale (1 = *strongly disagree*; 7 = *strongly agree*). Responses to the items were then transformed into composite variables representing the different identity gaps under investigation in the current study.

Jung and Hecht's (2004) personal-enacted identity gap scale was adapted for the current study. It includes 11 items, such as "I let others get to know 'the real me' when I engage in excessive drinking" and "I do not reveal important aspects of myself when I engage in excessive drinking." The scale demonstrated acceptable reliability (α = .79, M

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= 4.01, *SD* = 0.93), which is in line with previous research (Jung & Hecht, 2004; Kam & Hecht, 2009).

Kam and Hecht's (2009) relational-enacted identity gap scale was adapted for the current study. It is composed of seven items, including, "I sometimes violate my best friend's expectations of me through my behaviors when I engage in excessive drinking" and "I don't really act like a best friend around my best friend when I engage in excessive drinking." The scale demonstrated acceptable reliability (α = .75, *M* = 3.62, *SD* = 0.99), which is in line with previous research (Kam & Hecht, 2009).

A new communal-enacted identity gap scale was developed for the purposes of the current study. It incorporated ideas from existing identity gap scales, as well as theory and research on social norms and social identity theories. It included nine items, such as "I feel less connected to most members of the [university name] student community when I engage in excessive drinking" and "I give others an incorrect impression of members of the [university name] student community when I engage in excessive drinking."

The nine items were subjected to principal component analysis with Varimax rotation to examine their dimensionality. Both the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (.90) and Bartlett's Test of Sphericity (χ^2 = 1681.74, *p* < .001) indicated that the items were appropriate for further analysis. Components with Eigenvalues greater than 1 were retained. Eigenvalues, when considered alongside a scree plot of the components, suggested a single-factor solution that explained a total of 61.44% of the variance. Based on these results (reported in further detail in Table 2), it was concluded that the new scale was unidimensional. The scale was then subjected to a reliability analysis and demonstrated excellent reliability (α = .92, *M* = 3.14, *SD* = 1.22).

Table 3.2. Factor loadings and communalities based on principal components analysis with Varimax rotation for the nine items from the newly created communal-enacted identity gap scale (N = 279).

Item	Factor 1	Communality
1. I feel less like a member of the [university name] student community when I engage in excessive drinking.	.68	.46
2. I feel less connected to most members of the [university name] student community when I engage in excessive drinking.	.75	.56
3. I express myself in a certain way that is not representative of members of the [university name] student community when I engage in excessive drinking.	.80	.63
4. I mislead others about members of the [university name] student community when I engage in excessive drinking.	.87	.76
5. I give others an incorrect impression of members of the [university name] student community when I engage in excessive drinking.	.87	.76
6. I do not follow the expectations of most members of the [university name] student community when I engage in excessive drinking.	.85	.73
7. I surprise members of the [university name] student community when I engage in excessive drinking.	.73	.53
8. I don't act like other members of the [university name] student community when I engage in excessive drinking.	.70	.49
9. I do not act like the way people, in general, would expect members of the [university name] student community to act when I engage in excessive drinking.	.79	.62

Note. Factor 1 had an Eigenvalue of 5.53 and explained 61% of the variance.

Reactance. Reactance was assessed with a modified version of Lindsey's (2005) 4-item measure of state reactance[5]. Participants rated their responses to these items on a seven-point scale (1 = *strongly disagree*; 7 = *strongly ag*ree). The items are derived from Hong's psychological reactance scale (see Hong & Faedda, 1996). Example items include, "I am uncomfortable that I am being told how to feel about excessive drinking" and "I dislike that I am being told how to feel about excessive drinking." Scores on the items were transformed into a composite variable representing state reactance. The measure demonstrated good reliability (α = .85, *M* = 3.38, *SD* = 1.24), which is in line with previous research (see Lindsey, 2005; Quick, 2012).

Moderating variables. Next, all participants completed measures to assess the variables that are implicated in the current study's remaining hypotheses and research questions. In terms of the relationship between identity gaps and dissonance, the moderators assessed were self-monitoring, relational obligation, and in-group identification. In terms of the relationship between dissonance and future intentions, the moderators explored were issue involvement, self-esteem, and self-efficacy.

Self-monitoring. Self-monitoring was assessed using Snyder and Gangestad's (1986) 18-item revision of Snyder's (1974) Self-Monitoring Scale. Participants rated their responses to items on a seven-point scale (1 = *strongly disagree*; 7 = *strongly agree*). Sample items include "In different situations and with different people, I often act

_____

[5] While some have argued that Dillard and Shen's (2005) approach represents the most comprehensive measure of state reactance, Lindsey's (2005) measure has proven valid and reliable in numerous studies (see Quick, 2012). Given that Dillard and Shen's method is not well-suited for non-laboratory studies (Quick, 2012) and that state reactance is not the primary focus of the current study, Lindsey's measure was deemed appropriate.

like very different persons" and "I may deceive people by being friendly when I really

dislike them." Scores on these items were transformed into a composite variable

representing self-monitoring style. The scale demonstrated borderline acceptable

reliability ($\alpha = .69$, $M = 3.97$, $SD = 0.64$), which is lower than in other research (see

Snyder & Gangestad, 1986).

Relational obligation. Relational obligation was assessed with five items adapted

from the "respect for family" subscale of Fuligini, Tseng, and Lam's (1999) measure of

familial obligation. While this measure typically includes two other distinct "current

assistance" and "future support" subscales, most, if not all, of the items in those subscales

were not deemed applicable to the current study. Thus, only items from the "respect for

family" subscale were used. Participants rated their responses on a seven-point scale

($1 = $ *strongly disagree*; $7 = $ *strongly agree*). Sample items include "I treat my best friend

with great respect" and "I do well for the sake of my best friend." Scores were

transformed into a composite variable representing relational obligation. The scale

demonstrated acceptable reliability ($\alpha = .78$, $M = 5.16$, $SD = 1.00$), which is in line with

previous research (Fuligini et al., 1999; Fuligini & Pedersen, 2002).

In-group identification. In-group identification was assessed with nine items

adapted from Hogg and Hains's (1992) measure of group identification. Participants rated

their responses on a seven-point scale ($1 = $ *strongly disagree*; $7 = $ *strongly agree*). Sample

items include "I identify with [university name] students as a whole" and "I have strong

ties with [university name] students as a whole." Scores were transformed into a

composite variable of in-group identification. The scale demonstrated excellent reliability

($\alpha = .94$, $M = 5.18$, $SD = 1.16$).

Issue involvement. Issue involvement was with Eroglu and Machleit's (1998)

seven-item semantic differential measure. Participants rate their responses to the question

"How important is the issue of engaging in excessive drinking to you?" on a series of

7-point semantic differential scales (e.g., of no concern-of concern to me, trivial-

fundamental), with 1 = *low involvement* and 7 = *high involvement*. Scores were

transformed into a composite variable of issue involvement. The scale demonstrated

excellent reliability (α = .91, M = 5.73, SD = 1.06).

Self-efficacy. Self-efficacy was assessed with Bonar et al.'s (2011) 31-item

Alcohol Reduction Strategies-Current Confidence (ARS-CC) measure. This measure was

chosen instead of a measure of global self-efficacy or perceived behavioral control

because it is directly related to the context of the current study. Such synergy is important

in research, according to Bandura (2006), who argues that measures of perceived self-

efficacy must be tailored to the specific behavior under study. Participants rated their

responses on a seven-point scale (1 = *strongly disagree*; 7 = *strongly agree*). Items began

with the stem "When consuming alcohol socially with friends, I am confident in my

ability to..." and were followed by specific behaviors, including "...set a predetermined

time to stop drinking" and "...avoid 'catching up' if I start drinking after others." Scores

on the items were transformed into a composite variable representing self-efficacy. The

measure demonstrated excellent reliability (α = .97, M = 4.89, SD = 1.14), which is line

with previous research (see Bonar et al., 2011).

Self-esteem. Self-esteem was assessed with the 10-item Rosenberg Self-Esteem

Scale (RES; Rosenberg, 1979). Participants rated their responses on a seven-point scale

(1 = *strongly disagree*; 7 = *strongly agree*). Sample items include "On the whole, I am

satisfied with myself" and "I feel that I'm a person of worth." Scores were transformed into a composite variable representing self-esteem. The scale demonstrated excellent reliability ($\alpha = .90$, $M = 4.89$, $SD = 1.06$), which is in line with previous research (see Rosenberg, 1979).

Data Analysis

The initial dataset included 352 complete responses. However, per an institutional review board request, participants were informed about the deception involved during data collection and informed of the true nature of the research upon completion of the study and then given the opportunity to have their responses removed from the dataset before data were analyzed. This resulted in 62 (17.61%) participants choosing to have their responses removed from the dataset before analysis.

The remaining 290 sets of responses were prepared for analysis by following Tabachnik and Fidell's (2013) procedures for screening data. First, descriptive statistics were inspected for accuracy by checking for out-of-range values, examining plausible means and standard deviations, and evaluating and dealing with missing data points. At this point, one participant's data were removed because the participant left 30% of the survey instrument items unanswered. Any additional missing values were addressed with mean substitution, as there were fewer than 5% of data points missing from the rest of the dataset and they occurred at random (Kline, 2005). Second, the data were screened for univariate and multivariate outliers. Univariate outliers were identified by examining participants' z-scores on the previously discussed composite variables by condition; any participants whose responses resulted in a z-score greater than │3.29│ were considered outliers and were removed for analysis (Kline, 2005). At this point, nine participants'

data were removed. Multivariate outliers were identified by computing Mahalanobis distances for the previously discussed composite variables; any distance with a value of $p < .001$ was considered an outlier (Kline, 2005). At this point, one participant's data were removed. Third, multicolinearity was assessed by checking the correlational matrix of the composite variables (see Table 2) for any instances of correlations greater than .90 (Kline, 2005); there was no evidence of multicolinearity. Finally, the data were examined for normality by checking skewness and kurtosis via probability plots; following Kline's (2005) guidelines, skewness values greater than 3 and kurtosis values greater than 10 were considered indicative of non-normality. However, there was no evidence of non-normality. Thus, the final dataset included 279 sets of responses that were analyzed with SPSS 23.

Chapter Four: Results

Recall the current study's primary arguments. Inducing hypocrisy—either through traditional methods or by making individuals become mindful of identity gaps—is posited to result in lower future intentions to engage in excessive drinking. It is expected that the mechanism through which this occurs involves cognitive dissonance. Yet, the level of cognitive dissonance and, in turn, the extent of future intentions to engage in excessive drinking likely varies depending on identity gap magnitude. It is unknown, however, how best to produce cognitive dissonance and encourage the lowest possible future intentions to engage in excessive drinking behavior via hypocrisy induction. It also is argued that several factors moderate this process. Namely, self-monitoring style, relational obligation, and in-group identification are expected to moderate the relationship between different identity gap types and cognitive dissonance, while issue involvement, self-efficacy, and self-esteem are expected to moderate the relationship between cognitive dissonance and future intentions to engage in excessive drinking behavior. There also is the possibility that engaging in hypocrisy induction activities and becoming mindful of identity gaps can backfire and result in state reactance. The results of the statistical analyses used to examine these ideas paint a complicated picture.

Statistical Analyses

A one-way multivariate analysis of variance (MANOVA) was conducted to determine possible main effects of experimental conditional (traditional hypocrisy, personal-enacted identity gap hypocrisy, relational-enacted identity gap hypocrisy, communal-enacted identity gap hypocrisy, control) on seven dependent variables of interest: future intentions to engage in excessive drinking, level of cognitive dissonance,

personal-enacted identity gap magnitude, relational-enacted identity gap magnitude, communal-enacted identity gap magnitude, and state reactance. The omnibus results were followed by univariate tests and, where significant results were found, planned comparisons using Dunn's multiple comparison procedure (e.g., Kirk, 1995) were conducted on the predicted outcomes. Additionally, when merited, post-hoc Bonferroni comparisons were conducted to answer the posited research questions. This report will first present the MANOVA omnibus results, followed by systematic assessment of the hypotheses and research questions.

Omnibus Multivariate Results

The one-way MANOVA tested the impact of experimental condition on the dependent variables with the intent of examining its main effects on those variables. The omnibus test revealed a significant multivariate main effect for experimental condition, Wilks' $\Lambda = .87$, $F(3, 215) = 1.6$, $p < .05$, $\eta^2 = .03$. Since the results of the multivariate test were significant, univariate tests were conducted for significant differences across groups in participants' future intentions to engage in excessive drinking, level of cognitive dissonance, personal-enacted identity gap magnitude, relational-enacted identity gap magnitude, communal-enacted identity gap magnitude, and state reactance.

Hypothesis and Research Question Addressing the Effect of Experimental Condition on Future Intentions to Engage in Excessive Drinking

In line with the extant hypocrisy induction research, Hypothesis 1 predicted that participants who publicly state their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors will report lower future intentions to engage in excessive drinking than those who do not publicly advocate against excessive

drinking behaviors and then list their past failures enacting those behaviors. The univariate test for experimental condition indicated significant effects on the dependent measure of future intentions to engage in excessive drinking, $F(4, 274) = 2.48$, $p < .05$, partial $\eta^2 = .04$. Hence, planned comparisons were conducted comparing individual means for each of the four hypocrisy conditions to the control condition.

Planned comparisons provided only a partial support for Hypothesis 1. As seen in Table 4.1 and Figure 4.1, participants in the personal-enacted identity gap hypocrisy condition reported lower future intentions to engage in excessive drinking ($M = 2.66$) than did participants in the control condition ($M = 3.34$), $F(1, 274) = 6.98$, $p < .001$, $\eta^2 = .02$. In addition, participants in the communal-enacted identity gap hypocrisy condition reported lower future intentions to engage in excessive drinking ($M = 2.76$) than did participants in the control condition ($M = 3.34$), $F(1, 274) = 4.868$, $p < .01$, $\eta^2 = .02$. However, contrary to predictions, participants in the traditional hypocrisy condition did not report lower future intentions to engage in excessive drinking ($M = 3.24$) than did participants in the control condition, $F(1, 274) = .18$, $p = .84$, $\eta^2 = .00$. Additionally, contrary to predictions, participants in the relational-enacted identity gap hypocrisy condition did not report lower future intentions to engage in excessive drinking ($M = 3.04$) than did participants in the control condition, $F(1, 274) = 1.39$, $p = .25$, $\eta^2 = .01$.

Table 4.1. Mean identity gap magnitude, levels of cognitive dissonance, future intentions to engage in excessive drinking, and levels of state reactance by experimental condition.

	Traditional Hypocrisy ($n = 51$)	Personal-Enacted Identity Gap Hypocrisy ($n = 58$)	Relational-Enacted Identity Gap Hypocrisy ($n = 57$)	Communal-Enacted Identity Gap Hypocrisy ($n = 53$)	Control ($n = 60$)
Intentions	3.24 (.20)	$2.66^{\dagger}_{a}$ (.19)	3.04 (.19)	2.76^{**}_{b} (.19)	3.35_{ab} (.18)
Dissonance	3.97 (.21)	4.17 (.20)	4.32 (.20)	4.55 (.21)	4.09 (.20)
Identity Gap Magnitude					
Personal-Enacted Identity Gap	3.75 (.13)	4.04 (.12)	3.96 (.12)	4.05 (.13)	4.23 (1.2)
Relational-Enacted Identity Gap	3.43 (.14)	3.61 (.13)	3.43 (.13)	3.78 (.14)	3.85 (.13)
Communal-Enacted Identity Gap	3.12 (.17)	2.98 (.16)	3.10 (.16)	3.22 (.17)	3.27 (.16)
Reactance	3.48 (.17)	$2.96^{\dagger}_{c}$ (.16)	3.57 (.16)	3.37 (.17)	3.38_{c} (.16)

Note. Standard error presented in parentheses. Subscripts indicate significant differences between conditions. $* p < .05$, $** p < .01$, $\dagger p < .001$

Figure 4.1. Box plot comparing sample means in future intentions to engage in excessive drinking between experimental conditions.
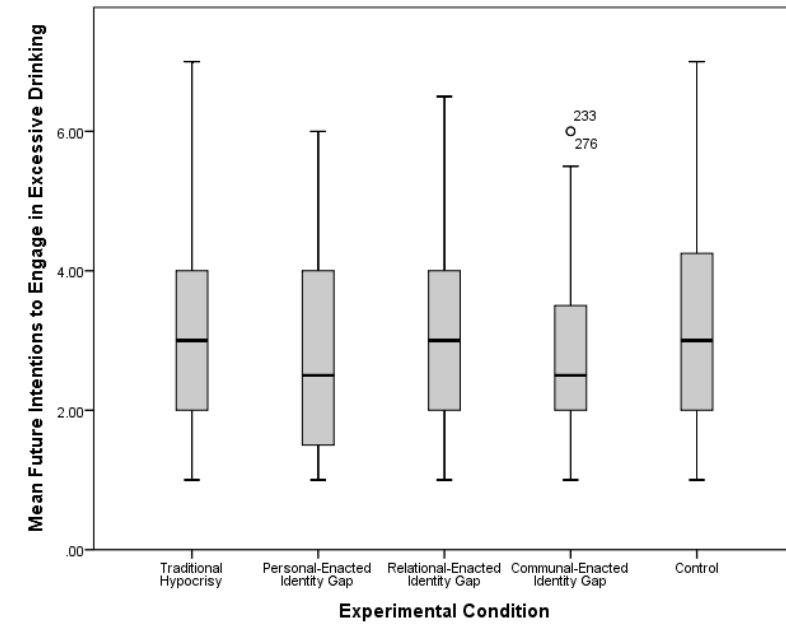
Research Question 1c asked whether there were differences in the extent to which the different approaches to hypocrisy induction encouraged lower future intentions to engage in excessive drinking. Post-hoc, two-tailed Bonferroni comparisons was performed to determine if there was a significant difference across the four hypocrisy induction conditions. Results indicated one statistically significant difference, with participants in the personal-enacted identity gap hypocrisy condition reporting lower future intentions on average ($M = 2.66$) than did participants in the traditional hypocrisy condition ($M = 3.24$), $p < .05$. Thus, in response to Research Question 1c, the personal-enacted identity gap hypocrisy induction is more effective at encouraging lower future intentions to engage in excessive drinking than both no hypocrisy and traditional hypocrisy; however, it is not statistically more effective in comparison to the other identity gap hypocrisy inductions.

