Examining the Effects of a Blame Inefficacy Intervention for Reducing Blame and Improving Relationships in College Roommates

Honors Thesis

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Blame is triggered when we see another person behave badly or inappropriately. It consists centrally of emotions of anger, irritation, or disgust toward that person (Gill & Cerce, 2021; Haidt, 2003). The presumed function of blame is to produce improvements in the behavior of the blamed individual (e.g., "He'll be nicer when he sees how angry I was about his rudeness"). There is, however, a plethora of evidence suggesting that blame–especially when it is intense or harsh–fails to produce positive changes in the blamed individual and, instead, is toxic to social relationships. Indeed, because blame has the general flavor of hostility and criticism, it can be unpleasant to be on the receiving end of it. Prior research has shown that harsh blame is associated with diminished marital quality (Bradbury & Fincham, 1992; Durtschi et al., 2011), workplace incivility (Anderson & Pearson, 1999; Mitchell & Ambrose, 2007), hostile political communication (Gill et al., 2022), ideological polarization (Abelson & Miller, 1967), and adolescent maladjustment (Baumrind et al., 2010). Given the issue of harsh blame and an increased understanding of its negative impact on interpersonal and intergroup relationships, researchers have examined interventions to reduce harsh blame (Finkel et al., 2013; Gill & Cerce, 2017; Gill et al., 2022; Kross & Ayduk, 2010).

I join this line of research to reduce harsh blame and its associated negative consequences. Our approach to the problem of blame is different from the work above. I focus on people's beliefs about the *efficacy* of intense blaming: *To what extent does the person believe that intense blame will bring about desired changes in the behavior of the blamed individual? That is, does the blamer believe that becoming angry and hostile toward a person who has offended her is likely to bring improvements to the offender's behavior?*

The objective of the current study is to test whether a Blame Inefficacy/Wise Blame Intervention—aimed at weakening the belief that strong blame is an effective tool of moral

persuasion—can temper people's characteristic manner of blaming their college roommates. Roommate pairs will be pretested on their levels of Habitual Blame Intensity in their roommate relationship. Next, some will receive an intervention and some will not. The Blame Inefficacy Intervention will involve bringing the roommate pairs into a classroom for a "workshop." The workshop will have the pairs reflect on the detrimental consequences of harsh blaming in the workplace, marriage, and family relations. Habitual Blame Intensity will be measured again later in the semester. I predict that the Blame Inefficacy Intervention will produce stronger improvements (i.e., reductions) in Habitual Blame Intensity from Time 1 to Time 2 than will the control condition. I also plan to test whether improvements in blame practices will be associated with better roommate relationship quality, greater psychological adjustment, and higher levels of satisfaction with their college experience. Before discussing our approach in more detail, I will define blame, review existing research on the destructive impacts of harsh blame, and review prior research on interventions to temper harsh blame.

Blame: What is It and What is It For?

Blame is a hostile response directed towards individuals or groups who have violated a norm (Gill & Cerce, 2017; Gill & Cerce, 2021). It consists of emotions, cognitions, and behaviors focused on the norm violator. Emotions are at the core of the blame experience, involving feelings of condemnation, such as irritation, anger, contempt, and disgust towards the violator (Gill & Cerce, 2021; Haidt, 2003). Blame cognitions involve hostile thoughts and beliefs regarding the violator's character, such as viewing them as "a bad person" – inconsiderate, selfish, antisocial, or in extreme cases "evil." Blame is also related to hostile action tendencies towards the violator, such as desires to punish, get revenge, or humiliate, and "lower" ("put in his place").

The ideal function of blame is to improve the behavior of norm violators. In this view, blaming is a tool for moral education aimed to deter a violator from behaving improperly again in the future. This function can be traced back through human evolution, as blame arguably evolved as an instinct through which human beings strive to regulate others' behaviors in the service of maintaining shared social norms (Cushman, 2013). One of the primary reasons behind the success of human beings as a species is our tendency to form large, cooperative groups (Harari, 2014; Wilson, 2012). For groups to function, group cohesion is necessary, and such cohesion is facilitated by having shared social norms (Sripada & Stich, 2006; Sunstein, 1996; Thierry, 2000). Social norms are "rules and standards that are understood by members of a group, and that guide or constrain social behaviors" (Cialdini and Trost, 1998, p. 152). They guide the conduct of individuals with the purpose of promoting cooperation and deterring conflict (Chudek & Henrich, 2011). Blame, then, serves as a psychological mechanism to regulate others' social behavior (Malle et al., 2014). Blame puts pressure on people to conform to shared norms lest they evoke hostility and punishment from others.