Hypothesis and Research Question Addressing the Effect of Experimental

Condition on Level of Cognitive Dissonance

In line with self-consistency theory's arguments, Hypothesis 2 predicted that participants who publicly state their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors will report higher levels of cognitive dissonance than those who do not publicly advocate against excessive drinking behaviors and then list their past failures enacting those behaviors. The univariate test for experimental condition did not indicate significant effects on the dependent measure of level of cognitive dissonance, $F(4, 274) = 1.19$, $p = .32$, partial $\eta^2 = .02$. However, as seen in Table 4.1 and Figure 4.2, means were in the expected direction, with participants in the three identity gap conditions experiencing higher levels of dissonance than did participants in the control or traditional hypocrisy conditions. Thus, Hypothesis 2 was not supported.

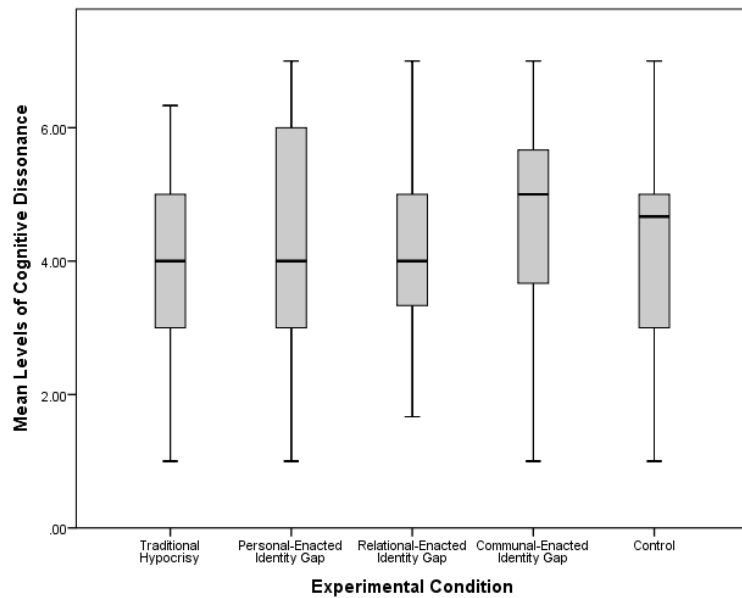*Figure 4.2. Box plot comparing sample means in levels of cognitive dissonance between experimental conditions.*

Research Question 1b asked whether there were differences in the extent to which the different approaches to hypocrisy induction catalyzed higher levels of cognitive dissonance. Based on the non-significant results of the univariate MANOVA analysis surrounding Hypothesis 2, it does not appear that there are any significant differences in levels of dissonance across conditions. It should be noted, however, that the means suggest that, of the hypocrisy induction conditions, participants in the traditional hypocrisy condition on average reported the lowest levels of cognitive dissonance ($M = 3.97$) and participants in the communal-enacted identity gap condition on average reported the highest levels of cognitive dissonance ($M = 4.55$). An exploratory two-tailed Bonferroni post-hoc test indicated that this difference was statistically significant, $p = .05$. Thus, in response to Research Question 1b, the communal-enacted identity gap hypocrisy induction resulted in the highest levels of dissonance, although, the lack of a significant univariate effect of experimental condition on cognitive dissonance suggests that there is not one most effective induction at catalyzing higher levels of cognitive dissonance.

Hypothesis and Research Question Addressing the Effect of Experimental Condition on Identity Gap Magnitude

Hypothesis 4 tested the argument forwarded in the current study that participants who publicly state their anti-excessive drinking attitudes and then are made mindful of their past excessive drinking behaviors will report larger magnitude identity gaps than those who do not publicly advocate against excessive drinking behaviors and then list their past failures enacting those behaviors. The univariate test for experimental condition did not indicate significant effects on the dependent measures of personal-enacted

identity gap magnitude, $F(4, 274) = 1.98$, $p = .10$, partial $\eta^2 = .03$; relational-enacted

identity gap magnitude, $F(4, 274) = 2.19$, $p = .07$, partial $\eta^2 = .03$; or communal-enacted

identity gap magnitude, $F(4, 274) = .48$, $p = .75$, partial $\eta^2 = .01$. Interestingly, as seen in

Table 4.1 and Figures 4.3 – 4.5, means suggest that participants in the control condition,

on average, experienced the largest magnitude personal-enacted, relational-enacted, and

communal-enacted identity gaps. Thus, Hypothesis 4 was not supported.

Research Question 1a asked whether there were differences in the extent to which

the different approaches to hypocrisy induction made participants experience larger

magnitude identity gaps. Based on the non-significant results of the univariate MANOVA

analysis surrounding Hypothesis 4, it does not appear that there are any significant

differences in identity gap magnitude across conditions. Interestingly, participants in the

control condition reported the largest magnitude personal-enacted, relational-enacted, and

communal-enacted identity gaps on average. Exploratory two-tailed Bonferroni post-hoc

comparisons indicated that these means were statistically different in two cases. First,

participants in the control condition reported larger magnitude personal-enacted identity

gaps on average ($M = 4.23$) as compared to participants in the traditional hypocrisy

condition ($M = 3.75$), $p < .01$. Second, participants in the control condition reported

larger magnitude relational-enacted identity gaps on average ($M = 3.85$) as compared to

participants in the traditional hypocrisy condition ($M = 3.43$), $p < .05$. Thus, in response

to Research Question 1a, the control condition resulted in the largest magnitude identity

gaps, although, the lack of a significant univariate effect of experimental condition on

identity gap magnitude suggests that there is not one most effective way to cause

individuals to sense larger magnitude identity gaps.

Figure 4.3. Box plot comparing sample means in personal-enacted identity gap magnitude between experimental conditions.
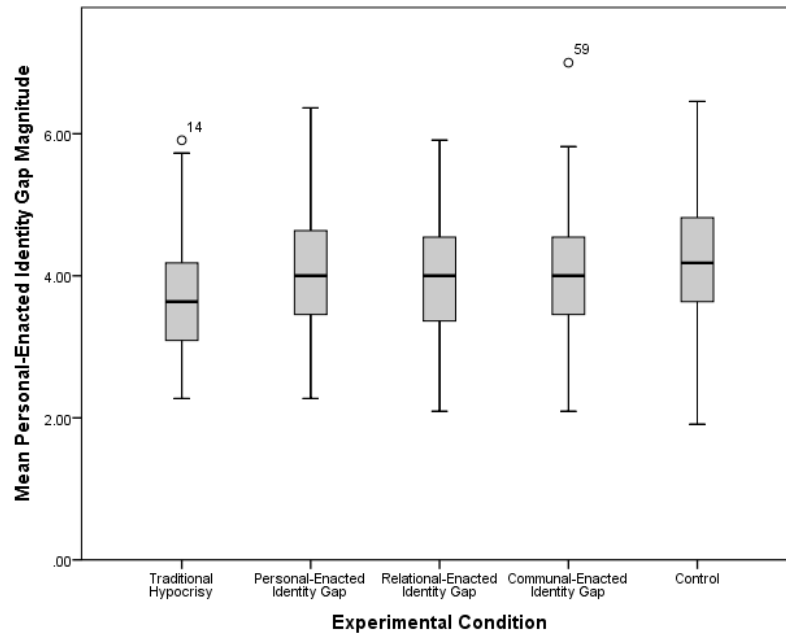
Figure 4.3. Box plot comparing sample means in relational-enacted identity gap magnitude between experimental conditions.
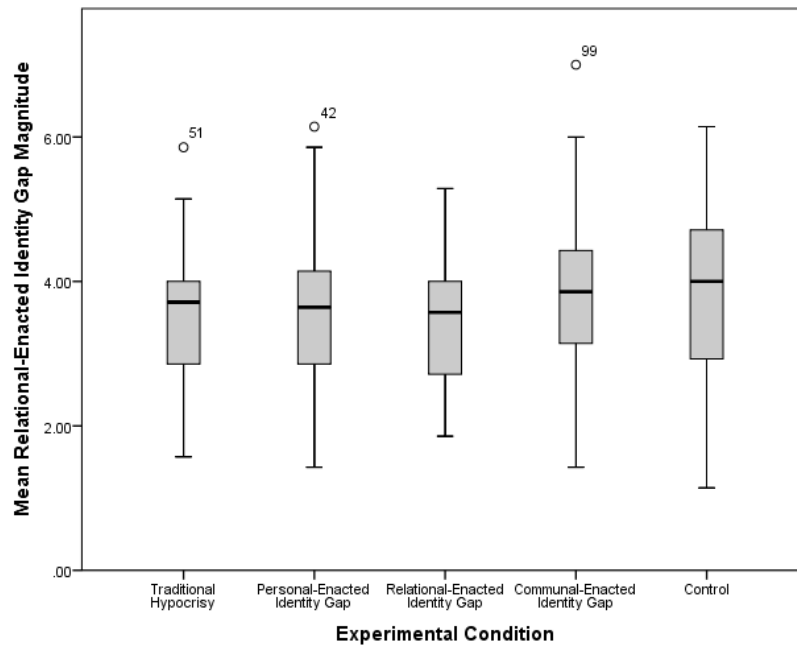
Figure 4.5. Box plot comparing sample means in communal-enacted identity gap magnitude between experimental conditions.
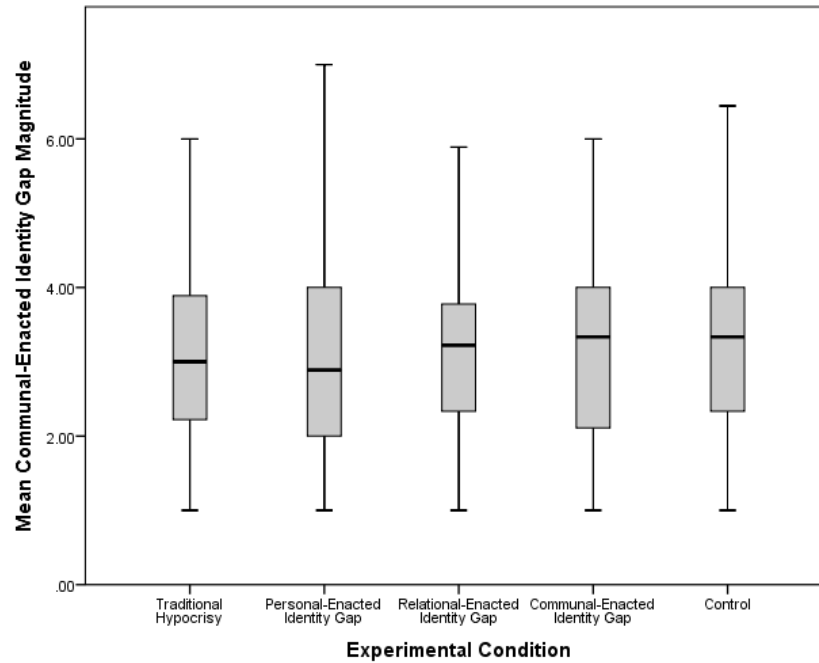
Research Question Addressing the Effect of Experimental Condition on Level of State Reactance

Research Question 2 asked whether hypocrisy induction methods can backfire and cause resistance to persuasion. The univariate test for experimental condition indicated significant effects on the dependent measure of future intentions to engage in excessive drinking, $F(4, 274) = 2.44$, $p < .05$, partial $\eta^2 = .03$. Hence, planned comparisons were conducted comparing individual means.

Planned comparisons suggest that completing hypocrisy induction activities is not any more likely to cause a spike in state reactance than not completing those activities. As visible in Table 3 and Figure 4.6, there was not a significant difference in level of state reactance reported by participants in the traditional hypocrisy condition ($M = 3.48$) as compared to participants in the control condition ($M = 3.55$), $F(1, 274) = .11$, $p = .98$, $\eta^2 = .00$. Additionally, there was not a significant difference in level of state reactance

reported by participants in the relational-enacted identity gap condition ($M = 3.57$) as compared to participants in the control condition, $F(1, 274) = .00$, $p = .99$, $\eta^2 = .00$. Furthermore, there was not a significant difference in level of state reactance reported by participants in the communal-enacted identity gap condition ($M = 3.22$) as compared to participants in the control condition, $F(1, 274) = .65$, $p = .63$, $\eta^2 = .00$. Interestingly, participants in the personal-enacted identity gap condition reported significantly *lower* levels of state reactance ($M = 2.64$) as compared to participants in the control condition, $F(1, 274) = .11$, $p < .001$, $\eta^2 = .02$. Thus, in response to Research Question 2, completing hypocrisy induction activities does not appear to cause state reactance and, in some cases, may even mitigate reactance.

Figure 4.6. Box plot comparing sample means in levels of state reactance between experimental conditions.
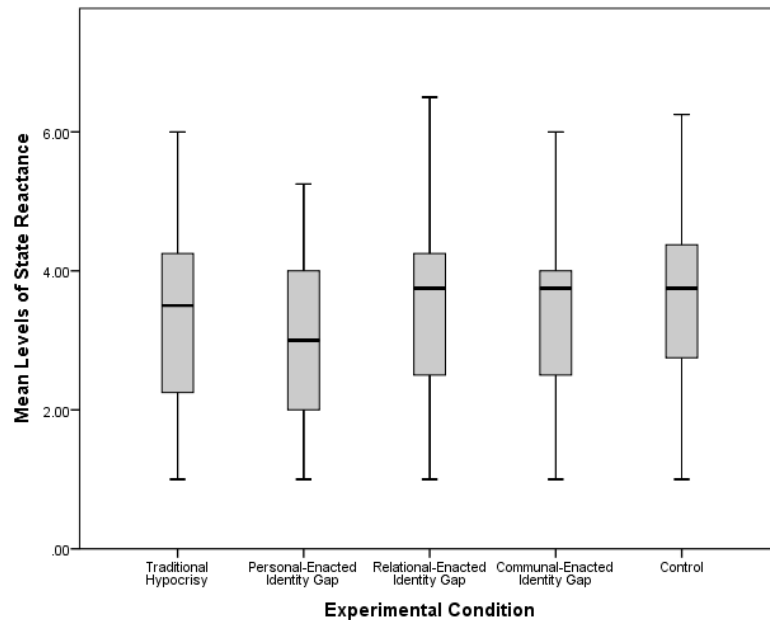
Hypotheses and Research Question Addressing the Relationships among Dependent Variables

Correlational analyses were conducted to examine the relationships among the seven dependent variables to better understand the mechanism through which the effects of experimental condition on them (did not) manifest. The results of these analyses are visible in Table 3.1, but will be described in detail below.

In line with self-consistency theory's arguments, Hypothesis 3 argued that there is a negative relationship between the level of dissonance participants experience and their future intentions to engage in excessive drinking. As predicted, higher levels of cognitive dissonance were related to lower future intentions to engage in excessive drinking, $r(279) = -.52, p < .001$. Thus, Hypothesis 3 was supported.

Hypothesis 5 tested the argument forwarded in the current study that there is a positive relationship between identity gap magnitude and level of cognitive dissonance. As predicted, larger magnitude personal-enacted identity gaps, $r(279) = .26, p < .001$; relational-enacted identity gaps, $r(279) = .24, p < .001$; and communal-enacted identity gaps, $r(279) = .30, p < .001$, were related to higher levels of cognitive dissonance. Thus, Hypothesis 5 was supported.

Hypothesis 6 tested the argument forwarded in the current study that there is a negative relationship between identity gap magnitude and level of cognitive dissonance. As predicted, larger magnitude personal-enacted identity gaps, $r(279) = -.24, p < .001$; relational-enacted identity gaps, $r(279) = -.22, p < .001$; and communal-enacted identity gaps, $r(279) = -.23, p < .001$, were related to lower future intentions to engage in excessive drinking. Thus, Hypothesis 6 was supported.

Research Question 3 assessed the potential relationship between identity gap magnitude and level of state reactance. Larger magnitude personal-enacted identity gaps, $r(279) = .16$, $p < .01$; relational-enacted identity gaps, $r(279) = .16$, $p < .01$; and communal-enacted identity gaps, $r(279) = .31$, $p < .001$, were related to higher levels of state reactance. Thus, in response to Research Question 3, there appears to be a positive relationship between identity gap magnitude and levels of state reactance.

Hypotheses Addressing the Moderation of the Relationships among Dependent Variables

Additionally, a series of moderation analyses using Hayes' PROCESS macro were conducted to examine possible moderators of the relationships among some of the seven dependent variables to better understand the mechanism through which the effects of experimental condition on them (did not) manifest.

Hypothesis 7 predicted that as the level of self-monitoring increases, the relationship between the personal-enacted identity gap and the level of cognitive dissonance decreases. As seen in Table 4.2, the overall model was significant, $F(3, 275) = 7.66$, $p < .001$, $R^2 = .08$. As for individual predictors, there was a significant positive association between the personal-enacted identity gap and dissonance, $b = .40$, $t(275) = 4.13$, $p < .001$. There was not a significant association between self-monitoring and dissonance, $b = -.21$, $t(275) = -1.48$, $p = .14$. There was not a significant association between the interaction of the personal-enacted identity gap and self-monitoring with dissonance, $b = .15$, $t(275) = 1.12$, $p = .26$. Thus, Hypothesis 7 was not supported, as level of self-monitoring did not influence the strength of the relationship between personal-enacted identity gap magnitude and level of cognitive dissonance.

Table 4.2. Moderation models of predictors of levels of cognitive dissonance.

	b	p	R^2
P-E Gap x Self-Monitoring			
Overall model	--	< .001	.08
P-E Gap	.40	< .001	--
Self-Monitoring	-.21	.14	--
Interaction	.15	.26	--
R-E Gap x Relational Obligation			
Overall model	--	< .001	.10
R-E Gap	.38	< .001	--
Relational Obligation	.32	< .001	--
Interaction	-.02	.88	--
C-E Gap x In-group Identification			
Overall model	--	< .001	.10
C-E Gap	.39	< .001	--
In-group Identification	.11	.19	--
Interaction	-.04	.52	--

Note. R^2 only available for overall model in PROCESS.

Hypothesis 8 predicted that as the level of relational obligation increases, the relationship between the relational-enacted identity gap and the level of cognitive dissonance also increases. As seen in Table 4.2, the overall model was significant, $F(3, 275) = 12.82$, $p < .001$, $R^2 = .10$. As for individual predictors, there was a significant positive association between the relational-enacted identity gap and dissonance, $b = .38$, $t(275) = 3.98$, $p < .001$. There also was a significant positive association between relational obligation and dissonance, $b = .32$, $t(275) = 3.70$, $p < .001$. There was not a significant relationship between the interaction of the relational-enacted identity gap and relational obligation and dissonance, $b = -.02$, $t(275) = -.16$, $p = .88$. Thus, Hypothesis 8 was not supported, as level of relational obligation did not influence the strength of the relationship between relational-enacted identity gap magnitude and level of cognitive dissonance.

Hypothesis 9 predicted that as the level of in-group identification increases, the relationship between the communal-enacted identity gap and the level of cognitive dissonance also increases. As seen in Table 4.2, the overall model was significant, $F(3, 275) = 12.06$, $p < .001$, $R^2 = .10$. In terms of individual predictors, there was a significant positive association between the communal-enacted identity gap and dissonance, $b = .39$, $t(275) = 5.65$, $p < .001$. There was not a significant association between in-group identification and dissonance, $b = .11$, $t(275) = 1.33$, $p = .19$. There also was not a significant association between the interaction of the communal-enacted identity gap and in-group identification and dissonance, $b = -.04$, $t(275) = -.64$, $p = .52$. Thus, Hypothesis 9 was not supported, as level of in-group identification did not

influence the strength of the relationship between communal-enacted identity gap magnitude and level of cognitive dissonance.

Hypothesis 10 predicted that as the level of issue involvement increases, the relationship between the level of cognitive dissonance and future intentions to engage in excessive drinking decreases. As seen in Table 4.3, the overall model was significant, $F(3, 275) = 51.47$, $p < .001$, $R^2 = .33$. In terms of individual predictors, there was a significant negative association between dissonance and intentions, $b = -.47$, $t(275) = -9.02$, $p < .001$. There also was a significant negative association between issue involvement and intentions, $b = -.30$, $t(275) = -4.31$, $p < .001$. Finally, there was a significant positive relationship between the interaction of dissonance and issue involvement and intentions, $b = .10$, $t(275) = 2.28$, $p < .05$. Simple slopes analysis based on the conditional effects data provided by PROCESS was then used to probe the interaction: low issue involvement (one standard deviation below the mean), $b = -.59$, $t(275) = -9.65$, $p < .001$; average issue involvement (at the mean), $b = -.47$, $t(275) = -9.02$, p $< .001$; high issue involvement (one standard deviation above the mean), $b = -.36$, $t(275) = -4.40$, $p < .001$. Thus, Hypothesis 10 was supported, as level of issue involvement influenced the strength of the relationship between level of cognitive dissonance and future intentions to engage in excessive drinking. Specifically, as seen in Figure 8, future intentions to engage in excessive drinking were lowest when levels of cognitive dissonance were high and issue involvement was low.

Table 4.3. Moderation models of predictors of future intentions to engage in excessive drinking.

	b	p	R^2
Dissonance x Issue Involvement			
Overall model	--	< .001	.33
Dissonance	-.47	< .001	--
Issue Involvement	-.30	< .001	--
Interaction	.10	< .05	--
Dissonance x Self-esteem			
Overall model	--	< .001	.28
Dissonance	-.50	< .001	--
Self-esteem	-.15	< .05	--
Interaction	-.01	.78	--
Dissonance x Self-efficacy			
Overall model	--	< .001	.33
Dissonance	-.45	< .001	--
Self-efficacy	-.30	< .001	--
Interaction	.03	.53	--

Note. R^2 only available for overall model in PROCESS.

Figure 4.7. Line graph depicting the relationship between levels of cognitive dissonance and future intentions to engage in excessive drinking, as moderated by issue involvement.
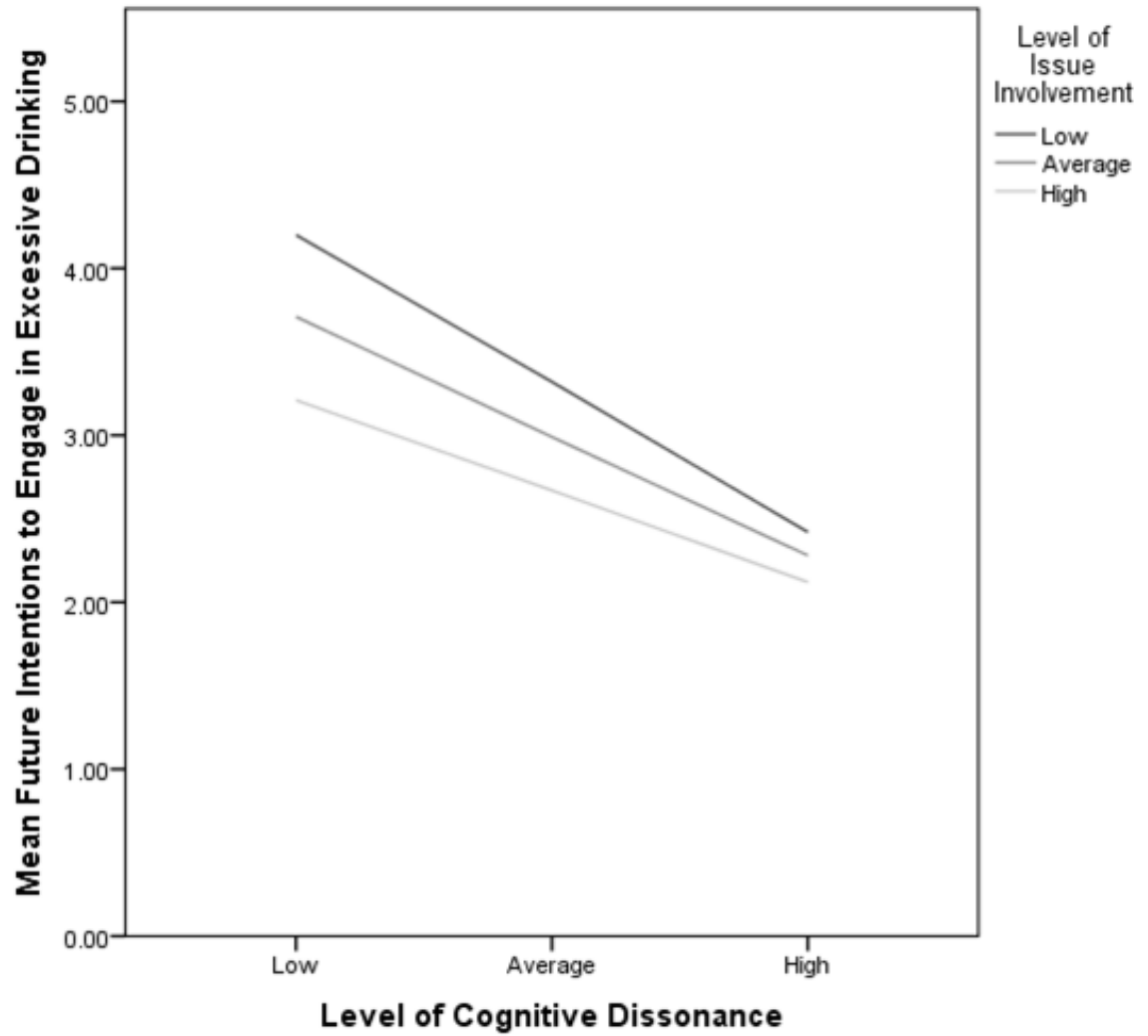
Hypothesis 11 predicted that as the level of self-efficacy increases, the relationship between the level of cognitive dissonance and future intentions to engage in excessive drinking also increases. As seen in Table 4.3, the overall model was significant, $F(3, 275) = 40.25$, $p < .001$, $R^2 = .33$. In terms of individual predictors, there was a significant negative association between dissonance and intentions, $b = -.45$, $t(275) = -8.22$, $p < .001$. There also was a significant negative association between self-efficacy and intentions, $b = -.31$, $t(275) = -4.87$, $p < .001$. However, there was not a significant association between the interaction of dissonance and self-efficacy and intentions, $b = .03$, $t(275) = .63$, $p = .53$. Thus, Hypothesis 11 was not supported, as level of self-efficacy did not influence the strength of the relationship between level of cognitive dissonance and future intentions to engage in excessive drinking.

Hypothesis 12 predicted that as the level of self-esteem increases, the relationship between the level of cognitive dissonance and future intentions to engage in excessive drinking also increases. As seen in Table 4.3, the overall model was significant, $F(3, 275) = 28.40$, $p < .001$, $R^2 = .28$. In terms of individual predictors, there was a significant negative association between dissonance and intentions, $b = -.50$, $t(275) = -9.13$, $p < .001$. There also was a significant negative association between self-esteem and intentions, $b = -.15$, $t(275) = -2.03$, $p < .05$. There was not, however, a significant relationship between the interaction of dissonance and self-esteem and intentions, $b = -.01$, $t(275) = -.28$, $p = .78$. Thus, Hypothesis 12 was not supported, as level of self-esteem did not influence the strength of the relationship between level of cognitive dissonance and future intentions to engage in excessive drinking.

Chapter Five: Discussion and Implications

The current study drew from dissonance theory, self-consistency theory, and hypocrisy induction methodology to test the utility of the Communication Theory of Identity (CTI) in persuasive health message design, specifically whether making message recipients mindful of identity gaps causes them to experience cognitive dissonance that they seek to resolve by reporting intentions to change their behavior; in this case, their excessive drinking behavior.

In line with self-consistency theory, it was hypothesized (H1) that completing hypocrisy induction activities would result in lower future intentions to engage in excessive drinking. Results indicated that, in some cases, completing hypocrisy induction activities did lead to lower future intentions to engage in excessive drinking. Namely, participants in the personal-enacted identity gap hypocrisy condition and the communal-enacted identity gap hypocrisy conditions reported lower future intentions to engage in excessive drinking than did participants in the control condition. It then was hypothesized that cognitive dissonance was the catalyst through which this effect would occur (H2-H3). As hypothesized, there was a negative relationship between level of dissonance and future intentions to engage in excessive drinking. However, results did not provide support for that dissonance emerged as a result of completing hypocrisy induction activities.

Drawing from ideas forwarded by Hecht (2015; Hecht & Choi, 2012), it was hypothesized that becoming mindful of identity gaps after completing hypocrisy induction activities would cause participants to experience higher levels cognitive dissonance that then should translate into lower future intentions to engage in excessive

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drinking (H4-H6, RQ1). Results indicated that becoming mindful of larger magnitude

identity gaps did cause participants to experience a higher level of cognitive dissonance

that led them to report lower future intentions to engage in excessive drinking.

Importantly, however, participants in the hypocrisy induction conditions did not

experience higher levels of cognitive dissonance as compared to those in the control

condition.

To better understand if engaging in hypocrisy induction activities and becoming

mindful of identity gaps can induce unintended effects, it was asked whether these

processes could backfire and cause participants to experience state reactance (RQ2-RQ3).

Results indicated that there was an association between experimental condition and levels

of state reactance, such that participants in the personal-enacted identity gap hypocrisy

condition experienced significantly lower level of state reactance than did participants in

the control condition. Yet, there was a positive association between identity gap

magnitude and state reactance.

Finally, to further explicate the mechanism through which becoming mindful of

identity gaps translates into behavior change, it was hypothesized that several variables

would moderate the relationship between identity gap magnitude and levels of cognitive

dissonance (H7-H9) and the relationship between levels of cognitive dissonance and

future intentions to engage in excessive drinking (H10-H12). Results indicated support

for only one of these hypotheses, that which predicted that issue involvement moderated

the relationship between levels of cognitive dissonance and future intentions to engage in

excessive drinking. Specifically, intentions were lowest when dissonance was high and

issue involvement was low.

These results are summarized visually in Figure 5.1. Each set of results is discussed individually in further detail below, including their respective theoretical implications. They are then followed by a discussion of the practical implications for persuasive health message design and the contextual implications for alcohol reduction campaigns targeted to college students.