How Does Blame Operate?

As noted, the starting point of blame is a perceived norm violation. Following that perception, there are a set of criteria that determine how intensely people blame the violator. A primary criterion of blameworthiness is *intentionality* (Malle et al., 2014), with norm-violating actions that are perceived as intentional being more blameworthy. Intentionality consists of five major components: desire, belief, intention, skill, and awareness (Malle & Knobe, 1997b). The two core components of intentionality are desire and beliefs, with the remaining three playing a less crucial role in defining the concept. Desire refers to the want for an outcome to occur ("He wanted to hurt her feelings"), while belief refers to the expectation that one's action will bring

about the sought-after outcome ("He believed that her feelings would be hurt if he said she was just like her mother."). Malle and colleagues (2014) argue that intentionality plays a major role in blame because intentional violations are more preventable and under the perpetrator's control than unintentional actions. Therefore, responding intensely to intentional violations means responding in cases in which blame can be most effective in regulating behavior.

Once a violator's action is perceived as intentional, people then further their assessment of blameworthiness by probing the *specific reasons* that motivated the violator's action (Malle et al., 2014). Thinking about the reasons behind a violator's action is deeply tied to assessing blameworthiness because reasons establish the meaning of actions (Binder, 2000; Scanlon, 2008), and, simultaneously, aspects of the violator's character, such as her motives, beliefs, and attitudes (Malle, 2004; Stueber, 2009). A given reason can aggravate or mitigate blame depending on societal norms (Alexander, 2009; Shaver, 1985), and characteristics of both the perceiver and the violator (Polman, Pettit, & Wiesenfeld, 2013; Riordan, Marlin, & Kellogg, 1983; Tetlock et al., 2007). Although such variability exists in what counts as a blame-aggravating or blame-mitigating reason, common blame-aggravating reasons include acts done in pursuit of selfish or vengeful goals (Reeder, Kumar, Hesson-McInnis, & Trafimow, 2002), whereas common blame-mitigating reasons are acts done in service to the greater good or for self-defense (Finkel et al., 1995; Howe, 1991; Lewis et al., 2012; McGraw, 1987; Robinson & Darley, 1995). To illustrate, Darley and colleagues (1978) examined moral judgments of children and adults, between the ages of five and forty-four. They were all presented one of four scenarios in which a child was described as harming another child: hitting them, drenching them with water, breaking their play vehicle, or pushing them off a swing. They were then asked what level of punishment they recommended for the offending child. Afterwards, half of the participants

were presented the story again but this time with mitigating reasons for why the child harmed the other child: The child hit the other in retaliation for being called names (provocation); the child drenched the other because the other child was playing with matches (necessity); the child crashed the other's vehicle to stop the other child from hitting a small baby in their path (necessity); the child pushed the other off a swing because the other child was not letting others have a turn on the swing (public duty). The other half of participants received non-mitigating reasons, such as hitting another child for asking them a question. In response to the new information, all participants had a chance to change their punishment recommendations. Results showed that participants who were presented the mitigating reasons recommended less punishment than those who were not presented the mitigating reasons. They found no interaction effect with age, such that children were just as likely as adults to reduce punishment in response to mitigating reasons. The researchers also found that the necessity reasons—drenching the other child because they were playing with matches; breaking their play vehicle to avoid hitting a baby—were the most mitigating of punishment.

Another contributor to assessments of blameworthiness is perceptions of controllability, or freedom of action (Gill & Cerce, 2017), with people being blamed more to the extent they are perceived as having been able to choose to do otherwise. Weiner and Kukla (1970) demonstrate this in an experiment in which they examined the role that perceptions of ability and effort play in teacher evaluations of students. They had participants imagine being a grade school teacher. These "teachers" were then given information on their students' competence (yes, no) and effort expended (yes, no) in the context of their exam grades (Excellent, Fair, Borderline, Moderate Failure, or Clear Failure). Participants then rated each student by assigning them gold stars that represented reward, and red stars that represented punishment. This rating system can be viewed

as a proxy for blame. Of interest, results showed that students who did not exert effort were blamed more (given less favorable ratings) than were students that expended effort, even when both had earned equivalently low exam scores. In terms of ability, students that were competent but did not expend effort were blamed more for low exam scores than students that were incompetent but expended effort. The experiment clearly shows that a perceived controllable factor like effort plays an important role in blame evaluations. That is, students with low exam scores were blamed more if it was because they did not expend effort, a *controllable* factor (i.e., they could have done better if they tried), versus if it was because of their lack of ability, an *uncontrollable* factor (i.e., they are not able to do better).

Additionally, control of self-formation, the ability to control the development of one's character and beliefs, also contributes to assessments of blameworthiness (Gill & Cerce, 2017). In several experiments, Gill and Cerce (2017) have shown that diminished perceptions of control of self-formation decrease blame, and that this happens independent of perceptions of freedom of action. In their experiments, Gill and Cerce reduced control of self-formation perceptions by employing historicist narratives, story-like accounts of a person's character development centered on the impact of formative life experiences (Gill & Cerce, 2017). In their first two experiments, they had participants read about an office bully named James. Participants were then randomly assigned to either the deed only condition, in which they learned only about James' bullying, or the deed plus historicist narrative condition. In Experiment 1, the historicist narrative condition consisted of reading about how James was bullied by his father growing up and how that experience led James to become a bully himself. In Experiment 2, the historicist narrative condition consisted of reading about how James had over-indulgent parents, which contributed to his arrogance and lack of respect for others. Researchers then had participants rate

the extent to which they blamed James for his bullying. In both experiments, results showed that the historicist narratives reduced blame and that this happened because the narratives diminished perceptions of control of self-formation. Historicist narratives did not affect perceptions of freedom of action, suggesting that control of self-formation is separate from freedom of action (i.e., Weiner's controllability concept).

Lastly, regret also plays a role in blame responses. Research has shown that expressing regret reduces blame (Weiner et al., 1991). In their third experiment, Weiner and colleagues conducted a within-subjects experiment, which had participants read about a senator that misused taxpayer dollars to fund his presidential election campaign. Afterwards (T1), they had participants rate how honest, sincere, and trustworthy they found the senator, how much anger, sympathy and forgiveness they felt towards the senator, how likely they were to vote and recommend punishment for the senator, and how guilty they perceived the senator to be. After the ratings, participants were then presented the incident again, and then were assigned one of three conditions. In the confession condition, they read a full confession from the senator, in which he admitted wrongdoing, apologized, and expressed guilt and regret. In the denial condition, participants instead read an unequivocal denial from the senator. The control condition consisted of no additional information. They then filled out the same ratings regarding the senator as they did in T1 (T2). The results revealed that participants in the confession condition had more favorable impressions of the senator for all variables at T2 compared to T1. In contrast, those in the denial and control condition showed no such change. The senator's confession made participants rate the senator as more sincere, honest, and trustworthy, feel less anger and more sympathy towards the senator, more likely to vote and less likely to recommend punishment for

the senator, and perceive the senator as feeling more guilty. This experiment shows that the expression of regret reduces harsh blame.

The Consequences of Harsh Blaming

There is plenty of evidence suggesting that harsh blaming is toxic to social relationships across many different domains of social life. In the marital context, for example, there is evidence that reciprocal blaming negatively impacts marriage quality (Bradbury & Fincham, 1992; Durtschi et al., 2011). In one relevant study, Durtschi and colleagues (2011) conducted a longitudinal examination of hundreds of married couples in three waves over the span of 4 years. At time 1 (T1), they assessed each partner's tendency to blame their significant other for four hypothetical but common "offenses" (e.g., "Your spouse criticizes something you say"). For each hypothetical scenario, they had participants rate how selfish, blameworthy, and intentional they thought their partner would be in committing the offense. Two years later (T2), they had the couples participate in a discussion task with each other, where they were tasked to discuss topics such as their time spent together, conflict and disagreement, and their future plans. This interaction was videotaped and coded for warm and hostile behavior by trained observers. Hostile behaviors were measured by coded ratings of the amount of hostility, antisociality, anger, verbal attacks, and hostile escalation that the partners engaged in. At this time, researchers also had participants self-report how warm and hostile they have been with their partner. Four years in (T3), they had couples self-report their martial quality. The results revealed a significant negative relationship between early marriage responsibility attributions and marital quality 4 years later (T3), after controlling for initial marital quality at T1. This effect was mediated by negative spousal behavior two years into the marriage. They found that found that partners with a strong tendency to blame their significant other for hypothetical offenses at T1 were more hostile

towards their partner during in-person interactions at T2, and that such hostility was also reciprocated by their partner at T2. Such reciprocated hostility was ultimately associated with diminished marital quality (T3).