Results Pertaining to Self-Consistency Theory
and Hypocrisy Induction Methodology

The current study found that inducing hypocrisy encouraged participants to report lower future intentions to engage in excessive drinking, but only for those participants in the personal-enacted and communal-enacted identity gap hypocrisy conditions. In other words, for participants in these two conditions, hypocrisy induction methodology worked as hypothesized. This result is noteworthy because it demonstrates hypocrisy induction's merits within a new behavioral context—college students' excessive drinking—thus adding to its utility within health communication research (Stone & Focella, 2011). Additionally, this result is noteworthy because it indicated primary support for the novel approach used to manipulate public commitment and mindfulness in the current study. Several approaches have been employed to have participants publicly commit for a behavior and then list their past failures in practicing what they preached, but this was the first research endeavor, to the author's knowledge, to incorporate aspects of social media into these activities. Given that sharing one's views has become so central to individuals' social media participation (Meikle, 2016), it felt like it would have more ecological validity within the sample population than some of the other approaches that have been used previously in hypocrisy induction research (e.g., recording a speech to high school

Figure 5.1. Visual summary of results
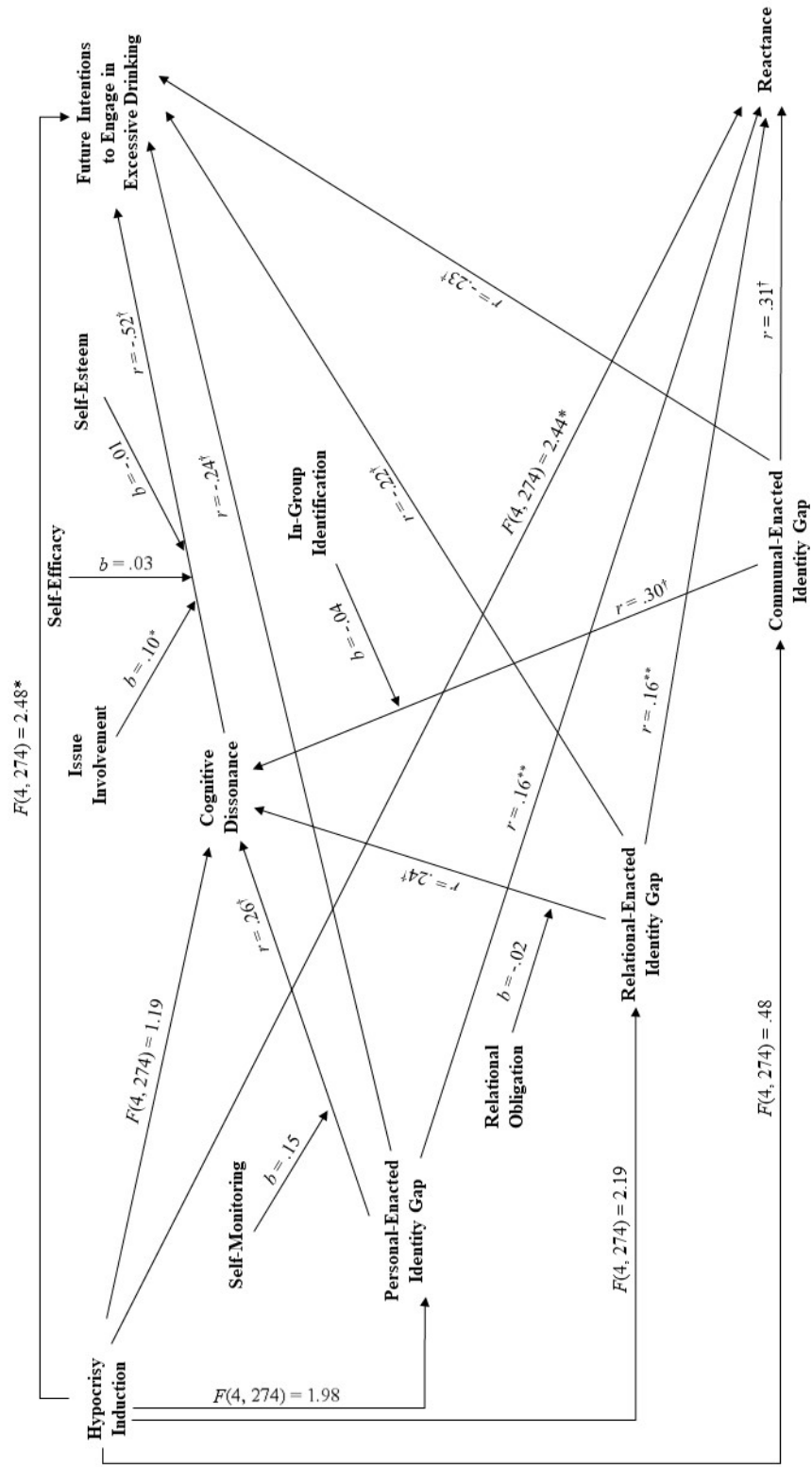
students), but it was unknown how successful it would prove. Although different public commitment and mindfulness manipulations were not compared in the current study, the results suggest that hypocrisy induction manipulations can be updated for the digital age. As a result, scholars have another option at their disposal that may be particularly effective when conducting hypocrisy-driven research within technologically motivated participant samples.

However, other results pose challenges for understanding why hypocrisy induction was an effective approach to encouraging behavior change for these two groups of participants. Theoretically, engaging in hypocrisy induction activities should have lead individuals to experience cognitive dissonance that they seek to resolve via behavior change (Aronson et al., 1994). In the current study, while there was a significant negative association between levels of cognitive dissonance and future intentions to engage in excessive drinking, participants in the four hypocrisy induction conditions did not experience significantly higher levels of dissonance than those in the control condition. Why, then, did hypocrisy induction lead participants in the treatment conditions to report lower future intentions to engage in excessive drinking than those in the control condition, if not because they experienced higher levels of cognitive dissonance?

Many would argue that these results occurred because dissonance was not actually measured in the current study. Indeed, there is a long-standing argument that cognitive dissonance cannot and should not be measured (see Devine et al., 1999; Elliot & Devine, 1994). However, the "dissonance thermometer" used to assess level of dissonance in the current study has been forwarded as an effective tool for providing information about "the magnitude of dissonance when inconsistencies involve important,

central, or self-defining attitudes," which "is important in determining whether particular strategies are likely to be effective in reducing dissonance-related distress" (Devine et al., 1999, p. 318). Given that the expected relationship between participants' scores on this measure and their future intentions to engage in excessive drinking, the dissonance thermometer appears to have done its job in the current study. Thus, even if it is not actually capturing cognitive dissonance, this measure appeared to assess something at least approximating it, which poses questions for those who use hypocrisy induction methodology.

Indeed, the current study's results raise more questions about the relationship between hypocrisy induction and cognitive dissonance than they answer. The presence of dissonance, which is paramount in self-consistency theory's arguments and has served as the primary explanation for why hypocrisy induction approaches are successful at encouraging behavior change, has been assumed rather than tested. In fact, the current study appears to be among the first to have tested this relationship. Given the current study's results, scholars who employ hypocrisy induction methodology based on the premise that it causes individuals to experience dissonance should more thoroughly investigate the relationship between the hypocrisy induction manipulations and cognitive dissonance rather than simply assume that it exists. While one non-significant result does not render decades of theorizing and research null, it does seem to indicate that this relationship merits more scrutiny.

Relatedly, the current study also did not find support for the notion that focusing the hypocrisy induction manipulations on different identity layers translates into larger magnitude identity gaps, as there were no significant differences in identity gap

magnitude across the five experimental conditions. In other words, participants in the personal-enacted identity gap hypocrisy condition did not report statistically significant larger magnitude personal-enacted identity gaps than did participants in other conditions, participants in the relational-enacted identity gap hypocrisy condition did not report statistically significant larger magnitude relational-enacted identity gaps than did participants in other conditions, and participants in the communal-enacted identity gap hypocrisy condition did not report statistically significant larger magnitude communal-enacted identity gaps than did participants in other conditions. Stated simply, there was no evidence that matching the activities that are central to hypocrisy induction methodology to salient identity layers causes individuals to sense larger corresponding identity gaps. Therefore, even though becoming mindful of larger magnitude identity gaps appears to translate into behavior change, questions abound as to how to make individuals mindful of these gaps in the first place.

Why would completing hypocrisy induction activities designed to focus participants on particular identity layers not cause them to become mindful of larger magnitude corresponding identity gaps? A reasonable explanation for the failure to find a significant main effect of experimental condition on identity gap magnitude rests on the hypocrisy induction manipulations themselves. Past quantitatively oriented CTI-driven research has not manipulated the identity gap construct; instead scholars have measured different identity gaps and assessed their relationships with outcome variables. It certainly is possible, therefore, that the current study's experimental manipulations were not strong enough to differentiate between identity gap types or that they manipulated

something other than identity gaps. This is possibility that receives much more detailed discussion in Chapter Six.

What if the manipulations were not the culprit? Why would the expected effect of experimental condition on identity gap magnitude not manifest? Some may argue that the amount of past failures and the details of those failures that participants reported during the mindfulness manipulation could have influenced the relationship between experimental condition and identity gap magnitude. After all, past hypocrisy induction-driven research indicates that there is an optimal amount of past failures needed to encourage behavior change (Fointiat et al., 2008). What if the same is true for catalyzing identity gaps? This does not appear to have been the case. Not only were there no significant differences in excessive drinking experiences across conditions, but post-hoc correlation analyses did not indicate a significant relationship between excessive drinking amount and personal-enacted identity gap magnitude, $r(219) = -.02$, $p = .74$; relational-enacted identity gap magnitude, $r(219) = -.06$, $p = .41$; or communal-enacted identity gap magnitude, $r(219) = .00$, $p = .97$. Thus, the reason behind the lack of a significant effect of experimental condition on identity gap magnitude remains an issue to be addressed in the future.

The current study did, however, find a significant association between the hypocrisy induction manipulations and the experience of state reactance; it was not in the expected direction, however. According to Stone and Focella (2011), hypocrisy induction can backfire when it causes individuals to feel negative emotions rather than dissonant feelings, as "Publicly associating them with their past failures to perform the behavior will cause a threat to their self-integrity, but rather than reducing the threat by adopting

the target behaviors, the publicity of their past failures may make future intentions and behavior more resistant to change" (pp. 298-299). However, contrary to these assertions, the level of participants' reactance was highest for those in the control condition, and there was a statistically significant difference in the level of state reactance reported by participants in the personal-enacted identity gap condition as compared to those in the control condition. In other words, completing the personal-enacted identity gap hypocrisy manipulations mitigated the chances that participants would sense a threat to their self-integrity.

A plausible explanation for this result can be found in the tenets of psychological reactance theory (PRT; Brehm & Brehm, 1981). PRT posits that state reactance follows directly from a perceived freedom threat (Brehm & Brehm, 1981). Perceptions of freedom threats often manifest when certain types of language are used in persuasive messages, including controlling and forceful language (Jenkins & Dragojevic, 2011; Miller, Lane, Deatrick, Young, & Potts, 2007; Quick & Kim, 2009; Quick, Scott, & Ledbetter, 2011). This effect makes sense when applied to persuasive messages designed by outside sources that often do not take recipients' perspectives into consideration, which makes them more susceptible to resistance. In the current study, though, participants in the hypocrisy induction conditions created their own persuasive messages; therefore, any perceived freedom threats would have had to be related to the word choices they made in composing their tweets. Thus, for example, having participants in the personal-enacted identity gap condition think about what makes them "unique" before completing the public commitment and mindfulness manipulations likely reduced the probability that they would react negatively, as doing so would be in direct opposition to

attitudes that were at the core of who they believed they are. This unexpected result may represent an extra benefit of hypocrisy induction methodology that merits further investigation.

Results Pertaining to the Communication Theory of Identity

As predicted, the current study found that identity gap magnitude was significantly positively associated with levels of cognitive dissonance, such that larger magnitude identity gaps resulted in higher levels of cognitive dissonance; identity gaps also were significantly negatively associated with future intentions to engage in excessive drinking, such that larger identity gaps resulted in lower future intentions to engage in excessive drinking. These results are noteworthy because they provide support for Hecht's (2015; Hecht & Choi, 2012) speculation that there are relationships among identity gaps, cognitive dissonance, and health behavior change (or, in the case of the current study, health behavior change intentions). Moreover, they also "demonstrate how the four [identity] layers can be measured and how they relate to individual behaviors and collective structures" (Hecht & Choi, 2012, p. 147) by exploring how scores on the existing personal-enacted and relational-enacted identity gap measures, as well as scores on a newly developed communal-enacted identity gap measure, related to individuals' excessive drinking behaviors.

To add clarity to these results, three post-hoc mediation analyses using Hayes' PROCESS macro were conducted to explore the extent to which the influence of identity gap magnitude health behavior is direct or mediated. In all three analyses, future intentions to engage in excessive drinking was the outcome variable and level of cognitive dissonance was the mediating variable; the analyses differed in their

independent variables, which were the three identity gap types. The analyses were conducted with 10,000 bootstrap resamples, using 95% confidence intervals to determine the significance of the individual paths. The results of these analyses are presented in Figures 5.2 – 5.4.

As visible in Figure 5.2, results of the personal-enacted identity gap mediation model indicated partial mediation. First, the path from personal-enacted identity gap to dissonance was significant, $B = .42$, 95% CI = .23, .60. Second, the path from dissonance to future intentions to engage in excessive drinking also was significant, $B = -.46$, 95% CI = -.56, -.37. Fourth, there was a significant indirect effect of personal-enacted identity gap on future intentions via dissonance, $B = -.19$, 95% CI = -.30, -.10. Third, the path from personal-enacted identity gap to future intentions to engage in excessive drinking (after controlling for dissonance) was reduced, but remained significant, $B = -.17$, 95% CI = -3.28, -.01, suggesting only partial mediation.

Conversely, as visible in Figure 5.3, results of the relational-enacted identity gap mediation model indicated full mediation. First, the path from relational-enacted identity gap to dissonance was significant, $B = .37$, 95% CI = .20, .55. Second, the path from dissonance to future intentions to engage in excessive drinking also was significant, $B = -.47$, 95% CI = -.57, -.37. Third, there was a significant indirect effect of relational-enacted identity gap on future intentions via dissonance, $B = -.17$, 95% CI = -.27, -.09. Fourth, the path from relational-enacted identity gap to future intentions to engage in excessive drinking (after controlling for dissonance) was not significant, $B = -.15$, 95% CI = -.30, .002, suggesting full mediation.

Figure 5.2. Mediation model of relationships among personal-enacted identity gap, cognitive dissonance, and future intentions to engage in excessive drinking.
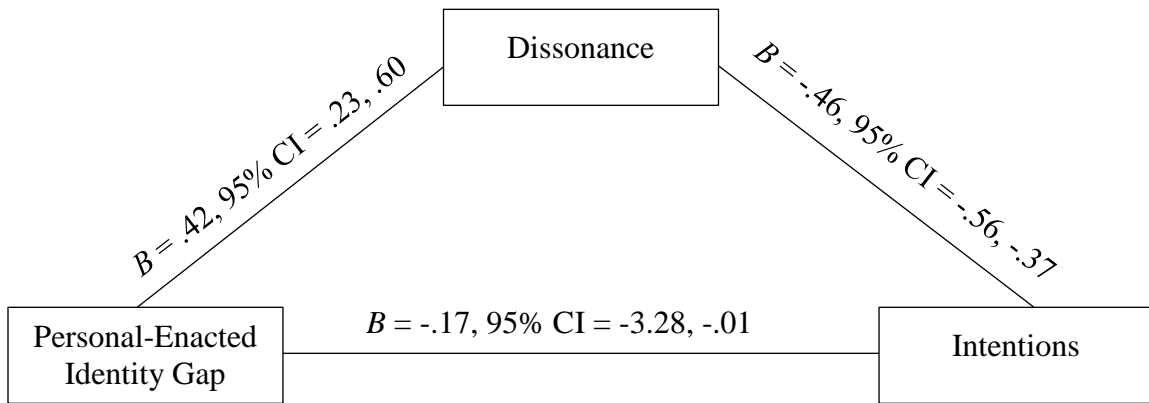
Note. Indirect effect of personal-enacted identity gap on future intentions to engage in excessive drinking, *B* = -.19, 95% CI = -.30, -.10.

Figure 5.3. Mediation model of relationships among relational-enacted identity gap, cognitive dissonance, and future intentions to engage in excessive drinking.
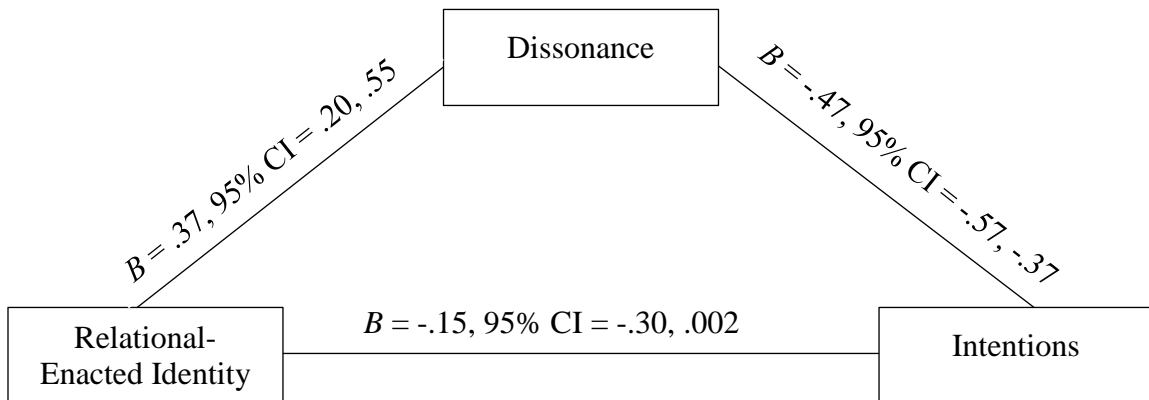
Note. Indirect effect of relational-enacted identity gap on future intentions to engage in excessive drinking, *B* = -.17, 95% CI = -.27, -.09.

Similarly, as visible in Figure 5.4, results of the communal-enacted identity gap mediation model indicated full mediation. First, the path from communal-enacted identity gap to dissonance was significant, *B* = .37, 95% CI = .24, .52. Second, the path from dissonance to future intentions to engage in excessive drinking also was significant, *B* = -.47, 95% CI = -.57, -.37. Third, there was a significant indirect effect of

communal-enacted identity gap on future intentions via dissonance, $B = -.17$,

95% CI = -.26, -.11. Fourth, the path from communal-enacted identity gap to future

intentions to engage in excessive drinking (after controlling for dissonance) was not

significant, $B = -.09$, 95% CI = -.21, .03, suggesting full mediation.

When considered alongside the results of the planned analyses, the results of these

post-hoc analyses suggest that the relationship between identity gap magnitude and health

behavior appears to differ based on the makeup of the identity gaps. Specifically, the

relationship between personal-enacted identity gap magnitude and future intentions to

engage in excessive drinking was partially mediated by cognitive dissonance, whereas the

relationships between relational-enacted and communal-enacted identity gap magnitude

and future intentions to engage in excessive drinking were fully mediated by cognitive

dissonance. Previous quantitatively oriented CTI-driven research that has found that

personal-enacted identity gaps are a precursor of other identity gaps may explain why

these differences emerged.