We can also see the consequences of harsh blaming in parent-child relations. In a longitudinal study, Baumrind and colleagues (2010) examined over 80 families with preschool aged children, studying how parenting styles affect children's emotional health and competence during adolescence. They operationalized emotional health as a low levels of problem behaviors, such as hostility towards adults and social deviance, and competence as high levels of self-efficacy and prosocial behavior. Families were examined during preschool (T1), latency (T2), and early adolescence (T3). Data was collected by trained psychologists who observed parent and child behaviors in a variety of settings (e.g., home, classroom, playground, in peer contexts) and who conducted interviews with parents, children, and teachers in the laboratory. Families were categorized into seven parenting styles: authoritative (high-demanding, responsive, autonomy-supportive), authoritarian (high-demanding, low-responsive, psychologically controlling), directive (high-demanding, moderate-responsive), permissive (low-demanding, high-responsive), democratic (moderate-demanding, high-responsive, high-autonomy-supportive), good enough (demanding, moderate-responsive, autonomy-supportive), and disengaged (low-demanding, low-responsive, low-autonomy-supportive). Researchers focused their analyses on changes between preschool (T1) and early adolescence (T3). Results revealed that adolescents with directive, democratic, or authoritative parents during preschool had better emotional health and competence compared to adolescents with parents who were authoritarian, permissive, or disengaged. Adolescents who had authoritarian parents were the worst off in terms of emotional health and competence. Researchers found that verbal hostility, psychological

control, physical punishment, and arbitrary discipline, all forms of intense blame, were factors that made authoritarian parenting particularly detrimental to adolescent emotional health. In contrast, confrontive discipline (being direct, firm-but-not-mean, and consistent when disciplining one's child) and maturity demands were factors that made authoritative parenting effective for emotional health and competence.

The detrimental effects of harsh blaming have been shown in the workplace as well. Mitchell and Ambrose (2007) examined hundreds of workers, examining them on their perceptions of being abused by their supervisor (abusive supervision), their general beliefs about the appropriateness of retaliating against negative treatment (negative reciprocity beliefs), and their tendency to retaliate against their supervisor through interpersonal and organizational deviance. Their abusive supervision measure, particularly the items related to interpersonal acts of verbal abuse and ridicule, can be conceptualized as measuring harsh forms of blaming from supervisors. They found that abusive supervision was positively associated with workers engaging in retaliation against their supervisor, through engaging in verbal abuse and failing to complete their work properly. They also found that such relation to abusive supervision was strongest among those who held higher levels of negative reciprocity beliefs. Retaliation in this context can be viewed as a form of punishment—revenge—for being harshly blamed by their supervisors. This reciprocal blame process creates a toxic workplace environment that is costly both psychologically and financially to organizations.

Lastly, we can see the negative effects of harsh blaming in our political conversations. For example, Abelson and Miller (1967) conducted a field experiment in which they had confederates sit with individuals at park benches, and then had an experimenter ask to interview both of them about their views on racial discrimination. First, the experimenter assessed whether

a participant had favorable attitudes towards protests against racial discrimination in employment. Participants that had negative attitudes towards the protests were ineligible to continue with that experiment. Next, both the confederate and participant were asked more questions about the protests from the experimenter, and the confederate revealed their opposing, anti-protest view. Next, as participants discussed their views in more detail during the interview, researchers manipulated whether the confederate responded to the participants view in an insulting or neutral manner. In the insulting condition, confederates ridiculed the participants views, calling them "ridiculous," while in the neutral condition, they just called their points "interesting." Lastly, the experimenter reassessed their participants' view on the protests. They found that participants in the insulting condition became more extreme in their political opinion. This can be viewed as a form of retaliation against the confederate's blaming response to participants' political beliefs. Participants can be seen as becoming more polarized to further separate themselves from the confederate and the confederate's views.

Prior Interventions to Reduce Harsh Blaming

Given the detrimental effect of harsh blame on social relationships, researchers have examined interventions to temper harsh blame and its associated consequences. One intervention has utilized cognitive reappraisal, a psychological technique in which people try to change the meaning of a situation, usually to down-regulate its negative emotional impact (Gross, 1998). For example, in the context of married couples, Finkel and colleagues (2013) conducted a longitudinal cognitive reappraisal experiment online. They examined 120 heterosexual couples in seven waves, which were spaced out every 4 months for 2 years. At each examination, they had couples report their relationship satisfaction, love, intimacy, trust, passion, and commitment, creating a composite of subjective marital quality. Beginning from wave 2 at 4 months, they had

couples report the biggest disagreement they had experienced with their spouse in the past four months and then rate their levels of conflict-related distress. After a year, starting from wave 4, participants were randomly assigned the cognitive reappraisal intervention (yes, no). The intervention consisted of a 7-min writing task at the end of the fourth through sixth waves, and had participants reappraise the disagreement situation that they had described by responding to three writing prompts. One of the prompts told participants to: "…Think about this disagreement with your partner from the perspective of a neutral third party who wants the best for all involved; a person who sees things from a neutral point of view. How might he or she find the good that could come from it?" Participants in the no intervention condition were given no additional task. Results showed that while marital quality declined for all participants with time, after the intervention began during the fourth wave, participants in the reappraisal condition were immunized from this downward trend. Furthermore, researchers found reductions in conflict-related distress over-time in the reappraisal group, and that this reduction mediated the positive association between the intervention and preserved marital quality.

Another approach to tempering harsh blame is self-distancing, a process through which people "take a step back" from their experiences (Kross & Oyduk, 2011). Kross & Oyduk (2010) conducted a daily diary study for married couples to examine the impacts of spontaneous self-distancing. Every day, for three weeks, they had participants complete diary questionnaires online in which they described whether or not they experienced a conflict with their partner, and if they reflected on the conflict from a self-distanced manner. Before the three-week diary task, participants were invited for a lab session in which they completed a conflict discussion task. Discussion topics were chosen mutually by the experimenter and couples based on each couple's stress and importance ratings of a list of hypothetical relationship conflicts. Couples then talked

about that topic for 15 minutes. The task was videotaped and coded by experts for hostility. The coding scheme focused on nonverbal indicators of hostility, verbally expressed disapproval, negative inferences about their partner, and harsh or obstructive disagreement. They found that romantic partners that reported engaging in spontaneous self-distancing as they reflected on daily relationship conflicts reciprocated significantly less hostility towards their partner during the conflict discussion task (Kross & Ayduk, 2010). In comparison, those lower in spontaneous self-distancing reciprocated more hostility, which the researchers described as possibly toxic for relationships as "…high levels of negativity as a tit-for-tat tactic of hostility likely leads to the escalation of the conflict" (Kross & Ayduk, 2010).

Our Approach: Efficacy Beliefs About Blame

Consistent with our focus on efficacy, prior work has shown that beliefs about the efficacy of punishment in deterring negative behavior are a crucial component of blame and punishment (Vidmar & Miller, 1980), In the workplace and military contexts, Kipnis and Consentino (1969) had hundreds of industrial and military supervisors recall a time in which a subordinate behaved "below average" and then had them describe what they did in response to the subordinate. Researchers classified the answers and found that common behaviors of subordinates described by the supervisors were a lack of commitment to the institution (attitude), a failure to follow rules (discipline), not achieving minimum work standards (work), and not dressing properly (appearance). Researchers also classified the actions taken by supervisors towards their subordinates. Responses included discussing the issue, changing the situation, increasing supervision, penalizing, referrals to a specialist, written warnings, firing, and acting as a positive example for the given situation. Results revealed a direct relationship between the problem behavior and type of corrective action taken by supervisors. Supervisors engaged in

discussion with subordinates more often for situations in which subordinate problems were related to attitude or discipline than for problems of work. While for work-related issues, increased supervision was employed more by supervisors than in issues of attitude or discipline. When subordinates presented two or more problems at the same time, supervisors more often resorted to changing the situation, through transferring or reassigning the subordinate, than when subordinates presented only one problem. The results clearly show the lack of a one-size all approach to the problems presented by subordinates, as sanctions were varied according to the specific problem(s). Vidmar and Miller (1980) have argued that this study is consistent with the possibility that the type of corrective action taken by supervisors stems from their beliefs about what actions will be efficacious in each specific context.