Figure 5.4. Mediation model of relationships among communal-enacted identity gap,
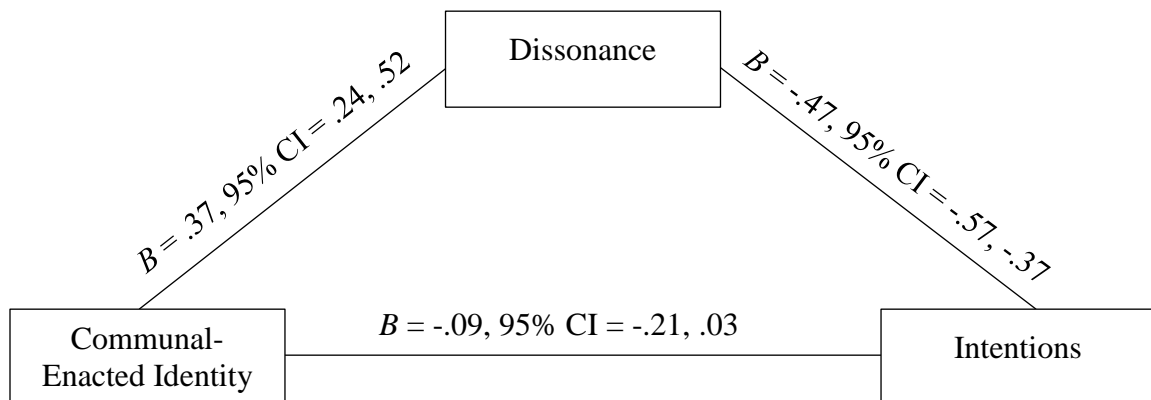*cognitive dissonance, and future intentions to engage in excessive drinking.*

Note. Indirect effect of communal-enacted identity gap on future intentions to engage in
excessive drinking, $B = -.17$, 95% CI = -.26, -.11.

For example, several studies have found that personal-relational identity gaps manifest after individuals sense personal-enacted identity gaps and have argued that personal-enacted identity gaps are more influential in determining outcomes than the personal-relational gap (Jung & Hecht, 2004; Jung et al., 2007; Wadsworth et al., 2008). Kam and Hecht (2009) built on this idea, finding that relational-enacted identity gaps manifest after individuals sense from personal-enacted identity gaps, which led them to assert that different identity gaps engender different cognitions. Moreover, they suggested that identity gaps that emerge when personal identity is called into question are the most likely to generate the cognitions that are needed to influence outcomes. Therefore, it makes sense that large magnitude personal-enacted identity gaps are sufficient, on their own, to influence individuals' health behavior while large magnitude relational-enacted or communal-enacted identity gaps require a boost from cognitive dissonance to have a similar effect.

Much remains to be learned about other variables that may be implicated in these relationships, though, as evidenced by the non-significant results of five of the six planned moderation analyses. To wit, none of self-monitoring, relational obligation, and in-group identification was found to significantly moderate the relationship between identity gap magnitude and level of cognitive dissonance. Additionally, neither self-efficacy nor self-esteem was found to significantly moderate the relationship between levels of cognitive dissonance and future intentions to engage in excessive drinking. The only significant result of the planned moderation analyses involved the influence of issue involvement on the relationship between the level of cognitive dissonance participants experienced and their future intentions to engage in excessive drinking. Specifically, the

negative relationship between cognitive dissonance and future intentions to engage in excessive drinking was strengthened as issue involvement decreased, such that intentions were lowest when dissonance was high and issue involvement was low.

The long line of theorizing and research guided by the elaboration likelihood model (ELM; Petty & Cacioppo, 1981) may provide guidance on why the moderating effect of issue involvement on the relationship between level of cognitive dissonance and future intentions to engage in excessive drinking. The ELM posits that there are two distinct routes to persuasion: the central route, which occurs through careful consideration of the quality of persuasive arguments, such as issue-relevant information; and the peripheral route, which occurs through consideration of how persuasive arguments are associated with basic cues, like pain, or secondary cues, like source credibility (Petty & Cacioppo, 1981). In terms of involvement, ELM-driven research generally supports the idea that individuals who are highly involved with a topic are more likely to process messages via the central route, while individuals who are less involved with a topic are more likely to process messages via the peripheral route (Petty & Cacioppo, 1981). Thus, the routes they take to attitude (and, in turn, behavior) change rely on different factors; whereas factors like message quality are more important for those with high issue involvement, factors like source expertise are more important for those with low issue involvement (Petty & Cacioppo, 1990; Petty, Cacioppo, & Goldman, 1981).Importantly, Fleming and Petty (2000) argue that identity-related factors can serve different purposes depending on the amount of elaboration in individuals' message processing: (a) as a peripheral cue when elaboration likelihood is low, (b) as an argument or to bias processing when elaboration likelihood is high, or (c) as a

determinant of the extent of processing when other factors have not already determined whether elaboration likelihood will be low or high. Extending these ideas to the current study, it could be argued that the reason why the dissonance-behavior relationship was moderated by issue involvement was because, in Fleming and Petty's (2000) terms, "the identity implications of the persuasive situation [matched] that of the message recipient (e.g., the source, message, topic, or context [shared] or [were] relevant to the identity of the message recipient)" (p. 183). In other words, the value they placed on identity gaps could have served as cues that led them to be more likely to self-persuade than those for whom issue involvement was high.

The significant positive association between identity gap magnitude and level of state reactance also merits further discussion for two reasons. First, it does not appear that this relationship was implicated in the relationship between identity gap magnitude and future intentions to engage in excessive drinking. Research guided by psychological reactance theory (PRT) has indicated that there is a substantial negative association between state reactance and behavioral intention (e.g., Miller et al., 2007; Quick et al., 2011). Yet, a look at the correlation matrix data in Table 1 suggests that there was no relationship between levels of state reactance and future intentions to engage in excessive drinking. This lack of a relationship between reactance and intentions, while surprising, is slightly promising because it suggests that experiencing the relationship between identity gap magnitude and state reactance does not aversely influence the relationship between identity gap magnitude and behavior change. Second, and perhaps more importantly, this result directly contradicts the previously discussed results surrounding hypocrisy induction and reactance. Recall, for example, that participants in the personal-enacted

identity gap hypocrisy condition reported significantly lower level of state reactance than did those in the control condition. How, then, to explain the fact that larger magnitude personal-enacted identity gaps were related to higher level of state reactance? One possible explanation is that identity gaps, at least as they were measured in the current study, are analogous to freedom threats. In other words, high levels of state reactance could be reflective of participants awareness that their behavior is being constricted. However, because freedom threat was not measured in the current study, this remains speculation.

Regardless of the reasons for the discrepancy in the results surrounding reactance in the current study, they underscore the fact that much remains to be learned about the identity gap construct. Indeed, although the results surrounding the relationships among identity gaps, dissonance and intentions are promising, they are accompanied by a large asterisk. Namely, as previously discussed, there were no significant differences across experimental conditions in identity gap magnitude. If the hypocrisy induction manipulations that rely on the personal-enacted and communal-enacted identity gap construct encouraged participants to report lower future intentions to engage in excessive drinking but they did not achieve the desired effect of making their corresponding identity gaps more salient, yet there were significant relationships between the measures of the three identity gap types and three different outcomes (i.e., dissonance, intentions, reactance), then what does this say about the identity gap construct, in general?

Stated simply, it appears that additional work is needed to conceptualize and operationalize the identity gap construct. This call echoes Kam and Hecht (2009), who argued that it is necessary to develop a better understanding of the underlying structures

of the individual identity layers and how they interpenetrate between and within one another, stating that this work would "provide an independent strategy to cross-check the construct validity of those gaps [and] would allow researchers to determine what particular element of the given identity gap is more responsible for the observed outcomes" (p. 476). The lack of such conceptual clarity of identity gaps is problematic because it calls into question the measures that have been developed to assess them. Even though the identity gap measures that have been used in CTI scholarship have been developed based on theoretical grounds and subjected to factor analyses to ensure their structure, that only instills confidence that they are internally consistent and reliable. Efforts to quantify how identity gaps develop and how the different identity layers within them work together to influence outcomes is missing from the extant CTI scholarship. As a result, it is unknown what these measures are truly assessing and, by extension, if they are measuring different or similar constructs.

To illustrate this point, the 27 items included in the three identity gap measures used in the current study were subjected to a principal component analysis with Varimax rotation to examine their dimensionality. Both the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (.90) and Bartlett's Test of Sphericity ($\chi^2 = 4271.48$, $p < .001$) indicated that the items were appropriate for further analysis. Components with Eigenvalues greater than 1 were retained. Eigenvalues, when considered alongside a scree plot of the components, initially suggested a six-factor solution that explained a total of 66.37% of the variance and there were substantial cross loadings across items. Interestingly, more than half of the items from across the three measures were most closely associated with the first component, which accounted for more than one-third of

the variance. Based on these results (reported in further detail in Table 5.1), it appears that there is significant overlap across the three measures. Indeed, if the 17 items from the first component formed their own all-encompassing "enacted identity gap" measure, it would demonstrate excellent reliability ($\alpha = .93$, $M = 3.31$, $SD = 1.09$). The fact that this new measure is composed of nine communal-enacted identity gap items, four relational-enacted identity gap items, and four personal-enacted identity gap items suggests at least some overlap in the measures. These measures appear to need refinement.

Practical Implications

The current study's primary practical implications for health communication scholarship is that it lends preliminary support for designing persuasive health messages around identity gaps. Specifically, the current study provides support for designing messages that draw from the tenets of hypocrisy induction to make recipients mindful of personal-enacted and communal-enacted identity gaps. While the current study's results do not provide much guidance on what content to include in these messages, they do provide some important insights into the process through which these messages can be developed.

The first decision that message designers who wish to adopt the approach forwarded in the current study will need to make is how to deliver these messages. Persuasive health messages vary to the extent that their content is customized, ranging from those that are generic and pertain to as many audiences as possible to those that are interpersonal and pertain only to the those involved in a communication scenario (Kreuter, Strecher, & Glassman, 1999). Theoretically, the more personalized a message is, the greater chance that its recipients will carefully examine its content and, all else

Table 5.1. Factor loadings and communalities based on principal components analysis with Varimax rotation for the 27 items from the three identity gap scales used in the current study (N = 279).

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Communality
Personal-Enacted Identity Gap Scale							
1. I let others get to know "the real me" when I engage in excessive drinking. (R)	.09	.59	-.23	.27	.16	.38	.65
2. I feel that I behave in a way that is consistent with who I really am when I engage in excessive drinking. (R)	.47	.52	.10	.05	-.21	.44	.74
3. I feel that I can be myself when I engage in excessive drinking. (R)	.39	.64	.02	.08	-.09	.31	.68
4. I express myself in a certain way that is not the real me when I engage in excessive drinking.	.41	-.18	.49	.25	-.21	.11	.55

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Table 5.1 - Continued

5. I do not reveal important aspects of myself when I engage in excessive drinking.	-.02	.06	-.04	.32	.86	-.09	.85
6. I often lose sense of who I am when I engage in excessive drinking.	.72	-.05	.41	.14	-.14	-.06	.73
7. I do not express the real me when I think it is different from others' expectations when I engage in excessive drinking.	.51	-.07	.43	.28	.22	-.17	.67
8. I sometimes mislead others about who I really am when I engage in excessive drinking.	.64	-.11	.57	.11	.00	-.08	.76
9. I give others a different impression about the real me and who I appear to be when I engage in excessive drinking.	.66	-.12	.58	.14	-.05	.02	.81

Table 5.1 - Continued

10. I speak truthfully to others about myself when I engage in excessive drinking. (R)	.47	.59	-.03	-.02	.04	-.36	.70
11. I freely express the real me to others when I engage in excessive drinking. (R)	.43	.65	-.06	.03	.04	-.20	.66
Relational-Enacted Identity Gap Scale							
12. I communicate with my best friend as the best friend he/she wants me to be when I engage in excessive drinking. (R)	.33	.61	.05	-.27	.00	-.06	.55
13. I do not follow the expectations my best friend has of me as a best friend when I engage in excessive drinking.	.66	-.08	.18	-.33	.22	.08	.63

Table 5.1 - Continued

14. I usually behave in ways that match my best friend's expectations of me as a best friend when I engage in excessive drinking. (R)	.40	.61	.01	-.25	.02	-.11	.60
15. I sometimes violate my best friend's expectations of me through my behaviors when I engage in excessive drinking.	.65	-.09	.17	-.38	.27	.18	.71
16. I often surprise my best friend through the things I say when I engage in excessive drinking.	.55	-.29	.19	-.45	.14	.10	.66
17. I don't really act like a best friend around my best friend when I engage in excessive drinking.	.67	-.09	.07	-.37	.04	-.11	.61
18. I communicate with my best friend in a similar way to how I communicate with other friends when I engage in excessive drinking. (R)	.23	.46	-.01	.06	-.03	-.26	.34

Table 5.1 - Continued

Communal-Enacted Identity Gap Scale

19. I feel less like a member of the [university name] student community when I engage in excessive drinking.	.57	-.15	-.36	.02	-.16	-.33	.61
20. I feel less connected to most members of the [university name] student community when I engage in excessive drinking.	.67	-.12	-.36	.01	-.07	-.27	.66
21. I express myself in a certain way that is not representative of members of the [university name] student community when I engage in excessive drinking.	.72	-.20	-.23	.13	-.13	-.00	.65

Table 5.1 - Continued

22. I mislead others about members of the [university name] student community when I engage in excessive drinking.	.81	-.09	-.26	.18	-.09	-.04	.78
23. I give others an incorrect impression of members of the [university name] student community when I engage in excessive drinking.	.82	-.10	-.25	.15	-.07	-.02	.77
24. I do not follow the expectations of most members of the [university name] student community when I engage in excessive drinking.	.76	-.19	-.30	.07	-.05	.05	.72
25. I surprise members of the [university name] student community when I engage in excessive drinking.	.68	-.21	-.16	.07	.09	.19	.58

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Table 5.1 - Continued

Item							
26. I do not act like other members of the [university name] student community when I engage in excessive drinking.	.57	-.22	-.40	.01	.10	.17	.57
27. I do not act like the way people, in general, would expect members of the [university name] student community to act when I engage in excessive drinking.	.66	-.22	-.40	.00	.10	.22	.70

Note. Factor 1 had an Eigenvalue of 8.91 and explained 33% of the variance. Factor 2 had an Eigenvalue of 3.19 and explained 11.83% of the variance. Factor 3 had an Eigenvalue of 2.30 and explained 8.52% of the variance. Factor 4 had an Eigenvalue of 1.23 and explained 4.65% of the variance. Factor 5 had an Eigenvalue of 1.17 and explained 4.34% of the variance. Factor 6 had an Eigenvalue of 1.09 and explained 4.04% of the variance.

being equal, be persuaded by it (Noar et al., 2009). For this reason, message *targeting*,

which involves developing materials that are "intended to reach some specific subgroup

of the general population, usually based on one or more demographic characteristics

shared by its members," and message *tailoring*, which involves creating unique materials

that "are intended to reach one specific person, are based on characteristics that are

unique to that person, are related to the outcome of interest, and have been derived from

an individual assessment" (Kreuter et al., 1999, p. 276), are commonly employed in

persuasive health message design. While both approaches have proven better options than

generic messaging strategies, research on message tailoring supports this logic, as

tailored messages have been found to be more effective than generic or targeted

messages, which only match content to an identifiable group-level characteristic or

variable (Hawkins, Kreuter, Resnicow, Fishbein, & Dijkstra, 2008; Noar, Benac, &

Harris, 2007; Noar et al., 2009). However, there are substantial logistical and financial

challenges involved with tailoring as opposed to targeting (i.e., targeted messages are

easier to construct and less costly to distribute; Noar et al., 2009).

Tailoring does appear to be the best option for the approach forwarded in the

current study. As Kreuter et al. (1999) explain, tailoring is most appropriate "when there

is both considerable variation across the intended audience on important factors known to

influence the outcome of interest and when the outcome itself is more complex (i.e.,

multiple factors, or variables, are likely to influence the outcome)" (p. 279). Given that

different identity gaps should be salient for different individuals within the same target

audience and because there are still many to-be-determined variables that likely play a

mediating or moderating role in the effect of becoming mindful of identity gaps on

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behavior change, tailoring appears to be a better option than targeting for messages designed to make recipients mindful of identity gaps.

If they choose to use a tailored message approach, designers will then need to determine the tailoring strategy that they will utilize. Although tailored messages often achieve their benefits by using behavior change theories to isolate the behavioral determinant(s) that (are) most likely to lead to behavior change, there are several other ways in which health-related messages can be tailored, including placing information in a meaningful context, optimizing the look and feel of messages, and presenting information in a way that recipients prefer (Rimer & Kreuter, 2006). An important question, then, becomes identifying is which tailoring strategy is best suited for making message recipients become mindful of identity gaps. This decision likely will be based on the makeup of the focal identity gap, which needs to be explicated via formative research that identifies the most salient identity gaps within the target population.