In the context of support for capital punishment, Sarat and Vidmar (1976) surveyed hundreds of Americans on their attitudes towards the death penalty. They measured participants on the degree to which they supported retribution as a reason for criminal punishment, their knowledge about the death penalty, their support and opposition towards the death penalty, and attitudes towards various aspects of the death penalty procedure. Participants were then randomly assigned to one of four conditions: utilitarian, humanitarian, combined, or control. Participants in the utilitarian condition read an essay consisting of summaries of empirical studies on the death penalty, focusing on its lack of deterrent effect on crime. Participants in the humanitarian information read an essay about the negative psychological and physical aspects of conducting an execution. Participants in the combined condition read both essays, while participants in the control condition read nothing. Afterwards, all participants were reassessed on their attitudes towards the death penalty. Results showed that those in the combined or utilitarian information conditions became most opposed to the death penalty. In contrast, attitude change

happened at a much smaller level in the humanitarian condition and was nonexistent in the control condition. This experiment shows the importance of efficacy beliefs in driving support and opposition to blame and punishment practices. Once participants learned about the inefficacy of the death penalty in deterring future crime, they supported it less.

Altogether, the studies show that belief in the efficacy of punishment and blame practices drive support for them, and that learning about the inefficacy of such punishment and blame practices can reduce their support and enactment. Our efficacy intervention will involve highlighting how harsh blaming sours social relationships and fails to act as a deterrent for negative behaviors. This point will specifically be expressed by presenting data and having participants reflect on the negative relational consequences of harsh blaming in multiple different contexts, such as in marriage, the workplace, and parenting.

The Present Study

The present study will contribute to the existing psychological literature in many ways. First, our approach to the problem of blame is distinct from many of the previous approaches. Previous real-world interventions have consisted of employing emotion regulation strategies such as cognitive reappraisal and self-distancing that focus on tempering harsh emotional experiences. Furthermore, lab-based studies of blame mitigation have focused primarily on changing perceptions of the transgressor's intentions, reasons, freedom of action, control of self-formation, regret, and so on (see review above). In contrast, our approach focuses on beliefs *about blame* (i.e., does it work?) rather than beliefs *about the transgressor* (e.g., did she act with intention?). To our knowledge, prior research has not employed interventions targeting efficacy beliefs as a way to reduce harsh blame and improve interpersonal relationship quality.

Second, the present study differs by measuring the broader impacts of blame, beyond just its detrimental effect on social relationships. Prior work has mainly focused on the impact of blame on relationship quality in particular, while our work, in addition to measuring its impact on relationship quality, will assess the impact of blame on the mental health and broader satisfaction with college experience in students. These broader measurements are based on prior work suggesting that blame of others reduces mental well-being (e.g., Tennen & Affleck, 1990) and that good quality relationships contribute to overall satisfaction with life (e.g., Malvaso & Kang, 2022).

Method

Participants.

Participants were one-hundred ninety underclass college students who earned $40 in Amazon gift cards. Four participants failed the majority of our attention checks. Because roommate pair is the unit of analysis in this study, I deleted data from the four roommate pairs in which one member failed most attention checks. This left us with a final sample of one-hundred and eighty-two participants (one-hundred and twenty-one female, fifty-eight male, and three nonbinary).

Design.

I conducted a short-duration longitudinal study of dorm roommates. I assessed each participant's habitual blame practices in the context of his or her roommate relationship (i.e., characteristic level of blame intensity when reacting to roommate misdeeds) both in March of 2023 (T1) and then again in April of 2023 (T2). Unfortunately, due to a Qualtrics programming error, nearly one-third of T1 data are missing. Thus, I do not use T1 data in the analyses presented below, instead focusing only on T2 data.

Crucially, prior to the T2 assessment, roommate pairs were randomly assigned to participate in our blame inefficacy/wise blame intervention workshop (or not). I will refer at times to this intervention as the "Wise Blame Workshop," as that term was used in the workshop to capture the fact that there are constructive ways to respond to the wrongdoing of others.

I examined whether the blame inefficacy intervention fostered more constructive blame practices (i.e., lowered intensity) at T2 as compared to the control condition. At T2, I also measured two different efficacy-related beliefs—efficacy of intense blame as a tool for positive transformation in the recipient, belief in one's own efficacy as a skillful deliverer of blame—to test whether, as predicted, our workshop improved blame practices by changing efficacy-related beliefs about blame. Finally, at T2 I also assessed overall relationship quality, mental health, and satisfaction with the college experience. This enabled us to examine whether improvements in blame practices brought improvements to these broader indicators of well-being.

Procedure. In March (Time 1, T1), after providing consent, participants were emailed a Qualtrics survey in which they were measured on our variables of interest and demographics. Full versions of all our measures can be seen in Appendices A-G. Our central measure assessed habitual *Blame Intensity* related to blaming one's dorm *roommate* (hereafter *BI-R*).

Some subscales of the BI-R focused on the inner experience of blame: *Hostile emotions* (e.g., "If my roommate does something I have asked him/her *not* to do, I get extremely angry.") and *character derogation* (e.g., "I have thought of my roommate as a repulsive person when s/he did things I don't like."). Other subscales focused on the outer expression of blame: *Expressed hostility* (e.g., "If my roommate acts in a way that makes me angry, I am likely to raise my voice, yell, and use other means to outwardly express my feelings") and *punishment* (e.g., "I try to shame or humiliate my roommate when they are treating me (or others) badly"). A couple of

subscales focused on positive aspects of one's blame habits: *Compassion* (e.g., "No matter what my roommate does, I try to be understanding towards them.") and *self-regulation of hostility* (e.g., "When my roommate makes me angry, I try to manage my anger").

I expected that the impact of our blame inefficacy intervention on BI-R scores would be mediated by changes in blame-related efficacy beliefs. I measured two types of efficacy beliefs, both of which I saw as being targeted by the content of our workshop (described below). Specifically, I had participants complete a measure assessing their beliefs about the *efficacy of blame* (e.g., "Harshly blaming my roommate whenever s/he does something wrong is likely to improve his/her behavior") and about their own *self-efficacy as a blamer* (e.g., "I know how to communicate with my roommate in a way that will positively influence his/her behavior"). I also measured *frequency of roommate offenses* (e.g., "How often does your roommate…" "Fail to clean up after him/herself?" "Use your belongings without your permission?," etc.) as a potential covariate. In some analyses, it can be useful to disentangle blame intensity *per se* from the frequency with which one's roommate engages in bad behavior. That is, high blame intensity is, conceptually, a tendency to react with more hostility than would be expected based on the severity of the observed misbehavior. To get at this, emotional intensity must be disentangled from offense severity.

Beyond these blame-related measures, the survey also included factors that I expected might improve as a consequence of improvements in blame practices and beliefs. First, I measured *psychological adjustment*. This was done with the CES-D (Loxton, Mooney, & Young, 2006), which focuses on depressive symptoms over the past week (e.g., "I felt depressed."). Next, I measured overall *relationship quality* for the roommate relationship, or one's global sense that the relationship is a good one that fulfills one's needs. For this, I used a modified

version of the Relationship Assessment Scale (Hendrick, 1988), modified to be relevant to roommate relationships (e.g., "In general, how satisfied are you with your roommate relationship?"). Finally, I measured global *satisfaction with the college experience*, or one's sense that one's experience at Lehigh is, overall, a good one. For this, I used a modified version of the Satisfaction with Life scale (Diener et al., 1985), modified to assess satisfaction with one's college experience rather than life as a whole (e.g., "In most ways my life at Lehigh is close to my ideal.").