Formative research efforts should take a two- step, mixed-methods approach. In the first step, message designers are encouraged to engage in pilot survey-based research to determine what relationships exist between a population sample's scores on pre-existing identity gap measures and their intentions to change their self-discrepant health behavior. As in the current study, simple correlation analyses should provide the information that message designers need to determine which identity gaps are best suited for inclusion in their messages. With this information in hand, message designers can then engage in qualitative data collection and analysis within a different population sample to identify exactly how the salient identity gaps emerge in relation to the focal health behavior. The extant research that has examined identity gaps via qualitative data

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collection and analysis provides guidance on how to engage in these efforts. These studies have adopted a variety of data collection methods, including one-on-one interviews (e.g., Hecht & Faulkner, 2000) and focus groups (e.g., Colaner, Halliwell, & Guignon, 2014), typically adopting an inductive approach to data analysis. Interview protocols and questioning routes do not tend to ask participants overtly about identity gaps during data collection; rather, they ask broad questions about a specific identity layer, usually the primary one under investigation, and then look for instances of identity gaps in their responses to these questions during analysis. By adopting this tack, message designers can then begin to develop the framework of their tailored messages with an eye on what is important to their message recipients.

Consider, for example, how this information could be used to develop messages that make recipients mindful of personal-enacted and communal-enacted identity gaps. When formative research indicates that the focal health behavior implicates a personal-enacted identity gap, it likely is best to tailor these messages by presenting information in a way that recipients prefer. Although this method typically involves matching message content to a particular type of appeal (e.g., fear appeal or guilt appeal) or message frame (e.g., gain or loss frame) that meets recipients' needs (Noar et al., 2009), there is evidence that information can be presented in a way that individuals prefer by matching tailored message content to their personal values (York, Brannon, & Miller, 2012). Relatedly, Hecht and Choi (2012) suggest that messages can evoke the personal identity by increasing individuals' perceptions of self-efficacy and through goal-setting. Therefore, in the case of a personal-enacted identity gap, messages can focus on making recipients realize that their personal goals will not be attainable if they continue to engage

in an undesirable health behavior. These messages would then be tailored by using

computerized tailoring software to capitalize on hypocrisy induction manipulations.

Message recipients can be directed to an online platform where they provide details about

what personality traits they value and what goals they have for themselves, as well as

provide their public commitment to performing the health behavior in question. Then,

this information can be integrated into messages that make them mindful of their failure

to uphold that commitment.

Alternatively, when formative research indicates that the focal health behavior

implicates a communal-enacted identity gap, then it likely is best to tailor messages by

placing content in a meaningful context. Typically, this approach involves matching

message content with specific demographic and cultural variables, such as individualism

and collectivism (Uskul & Oyserman, 2010). To that end, Hecht and Choi (2012) that

messages tailored to the communal identity layer are particularly beneficial when

message recipients are part of a close-knit group and when the context makes

ingroup/outgroup distinctions salient. Therefore, in the case of a communal-enacted

identity gap, messages can focus on making recipients realize that they will reflect poorly

upon their ingroup or that they will be perceived as members of the outgroup if they

continue to engage in an undesirable health behavior. These messages would then be

tailored by using computerized tailoring software to capitalize on hypocrisy induction

manipulations. Message recipients can be directed to an online platform where they

provide details about what group memberships they value, as well as provide their public

commitment to performing the health behavior in question. Then, this information can be

integrated into messages that make them mindful of their failure to uphold that commitment.

Contextual Implications

The current study was situated within the context of college students' excessive drinking behavior, with results demonstrating that, in some cases, hypocrisy induction can successfully be used to influence students' future excessive drinking decisions. These results are noteworthy because they appear to affirm that individual-level interventions are more effective than group-level interventions at reducing college students' alcohol use (Carey et al., 2007; Scott-Sheldon et al., 2009) and provide preliminary guidance on how to capitalize on hypocrisy induction and identity gaps in the messages that undergird these interventions.

As previously noted, college students' perceptions of how much other students drink are often inaccurate (Borsari & Carey, 2001; Wechsler et al., 2002), which is inherently limiting to social norms based campaigns focused on changing students' drinking behavior based on their perceptions of what other students do. To wit, Borsari and Carey (2001) found that many different factors contribute to these self-other discrepancies (SODs) in drinking norm evaluations, including the type of norm assessed (e.g., larger SODs in injunctive norms than in descriptive norms), the students (e.g., larger SODs when reference group more distal), the campus (e.g., larger SODs on smaller campuses), and framing of the question (e.g., larger SODs when questions are vague). Consequently, they suggest, among other things, that interventions focus on having students think about descriptive norms and consider a more proximal reference group as a means to behavior change. It appears that having participants in the personal-enacted

identity gap hypocrisy condition think about their own personal normative standards for alcohol consumption and having participants in the communal-enacted identity gap hypocrisy condition think about how they fit in as a member of the university community, rather than thinking about how much alcohol members of that community consume, overcame some of the limitations of social norms-based alcohol reduction campaigns.

The same cannot be said for participants in the relational-enacted identity gap hypocrisy induction condition, however, as they did not report significantly lower future intentions to engage in excessive drinking than those in the control condition. This could be attributable to the fact that the best friend relational identity was a detriment in this context. The decision to utilize this facet of identity was based on Park, Klein, Smith, and Martell's (2009) study, in which they explored the influence of five different types of norms on drinking behavior intention, adds clarity to this assertion. Namely, they found that subjective norms were a stronger predictor than both descriptive and injunctive norms in students' drinking intentions, which led them to argue that it is necessary to further separate subjective norms from injunctive norms in these campaigns by having students think about proximal, important others (e.g., best friends, family members) rather than distal, generalized others. However, if participants' best friends had favorable attitudes toward excessive drinking, then the effect of participants tweeting to them and then being made mindful of their failures to uphold that commitment likely were limited. Park et al.'s (2009) study also may explain why participants in the traditional hypocrisy induction condition did not report lower future intentions to engage in excessive drinking than did those in the control condition. Stated simply, having participants in this

condition think about distal, generalized others when composing their tweets likely was not a powerful enough manipulation.

Collectively, these results suggest that using the tenets of hypocrisy induction to make students mindful of gaps between their excessive drinking behavior and their valued personal and communal identities can prove to be a successful message design strategy. Therefore, campaigns that seek to attempt to change students' drinking behavior by developing tailored messages that make them become mindful of identity gaps are encouraged to adapt some of the messaging tailoring strategies discussed previously.

Chapter Six: Limitations and Suggestions for Future Research

As with every research effort, the current study had its limitations. First, recognizing the challenges with getting students to come to a computer laboratory to complete the study, the decision was made to allow participants to complete the study online. This meant relinquishing some of the control that is needed to ensure that experimental research is conducted successfully. For instance, participants may not have been fully engaged with the study while completing the online survey, which could have affected the power of the experimental manipulations and/or the accuracy of their responses to survey items. Additionally, participants likely were more apt to select to have their data removed from analysis than they would have been had a researcher been in the room with them. Therefore, if others wish to adopt the current study's procedure, it is recommended that they conduct their research in a laboratory environment to ensure that participants are exerting sufficient effort in completing the study's activities. Moreover, it is recommended that deception is avoided, if possible, so that the chances that participants will ask to have their responses removed from the dataset before analysis are limited.

Second, using a post-test only design was a limitation because not pre-testing participants to determine the most salient identity layers to them before assigning them to experimental condition may have been the reason why there was not a significant effect of the experimental manipulations on identity gap magnitude and cognitive dissonance. Since, publicly advocating against excessive drinking in line with a non-valued layer of identity is less likely to cause individuals to become mindful of larger magnitude identity gaps or sense higher levels of cognitive dissonance. It certainly is possible that the lack of

significant differences in identity gap magnitude across experimental conditions in the

current study was due to the fact that participants were not separated based on a

self-reported preferred identity layer and then assigned to the treatment group that made

them become mindful of the corresponding identity gap. Therefore, if others wish to

adopt the current study's procedure, it is recommended that they use a pre-test/post-test

design instead of a post-test only design. This would enable participants to be assigned to

the most relevant condition to them, which could enhance the effectiveness of the

experimental manipulations.

Third, and relatedly, the choice of excessive drinking may have been inherently

limiting, as alcohol consumption is so central to many college students' lives. To that

point, examining only one topic makes it difficult to fully assess the role of issue

involvement in the interrelationships between experimental manipulations, identity gap

magnitude, level of cognitive dissonance, and health behavior. Therefore, if others wish

to adopt the current study's procedure, it is recommended that they include two topics,

one low-involvement and one high-involvement to determine the extent to which the

behavior under investigation affects the experimental manipulations. This would be

another reason to use a pre-test/post-test design, as it would enable participants to be

assigned to conditions based on topics with which they have low involvement.

Fourth, hypocrisy induction methods were a limitation, not because of the results

but because of its effects on participant recruitment and retention. Indeed, less than 50%

of those who wanted to participate in the study had their responses analyzed, either

because they did not qualify due to their initial attitudes or because they did not want to

have their responses included in analysis due to deception methods used. Therefore, if

others wish to adopt the current study's procedure, it is recommended to include an experimental condition for those who have unfavorable attitudes towards the behavior so that their participation is not lost.

Finally, as discussed previously in Chapter 4, questions surround some of the measures used in the current study, namely the dissonance thermometer and the identity gap measures. Although all four measures proved reliable by conventional standards, it is fair to wonder whether they actually assess what they purport to assess. Therefore, if others wish to adopt the current study's procedure, it is recommended to keep in mind some of the limitations of using these measures.

Suggestions for Future Research

Despite these limitations, the current study has opened the door for future research on the relationships among hypocrisy induction methodology, identity gaps, cognitive dissonance, health behavior, and reactance. In the current study, personal-enacted and communal-enacted identity gap hypocrisy induction proved viable options, encouraging participants to report lower future intentions to engage in excessive drinking. Moreover, there were significant relationships between participants' scores on the three different identity gap measures, level of cognitive dissonance, and future intentions to engage in excessive drinking. And, at least for those who completed the personal-enacted identity gap hypocrisy manipulations, the potential for reactance was mitigated. However, there was no association between the hypocrisy inductions and identity gap magnitude or level of cognitive dissonance. Future research should be focused on developing a deeper understanding of why these results occurred.

The primary charge for this research should be to explicate the mechanism through which hypocrisy induction manipulations that emphasize identity gaps encourage behavior change. More research is particularly needed to understand why the significant effect of experimental condition on intentions worked for participants in these two groups. Developing refined identity gap measures would appear to be a good place for this work to start, as these measures could serve many functions in future research (e.g., as a manipulation check, as a mediating or outcome variable). In fact, the current study tangentially provides a research agenda for scholars who are interested in further developing the Communication Theory of Identity (CTI). Specifically, they are encouraged to think critically about how identity gaps are conceptualized and operationalized. Doing so would not only advance the theory, but also would enable CTI to be more fully integrated into health communication scholarship. This work could take several forms.

First, the personal identity layer and its corresponding identity gaps would benefit from further conceptualization. Consider Jung and Hecht's (2004) conceptualization of the personal-relational identity gap, for example, which "starts with the assumption that others' appraisals are internalized and form a part of identity and then focuses on the discrepancies between self-concepts and internalized others' appraisals that are created and negotiated through communication" (pp. 268-269). This statement reflects the idea that aspects of the personal layer of identity within the self-concept are multifaceted; specifically, they include the *actual self*, which refers to attributes that individuals, themselves, or others believe they do possess; the *ideal self*, which refers to attributes that individuals, themselves, or others, would like to possess; and the *ought self*, which refers

to attributes that individuals, themselves, or others believe they should possess (Higgins, 1987). However, this conceptualizing may be limited, given some of the other ideas forwarded by self-discrepancy theory. Specifically, self-discrepancy theory posits that the actual, ideal, and ought selves contain an "own" and an "other" dimension, which results in six basic types of *self-state* representations: actual/own, actual/other, ideal/own, ideal/other, ought/own, and ought/other. The first two of these states are most closely relatable to the self-concept; the other four are considered *self-guides*. Thus, self-discrepancy theory posits "that people differ as to which self-guide they are especially motivated to meet…[and] we are motivated to reach a condition where our self-concept matches our personally relevant self-guides" (Higgins, 1987, p. 321). In terms of the how the personal layer of identity is conceptualized, then, it appears that CTI relies on the actual/own and actual/other self-state representations that individuals possess within the personal layer of identity.

This conceptualization of the personal identity layer may be problematic because it assumes that individuals' assessments of their own and others' ideas about their personal identity are accurate representations of who they really are. As a result, the identity gaps that involve the personal layer of identity are assumed to be based on actual traits; this is clearest in phrases within the personal-enacted and personal relational identity gap measures, such as "the real me" and "who I really am" in the measure (e.g., Jung & Hecht, 2004, 2008). However, given that self-report measures are prone to social desirability response bias (King & Bruner, 2000), it is possible that responses to the items on these identity gap measures reflect respondents' ideas of who they or others believe they would be ideally or who they or others believe they ought to be, rather than who

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they or others believe they really are. Such biased responses can cause problems when assessing the influence of the personal-enacted identity gap on outcomes, for example, as discrepancies between the actual/own self-state and ideal self-states have been found to be associated with more dejection-related emotions and discrepancies between the actual/own self-state and ought self-states have been found to be associated with more agitation-related emotions (Higgins, 1987). It seems reasonable, then, that individuals will be more likely to experience a personal-enacted identity gap when the discrepancy is between who they want to be or who they think they should be. If this is the case, then it may be necessary to develop separate subscales within the personal-enacted identity gap measure that capture these different aspects of the personal later of identity.

Second, more work may be needed to conceptualize the relational layer of identity and its corresponding identity gaps. The relational layer is inherently multidimensional (Hecht, 1993). Yet, theorizing about the relational identity layer often centers primarily on individuals' unidimensional roles within multidimensional relationships (e.g., student-student, student-teacher, grandchild-grandparent). Colaner et al.'s (2014) qualitative study of adoptees' experiences with their birth and adoptive families illustrates the problems with this approach, finding that their participants experienced a relational-relational gap when they had conflicted ideas of what it meant to be a child in relation to their adoptive and birth parents. These findings, Colaner et al. asserted, not only led credence to the notion that within-layer gaps exist but also illustrated the various forms that the relational layer can take, such as one's role in the relationship (e.g., being a daughter to this mother), the relationship itself (e.g., being a member of this family), and the relationship in interaction with relational others (e.g., being a daughter to this mother,

as well as being a daughter to that mother). Importantly, Colaner et al.'s (2014) study

affirmed Kam and Hecht's (2009) claim that the different levels of the relational layer

likely have different effects on outcomes when they lead to an identity gap with another

layer of identity, namely the personal and enacted layers.

The existing conceptualization of the relational later becomes problematic when

assessing identity gaps that include it, including the relational-enacted identity gap

measure, because it forces scholars to use measures that home in on only one aspect of

relational identity (Kam & Hecht, 2009). It is possible, therefore, that the equivocal

findings about the role of the personal-relational gap in the extant CTI scholarships are

attributable to a failure to consistently focus on only one of the four levels explicated

within the relational layer of identity; and this may account for the some of the overlap

between the items in the relational-enacted identity gap measure and the other measures

used in the current study. Therefore, clearer separation of these levels of relational

identity needs to be considered when assessing identity gaps that involve the relational

layer. This could mean developing four separate measures or, at a minimum, separate

subscales to ensure that the appropriate level of relational identity is being assessed.

Third, further conceptualization and operationalization of the communal layer of

identity also seems merited, given what appears to be an overlap with the personal layer

of identity (Hecht & Choi, 2012). Much of the theorizing and research focused on the

communal layer has homed in on issues related to culture (e.g., "Jewishness"). In fact,

this was the approach adopted in the current study, which focused on a university culture.

However, this is just one way to conceptualize the communal identity layer, which also

can include individuals' sense of belonging with others who are like them in terms of

membership within master identity groups like age, sex, race, class, and so on (Hecht, 1993). The problem with this two-fold conceptualization of the communal layer is, as Hecht and Choi (2012) explain, that, "While group membership (e.g., gender, race) can be the basis for personal identity, the collective community, itself, has identities" (p. 142). Therefore, how individuals perceive their communal identity will differ based on the extent to which they consider their membership within a group as part of their personal identity or the extent to which they consider themselves as reflective of being a member within that group. This potentially blurred line between the personal layer and the communal layer may explain why research has repeatedly indicated that individuals' communal identities interpenetrate with their other identity layers in determining behavior (Hecht & Faulkner, 2000; Hecht et al., 2002; Jung & Hecht, 2004, 2008; Jung et al., 2007; Wadsworth et al., 2008; Warren et al., 2010).

This conceptualization of the communal layer may explain why there was considerable overlap between the communal-enacted identity gap measure that was created for the current study and the other identity gap measures that were employed within in. Even though this measure used in the current study demonstrated reliability, it was modeled after the existing personal-enacted identity gap scale. It is plausible, therefore, that this new measure was assessing the personal identity associated with group membership and not the collective one. Even if this was not the case, there are questions about how best to ensure that participants are not basing their responses on the personal aspects of group membership. When it comes to assessing identity gaps that involve the communal layer, therefore, it is necessary to know whether participants view their group

membership in personal or collective terms when developing the items that will be used to gather that information.

There are directions that research can take while work to refine the identity gap measures is being done, as well. Although they may not have manipulated identity gaps as they were measured in the current study, the activities of having participants think about an identity layer, tailor their public commitment message to that identity layer, and then think about times when their actions contradicted their public commitment proved to be a successful determinant of future intentions for two groups of participants. Certainly, knowing how this effect occurred would have been helpful in understanding what made this approach successful from an experimental design perspective; but, the qualitatively oriented CTI-driven research that focuses on identity gaps thrives without measuring identity gaps. Why, then, would the current study's results not be enough to suggest that the identity gap construct can be successfully incorporated into persuasive health messages? Therefore, additional experimental research that replicates and extends the current study's methods would be particularly beneficial, as it would lend further credence to the use of identity gaps within persuasive health messages.

One direction that this work could take is to explore the extent to which the current study's results transfer to other health behaviors. This work would directly replicate the methods used in the current study, with the primary difference being the behavior about which participants are asked to think. Behaviors that typically are coded as "prosocial" would be best here (e.g., using condoms, refraining from smoking, eating healthy, getting appropriate amounts of sleep), as participants would likely have strongly held attitudes about them. Depending on the topic and the population under investigation,

the experimental manipulations also may change, but only in their instructions. For example, in the current study, participants in the relational-enacted identity gap hypocrisy condition were instructed to think about what it means to be a best friend and to direct their tweet to their best friend, as it was believed that this relational identity would be most salient within the chosen behavioral context and for the chosen study population. As a different relational identity likely will be more salient in other situations, scholars will have to adjust their instructions accordingly. To that end, replication research also could explore the extent to which different focal identity gaps influence behavior among different populations. In the current study, the personal-enacted and communal-enacted identity gap hypocrisy conditions appeared to be most salient. However, in populations in which role-based identities are important, the relational-enacted identity gap condition may be more salient. For instance, using individuals' role as a parent or spouse to encourage behavior change may be a successful approach for older audiences.

An alternate direction that this work could take is to extend the current study's results to other identity gap types. The current study focused only on identity gaps that included the enacted identity layer, which represent less than one-quarter of the possible identity gap combinations. This decision was intentional, as the enacted layer most closely paralleled the behavioral aspect of hypocrisy induction methodology. Therefore, the challenge for scholars who wish to extend the current study's methodology to other identity gap types will be determining how to manipulate other identity layers in the mindfulness manipulation. Consider the personal-relational identity gap, for example. This identity gap has received a fair amount of attention in the extant CTI-driven research, so it would appear to be a logical identity gap to incorporate into this approach.

How can asking people to recall instances when they failed to practice what they preached be adjusted to focus on a relational identity? An option may be to phrase the manipulation in a way to emphasize the relational others' perceptions of the individuals' personal identity vis a vis their health behavior. For instance, after stating their public commitment to people like themselves, individuals can be asked to be mindful of the times when their relational other pointed out that their health behavior contradicted their impressions of themselves.

Finally, future research should explore how the current study's results fit within health communication scholarship beyond message design. In other words, how can the insights the current study provided about the relationships among identity gaps, cognitive dissonance, and behavioral intentions be applied to other lines of health communication inquiry? One promising avenue is to build assessments of identity gaps and cognitive dissonance into other models of health behavior change. Despite the issues with these measures that have been discussed in this manuscript, the significance of the mediation models discussed in Chapter 5 indicate that something is happening when people who have strong attitudes about a health behavior think about the disconnects between aspects of their identity and their enactment of contradictory health behavior. Since all participants in the current study had strong anti-excessive drinking attitudes, these results may be useful to scholars who are interested in explicating the link from attitude to behavior that is central to health behavior models within the reasoned action approach (e.g., theory of planned behavior). Specifically, scholars can build on the current study's results by exploring how identity gap magnitude and level of cognitive dissonance help

strengthen the attitude-behavior link and then building these findings into persuasive health messages.

One direction that this work to take is to maximize the mediating role of cognitive dissonance in the relationship between identity gap magnitude and behavior change. This could involve illustrating the potential aversive outcomes associated with a behavior that contradicts one's valued identity. A series of studies conducted by Leippe and Eisenstadt and their colleagues (1994; Eisenstadt & Leippe, 2005; Eisenstadt, Leippe, Rivers, & Stambush, 2003; Eisenstadt, Leippe, Stambush, Rauch, & Rivers, 2005), which suggests that "the knowledge that others are watching may increase the salience of the behavior and the need to account for it, and this salience and need may readily convert to dissonance motivation" (Leippe & Eisenstadt, 1994, p. 410), provides some guidance for how best to do this. For instance, Leippe and Eisenstadt (1994) found that the amount of choice individuals perceived they had in engaging in discrepant behaviors, as well as the publicity of their discrepant behaviors, influenced their experience of dissonance. Specifically, those participants who engaged in discrepant behaviors that they believed were more publicly viewable were more likely to engage in dissonance-reduction strategies. Eisenstadt et al. (2003) and Eisenstadt, Leippe, Stambush, et al. (2005) extended the results of this study, finding that inducing covert responses that violated social norms (e.g., thoughts, affective responses) was sufficient in prompting cognitive restructuring as a form of dissonance reduction. Furthermore, Eisenstadt and Leippe (2005) found that the relative number and importance of these responses were positively related to the magnitude of individuals' dissonance and, as a result, their motivation to reduce it.

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Thus, research is needed to determine whether individuals with strong attitudes are more likely engage in behavior change after sensing large magnitude identity gaps due to their experience of cognitive dissonance. If this is the case, then persuasive health messages that want to move individuals from attitude to behavior would benefit by stressing to message recipients that they are choosing to engage in a behavior that they know (a) can lead to adverse personal, relational, or communal outcomes, and (b) is being observed by others who likely disapprove because it is in contrast to who they are personally, relationally, or communally. However, if message designers wish to strengthen the attitude-behavior link via identity gaps and dissonance, they need to consider some of the negative repercussions of doing so. Specifically, given the current study's results about the strong positive relationship between identity gap magnitude and level of state reactance, this work will have to consider the potential for reactance, rather than behavior change, to emerge when this approach is used.

Chapter Seven: Conclusion

The current study incorporated ideas from dissonance theory, self-consistency theory, and hypocrisy induction methodology, to address several overarching questions about the merits of using the Communication Theory of Identity (CTI) to inform persuasive health messages. These questions were:

- Does making message recipients mindful of identity gaps influence their behavior choices? Does becoming mindful of certain identity gap types encourage message recipients to change their behavior more than becoming mindful of other identity gap types?

- Is the extent to which message recipients seek to change their behavior after becoming mindful of identity gaps dependent on other factors? Specifically, does making message recipients mindful of identity gaps cause them to experience cognitive dissonance? If so, does becoming mindful of certain identity gap types cause message recipients to experience more cognitive dissonance than becoming mindful of other identity gap types? Are there other variables that are implicated in this process?

- Can making message recipients mindful of identity gaps induce unwanted effects, such as resistance to persuasion?

These questions were examined via a post-test only online experiment that applied CTI to hypocrisy induction methodology within the context of college students' excessive drinking behaviors. It was hypothesized that inducing hypocrisy would result in lower future intentions to engage in excessive drinking, since hypocrisy induction causes individuals to experience cognitive dissonance that they seek to resolve via behavior

change. Additionally, it was hypothesized that the level of cognitive dissonance experienced and, in turn, the future intentions to engage in excessive drinking reported would be influenced by the magnitude of identity gaps, since becoming mindful of smaller identity gaps should lead to fewer dissonant cognitions than becoming mindful of larger identity gaps. Furthermore, it was hypothesized that self-monitoring style, relational obligation, and in-group identification would moderate the relationship between identity gaps and cognitive dissonance, while issue involvement, self-efficacy, and self-esteem would moderate the relationship between cognitive dissonance and future intentions to engage in excessive drinking. Finally, it was asked whether there was a more effective way to make message recipients become mindful of identity gaps to facilitate cognitive dissonance and encourage lower future intentions to engage in excessive drinking, as well as whether inducing hypocrisy and becoming mindful of identity gaps can backfire and cause state reactance.

As predicted, completing hypocrisy induction activities did lead participants to report lower future intentions to engage in excessive drinking, but only for participants who completed hypocrisy induction activities focused on personal-enacted and communal-enacted identity gaps as compared to those who did not complete any hypocrisy induction activities. Additionally, there was an association between experimental condition and levels of state reactance, with those who completed the personal-enacted identity gap hypocrisy induction activities reporting less reactance on average than those who did not complete hypocrisy induction activities. However, contrary to predictions, completing hypocrisy induction activities did not make participants experience higher levels of cognitive dissonance or sense larger magnitude

identity gaps than those who did not complete them. Thus, the primary implication of the current study's results for self-consistency theory and hypocrisy induction methodology is that they suggest that hypocrisy induction's public commitment and mindfulness manipulations can focus on individuals' salient identity layers rather than on their broadly defined self-concept. In fact, given that participants in the traditional hypocrisy induction condition did not report statistically significant lower future intentions to engage in excessive drinking on average as compared to those in the control condition, it is possible that this approach is even more effective than the standard approach to inducing hypocrisy. This assertion would require further investigation, however, as there were not statistically significant differences between the traditional hypocrisy condition and the identity gap hypocrisy conditions.

Also, as predicted, identity gap magnitude was positively related to levels of cognitive dissonance and negatively related to future intentions to engage in excessive drinking. Post-hoc mediation analyses indicated that level of cognitive dissonance partially mediated the relationship between personal-enacted identity gap magnitude and future intentions to engage in excessive drinking and that level of cognitive dissonance fully mediated the relationship between relational-enacted and communal-enacted identity gap magnitude and future intentions to engage in excessive drinking. Additionally, results indicated support for only one of the moderation hypotheses: issue involvement moderated the relationship between levels of cognitive dissonance and future intentions to engage in excessive drinking, such that future intentions to engage in excessive drinking were lowest when levels of cognitive dissonance were high and issue involvement were low. And there was a significant positive relationship between identity

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gap magnitude and level of state reactance. Thus, the primary theoretical implication of the current study's results for CTI is that they provide further evidence of the theory's merits within health communication scholarship. Although CTI has been employed to understand health-related issues and to inform health behavior change message design, its use has been relatively limited. However, it also was suggested that additional research on how to properly assess identity gaps is needed for CTI's full potential within health communication to be realized.

The current study's results have methodologically, practical, and contextual implications. Methodologically, the current study's results illustrate hypocrisy induction's merits within the context of a new health behavior, as well as providing a template for how to update the activities that are central to hypocrisy induction methodology for the digital age. However, because the results raised questions about the mechanism through which inducing hypocrisy worked in the current study, more thorough inspection of the hypocrisy induction-identity gap-dissonance-behavior relationship is needed. Practically, the current study's results lend preliminary support for CTI's merits in health behavior change message design, particularly tailored messages that enable messages to be personalized to message recipients' most salient identity gaps. These messages should rely heavily on formative research that quantitatively and qualitatively explicates the role of identity gaps within the focal health behavior. Contextually, the current study's results suggest that individual-level interventions focused on reducing college students' excessive drinking can find success by including messages that focusing students on personal-enacted and communal-enacted identity gaps. However, given that drinking is a normative behavior among college students, these

messages will have to overcome some of the inherent challenges with changing such a socially determined behavior.

Despite the potential methodological limitations related to data collection, the current study's results point to several directions that future research can take. First, future research should explicate the mechanism through making individuals mindful of identity gaps influences health behavior decisions. Work to more fully conceptualize and operationalize different identity gaps would provide particularly important insights. Second, future research could replicate and extend the current study to determine the extent to which its results are transferrable to different health behaviors, identity gap types, and populations. It is not difficult to imagine that there could be some differences in the merits of the approach forward in the current study depending on the types of identity gaps that are salient within a sample or depending on the severity of a health issue. Finally, future research can focus on incorporating the ideas presented in the current study into health communication scholarship more broadly. Work to examine how identity gap magnitude and level of cognitive dissonance factor into the attitude-behavior link would be particularly beneficial.

Continuing the Discussion

The current study was a direct response to Hecht's (2015; Hecht & Choi, 2012) call for scholars to investigate the potential for identity gaps to be incorporated into persuasive health messages. It is the author's hope that the current study, as one of the first—if not *the* first—to address Hecht's request, opens the door for further discussion about this topic. There are two questions, in particular, that merit continued discussion.
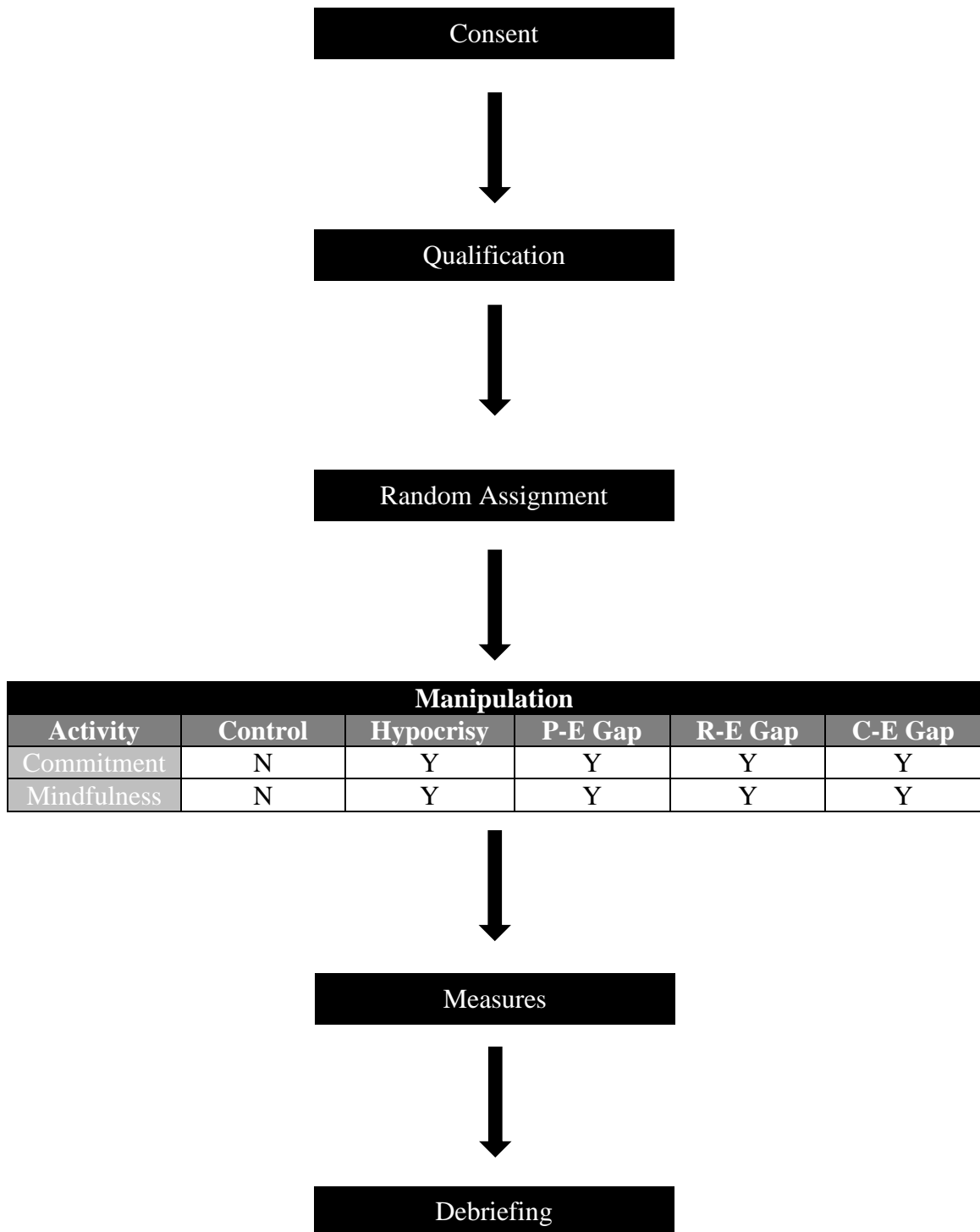
Second, how does the approach forwarded in the current study fit alongside other approaches to persuasion? It is best to think of the approach forwarded in the current study as an extension of hypocrisy induction methodology. Indeed, the primary benefit of this approach in the current study appears to have been the parsing out of the aspects of the self-concept to focus on participants' salient identity layers during the public commitment manipulation. Positing the current approach as an extension of hypocrisy induction has its benefits, namely that it has a "home" within the extant persuasion scholarship; consequently, it does not require as much warranting as it would need to in order to be labeled as a distinct strategy. And there simply is not enough evidence at this point to label the approach forwarded in the current study as a distinct persuasion strategy. To be labeled as such, the issues surrounding the quantitative assessment of identity gaps need to be resolved and substantial replication and extension research is needed. For now, then, the label "identity gap hypocrisy induction" seems fitting.

Second, can the identity gap hypocrisy induction approach be applied to non-health contexts? There absolutely appears to be merit in applying the current study to non-health communication contexts, especially if one considers it to be an extension of hypocrisy induction, which has been applied to a plethora of contexts. For instance, the current study's approach could be applied to persuasive instructional communication research aimed at reducing students' cheating behaviors. It also could be applied to persuasive risk communication research aimed at increasing individuals' engagement in safety precaution measures, such as seeking shelter during severe weather. There appears to be a place for the current study's approach in persuasive political communication

research aimed at changing individuals' voting behavior. These are just three of what seem to be a myriad of potential applications for this approach.

What, then, does the current study mean for CTI moving forward? This is a complicated question. Although communication scholars and practitioners who are interested in the relationship between identity and health behavior should view the current study's results as evidence that CTI can successfully be used within the health communication subdiscipline, these results do suggest that there are challenges with the existing methods of quantitatively assessing identity gaps. Given identity gaps' centrality within CTI, a more thorough conceptualization and operationalization of identity gaps would go a long way toward understanding how identity layers work together to influence outcomes. Indeed, some will remain skeptical of the current study's findings until the issues surrounding validity of the identity gap construct are sorted out. Despite these challenges, it is the author's hope that others will be motivated to build on the information provided in this manuscript and help uncover the full "richness of application that may come through CTI" (Hecht & Choi, 2012, p. 147).

Appendix A: Visual Representation of Study Design

```
          ┌─────────────────────┐
          │       Consent        │
          └─────────────────────┘
                    │
                    ▼
          ┌─────────────────────┐
          │    Qualification     │
          └─────────────────────┘
                    │
                    ▼
          ┌─────────────────────┐
          │  Random Assignment   │
          └─────────────────────┘
                    │
                    ▼
```

Manipulation					
Activity	**Control**	**Hypocrisy**	**P-E Gap**	**R-E Gap**	**C-E Gap**
Commitment	N	Y	Y	Y	Y
Mindfulness	N	Y	Y	Y	Y

```
                    │
                    ▼
          ┌─────────────────────┐
          │      Measures        │
          └─────────────────────┘
                    │
                    ▼
          ┌─────────────────────┐
          │     Debriefing       │
          └─────────────────────┘
```

Appendix B: Fact Sheet Used for Experimental Manipulations

Appendix C: Survey Instrument

Note: Items with an asterisk are reverse scored.

Step 1: Qualification

Before we start, we'd like to know how you feel about excessive drinking. According to the Centers for Disease Control, excessive drinking includes: (a) binge drinking, defined as 4 or more drinks consumed on one occasion for women and 5 or more drinks consumed on one occasion for men; (b) heavy drinking, defined as 8 or more drinks per week for women or 15 or more drinks per week for men; (c) any alcohol used by pregnant women; and (d) any alcohol used by those under the age of 21 years. Keeping this information in mind, please indicate how you feel about the following statements.

> Excessive drinking is:
>
>> Good : Bad*
>> Foolish : Wise
>> Unfavorable : Favorable
>> Negative : Positive
>> Undesirable : Desirable
>> Detrimental : Beneficial

Thinking about your responses to the previous question about excessive drinking, which of these statements do you think best reflects how you feel about excessive drinking?

> I am in support of excessive drinking
> I am neutral toward excessive drinking
> I am not in support of excessive drinking

Step 2: Random assignment and manipulation

Participants in traditional hypocrisy and identity gap hypocrisy conditions

> Public Commitment Manipulation
> One reason for this research is to help the [state name] with a social media campaign it is creating on excessive drinking. Here's how you can help.
>
>> For participants in traditional hypocrisy condition: We are asking people, like you, to explain why you do not support excessive drinking by composing a 140-character tweet that will be sent out by the commonwealth's official Twitter account. **First, please review the following fact sheet about excessive drinking.**
>>
>> **Then, using information from the fact sheet, compose a 140-character tweet letting people know why they should not engage in excessive**

drinking. Please include your first and last initials, your sex, and your age at the end of the tweet so that we can appropriately attribute it to you.

For participants in personal-enacted identity gap hypocrisy condition: We are asking people, like you, to explain why you do not support excessive drinking by composing a 140-character tweet that will be sent out by the commonwealth's official Twitter account.

First, please review the following fact sheet about excessive drinking.

Now, take a few moments to think about what makes you an individual; that is, what makes you unique and different from other people? Then, using information from the fact sheet, compose a 140-character tweet addressed to people like you (i.e., similar personality and traits) letting them know why they should not engage in excessive drinking. Please include your first and last initials, your sex, and your age at the end of the tweet so that we can appropriately attribute it to you.

For participants in relational-enacted identity gap hypocrisy condition: We are asking people, like you, to explain why you do not support excessive drinking by composing a 140-character tweet that will be sent out by the commonwealth's official Twitter account.

First, please review the following fact sheet about excessive drinking.

Now, take a few moments to think about what it means to you to be a best friend. Then, using the information from the fact sheet, compose a 140-character tweet addressed to your best friend letting him or her know why he or she should not engage in excessive drinking. Please include your first and last initials, your sex, and your age at the end of the tweet so that we can appropriately attribute it to you.

For participants in communal-enacted identity gap hypocrisy group: We are asking people, like you, to explain why you do not support excessive drinking by composing a 140-character tweet that will be sent out by the commonwealth's official Twitter account.

First, please review the following fact sheet about excessive drinking.

Now, take a few moments to think about what it means to you to be a member of the [university name] student community. Then, compose a 140-character tweet addressed to other [university] students letting them know why they should not engage in excessive drinking. Please include your first and last initials, your sex, and your age at the end of the tweet so that we can appropriately attribute it to you.

<u>Mindfulness Manipulation</u>
Thank you for doing that. It will be extremely helpful for our campaign.

<u>For participants in traditional hypocrisy condition</u>: To ensure our campaign is completely effective, it would be helpful to know more about why people engage in excessive drinking.

With this in mind, think of all the times in the past six months that you have engaged in excessive drinking.

About how many times would you say you've engaged in excessive drinking in the last six months?

What were the details of these experiences (e.g., when, why, how much did you drink, what happened)?

<u>For participants in personal-enacted identity gap hypocrisy condition</u>: To ensure our campaign is completely effective, it would be helpful to know more about why people engage in excessive drinking.

With this in mind, think of all the times in the past six months that you have engaged in excessive drinking.

About how many times would you say you've engaged in excessive drinking in the last six months?

What were the details of these experiences (e.g., when, why, how much did you drink, what happened)?

<u>For participants in relational-enacted identity gap hypocrisy condition</u>: To ensure our campaign is completely effective, it would be helpful to know more about why people engage in excessive drinking.

With this in mind, think of all the times in the past six months that you have engaged in excessive drinking.

About how many times would you say you've engaged in excessive drinking in the last six months?

What were the details of these experiences (e.g., when, why, how much did you drink, what happened)?

<u>For participants in communal-enacted identity gap hypocrisy condition</u>: To ensure our campaign is completely effective, it would be helpful to know more about why people engage in excessive drinking.

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With this in mind, think of all the times in the past six months that you have engaged in excessive drinking.

About how many times would you say you've engaged in excessive drinking in the last six months?

What were the details of these experiences (e.g., when, why, how much did you drink, what happened)?

Control Condition Manipulation: We are asking people, like you, to review a fact sheet about excessive drinking and then answer some questions about it.

First, please review the following fact sheet about excessive drinking.

Now, please answer the following questions:

1. How many ounces of distilled spirits (e.g., gin, rum, vodka, whiskey) is considered a drink? (12, 8, 5, 1.5)
2. How many drinks per day is considered moderate drinking for men? (4, 5, 1, 2)
3. Which of these is not a long-term health risk of excessive drinking? (heart disease, liver cancer, depression, unintended pregnancy)

Step 3: Questionnaire

Cognitive dissonance (Elliot & Devine, 1994)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

Thinking about excessive drinking makes me feel:

Uncomfortable
Uneasy
Bothered

Future intentions to engage in excessive drinking (Hu & Sundar, 2010)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

I intend to refrain from engaging in excessive drinking.*

I intend to tell others to refrain from engaging in excessive drinking.*

Personal-enacted identity gap (Jung & Hecht, 2004)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

I let others get to know "the real me" when I engage in excessive drinking. *

I feel that I behave in a way that is consistent with who I really am when I engage in excessive drinking.*

I feel that I can be myself when I engage in excessive drinking.*

I express myself in a certain way that is not the real me when I engage in excessive drinking.

I do not reveal important aspects of myself when I engage in excessive drinking.

I often lose sense of who I am when I engage in excessive drinking.

I do not express the real me when I think it is different from others' expectations when I engage in excessive drinking.

I sometimes mislead others about who I really am when I engage in excessive drinking.

I give others a different impression about the real me and who I appear to be when I engage in excessive drinking.

I speak truthfully to others about myself when I engage in excessive drinking.*

I freely express the real me to others when I engage in excessive drinking.*

Relational-enacted identity gap (adapted from Kam & Hecht, 2009)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

I communicate with my best friend as the best friend he/she wants me to be when I engage in excessive drinking.*

I do not follow the expectations my best friend has of me as a best friend when I engage in excessive drinking.

I usually behave in ways that match my best friend's expectations of me as a best friend when I engage in excessive drinking.*

I sometimes violate my best friend's expectations of me through my behaviors when I engage in excessive drinking.

I often surprise my best friend through the things I say when I engage in excessive drinking.

I don't really act like a best friend around my best friend when I engage in excessive drinking.

I communicate with my best friend in a similar way to how I communicate with other friends when I engage in excessive drinking.*

Communal-enacted identity gap (adapted from Kam & Hecht, 2009)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

I feel less like a member of the [university name] student community when I engage in excessive drinking.

I feel less connected to most members of the [university name] student community when I engage in excessive drinking.

I express myself in a certain way that is not representative of members of the [university name] student community when I engage in excessive drinking.

I mislead others about members of the [university name] student community when I engage in excessive drinking.

I give others an incorrect impression of members of the [university name] student community when I engage in excessive drinking.

I do not follow the expectations of most members of the [university name] student community when I engage in excessive drinking.

I surprise members of the [university name] student community when I engage in excessive drinking.

I don't act like other members of the [university name] student community when I engage in excessive drinking.

I do not act like the way people, in general, would expect members of the [university name] student community to act when I engage in excessive drinking.

Reactance (Lindsey, 2005)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

I am uncomfortable with how I am being made to feel about excessive drinking.

I do not like that I am being made to feel a certain way about excessive drinking.

It irritates me that others want to tell me how to feel about excessive drinking.

I dislike the way that I am being made to feel about excessive drinking.

Self-monitoring (Snyder & Gangestad, 1986)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

I find it hard to imitate the behavior of other people.*

At parties and social gatherings, I do not attempt to do or say things that others will like.*

I can only argue for ideas which I already believe.*

I can make impromptu speeches even on topics about which I have almost no information.

I guess I put on a show to impress or entertain others.

I would probably make a good actor.

In a group of people I am rarely the center of attention.*

In different situations and with different people, I often act like very different persons.

I am not particularly good at making other people like me.*

I'm not always the person I appear to be.

I would not change my opinions (or the way I do things) in order to please someone or win their favor.*

I have considered being an entertainer.

I have never been good at games like charades or improvisational acting.*

I have trouble changing my behavior to suit different people and different situations.*

At a party I let others keep the jokes and stories going.*

I feel a bit awkward in public and do not show up quite as well as I should.*

I can look anyone in the eye and tell a lie with a straight face (if for a right end).

I may deceive people by being friendly when I really dislike them.

Relational obligation (Fuligini et al., 1999)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

I treat my best friend with great respect.

I follow my best friend's advice about choosing friends.

I do well for the sake of my best friend.

I follow my best friend's advice about choosing a job or major in college.

I make sacrifices for my best friend.

In-group identification (Hogg & Hains, 1992)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

I am similar to [university name] students in terms of my general attitudes and beliefs.

I like [university name] students as a whole.

I fit in with [university name] students as whole.

I feel [university name] students are cohesive as a whole.

[University name] students are important to me as a whole.

I identify with [university name] students as a whole.

I have strong ties with [university name] students as a whole.

I am glad to be a [university name] student.

I see myself belonging with [university name] students as a whole.

Issue involvement (Eroglu & Machleit, 1998)

The next items are designed to measure your sense of the overall importance of the statement, *how important is the issue of engaging in excessive drinking to you?*

Unimportant : Important

Irrelevant : Relevant

Non-essential : Essential

Of no concern : Of concern to me

Does not matter : Matters to me

Useless : Useful

Trivial : Fundamental

Self-esteem (Rosenberg, 1979)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

On the whole, I am satisfied with myself.

At times I think I am no good at all.*

I feel that I have a number of good qualities.

I am able to do things as well as most other people.

I feel I do not have much to be proud of.*

I certainly feel useless at times.*

I feel that I'm a person of worth.

I wish I could have more respect for myself.*

All in all, I am inclined to think that I am a failure.*

I take a positive attitude toward myself.

Self-efficacy (Bonar et al., 2011)

Please indicate the extent to which you agree with the following statements on a scale from 1 to 7, with 1 = strongly disagree and 7 = strongly agree.

When consuming alcohol socially with friends, I am confident in my ability to...

Leave at least 15 minutes in between each drink.

Keep track in my head of each drink I have.

Keep track of each drink on my cell phone or a piece of paper.

Eat a meal before starting to drink.

Avoid salty foods while drinking.

Stay away from the refrigerator, keg, or bartender where alcohol is easily available.

Have a nonalcoholic drink in between each alcoholic drink.

Start off with at least 1 nonalcoholic drink in between each alcoholic drink.

Set a limit on the total number of drinks I'll have before I start drinking.

Set a predetermined time to stop drinking.

Sip my drink, rather than gulp or chug.

Avoid finishing a beer or other drink I don't want.

Wait at least 20 minutes past the time I'd normally start drinking.

Avoid adding more alcohol to a drink I have not finished.

Avoid starting a new drink until I've finished the one I have.

Avoid drinking out of oversized containers (e.g., fishbowls, boots, giant cups).

Set down my drink between each sip.

Avoid drinking in rounds (e.g., taking turns buying drinks for a group).

Avoid "catching up" if I start drinking after others.

Say "no" to offers of drinks I don't want.

Accept a drink offer, then set it aside without drinking it.

Leave the place where I am drinking at a predetermined time.

Avoid drinking with friends who drink excessively.

Order a nonalcoholic drink that can pass as an alcoholic drink.

Bring a limited amount of spending money with me when I go out to drink.

Use a single shot glass to measure how much hard liquor goes in each drink.

Limit the amount of alcohol someone else puts in any drink they make for me.

Ask the person making my drinks to make them weak.

Put extra ice in my drink.

Put extra nonalcoholic mixer in my drink.

Avoid drinking straight shots of hard liquor.

What is your age at the time of completing this study?

What is your biological sex?

    Female
    Intersex
    Male

What is your race? Select all that apply.

    American Indian / Alaskan Native
    Asian
    Black / African American
    Hispanic / Latino
    Native Hawaiian / Pacific Islander
    White / Caucasian

About how many alcoholic drinks do you have when you drink socially with your friends?

What type of alcoholic beverage are you most likely to consume when drinking socially with your friends?

    Beer
    Liquor
    Wine
    A combination of all of these

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Education

M. A.   Communication, Northern Kentucky University
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B.A.   English and Public Relations, Xavier University
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Academic Employment

University of Kentucky, College of Communication and Information, Lexington, KY
2015 – 2018   Graduate Teaching Assistant, Department of Communication
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Academic Awards and Honors

2017   Top Student Paper, Interpersonal Division, Southern States Communication
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2016   Interpersonal Communication Research Fellowship, University of Kentucky
2015   Graduate Student Travel Award, University of Kentucky
2015   Top Paper, Interpersonal Division, Southern States Communication Association
2014   Outstanding Researcher (Department of Communication), Northern Kentucky
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2014   Graduate Student Research Award, Northern Kentucky University
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Professional Publications

Wombacher, K. A., Dai, M., **Matig, J. J.,** & Harrington, N. G. (Forthcoming). Using the
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Frisby, B. N., **Matig, J. J.,** & Harris, C. J. (Forthcoming). Stress and coping following the death of a parent. Invited book chapter to be included in J. A. Theiss & K. Greene (Eds.), *Contemporary studies of relationships, health, and wellness*.