Within a couple of weeks after this T1 assessment, roommate pairs were randomly assigned to receive the blame inefficacy/wise blame intervention or not. In the *wise blame workshop condition*, batches of roommate pairs arrived to a reserved classroom for a 20-minute workshop that involved having them reflect on the detrimental consequences of harsh blaming in marriage, political conversations, and peer relations. Research on the consequences of blame in these contexts were summarized and synthesized in a succinct manner and were described in a digestible way for roommate pairs. Furthermore, whereas hostile blaming was portrayed as detrimental for the relationship, there was also information portraying tempered blame as beneficial (e.g., non-violent communication techniques). Explicit instructions regarding how to blame in a constructive manner (e.g., avoid contempt, use a gentle-start up and "I" statements, avoid the use of accusatory "you" statements, make a request rather than a demand) were provided and participants practiced delivering blame in this manner in the context of a hypothetical example of a roommate playing music too loudly. In the control condition, participants did not attend the workshop between the T1 and T2 surveys but had to the opportunity to attend the workshop *after* the T2 survey. This allowed for all participants to receive the potential benefits of our workshop, while simultaneously allowing us to examine the

workshop positive impacts at T2 compared to a control condition. The full script and PowerPoint slides for the wise blame workshop are in Appendix H.

Later in the semester (T2), roughly a week after the workshop, all roommate pairs were sent another survey for reassessment on all variables of interest. They were required to complete this T2 survey within a week. All variables described above—BI-R, beliefs in efficacy of blame, beliefs in self-efficacy as blamer, psychological adjustment, relationship quality, satisfaction with one's college experience—were measured once again using the same measures described above. I also added measures of personality, including the Big Five Inventory (John & Srivastava, 1999), Fear of Negative Evaluation Scale (Leary, 1983), and Blame Intensity Inventory (Gill & Cerce, 2021). Descriptive statistics for all variables at T1 and T2 can be seen in Tables 1 and 2.

Results

Because individuals are nested within pairs (i.e., roommates) in this study, data were analyzed using the Mixed Models feature of SPSS 28.0. Our model treats "pairs" as a random effect and examines the fixed effect of our experimental manipulation (i.e., control, workshop) with pairs ($N = 91$) as the unit of analysis. For the reason given above, the following analyses are of variables collected at T2.

First, I examined blame practices in the context of the roommates' relationships (i.e., BI-R scores). I found that our workshop significantly impacted two dimensions of participants' blame practices with their roommates. First, the wise blame workshop reduced expressed hostility among roommates, $F(1, 180) = 4.26$, $p = .04$. Thus, following our intervention, participants became less likely to agree with items such as, "When my roommate upsets me, I express my anger fully and openly." This effect and all the effects discussed in this paragraph

can be seen in Figure 1. Second, the wise blame workshop increased compassion in the context of blaming one's roommate, $F(1, 180) = 4.25$, $p = .04$. Thus, following our intervention, participants became more likely to agree with items such as, "I try to be compassionate toward my roommate even when they upset me." Next, although the effect of our intervention on character derogation was nonsignificant, there was a weak trend in the predicted direction, $F(1, 178) = 2.09$, $p = .15$. Thus, following our intervention, there was a weak trend toward participants disagreeing with items such as, "When my roommate behaves badly, I think: What a jerk!" Finally, the effect of our intervention on the remaining dimensions of the BI-R was nonsignificant. This was true for hostile emotions (e.g., "I get really furious when my roommate is inconsiderate towards me"), $F(1, 177) = .43$, $p = .51$, punishment (e.g., "When my roommate upsets me, I try to get revenge in some way"), $F(1, 176) = .05$, $p = .83$, and self-regulation of hostility (e.g., "When my roommate makes me angry, I try to manage my anger"), $F(1, 179) = .29$, $p = .59$.

Next, I examined our mediator variables, starting with beliefs about the efficacy of blame. This revealed a main effect of condition, $F(1, 179) = 8.06$, $p = .005$. Beliefs about the efficacy of blame were significantly lower in the workshop condition compared to the control condition. Thus, the wise blame workshop reduced beliefs about the efficacy of blame among roommates. Then I examined beliefs in self-efficacy as a blamer. This also revealed a main effect of condition, $F(1, 178) = 4.57$, $p = .03$. Beliefs in self-efficacy as blamer were significantly higher in the workshop condition compared to the control condition. Thus, the wise blame workshop increased beliefs in self-efficacy as blamer among roommates. In short, our intervention produced positive (i.e., constructive) changes in both efficacy-related mediators. The effects discussed in this paragraph can be seen in Figure 2.

Tests of Mediation

Now, I turn to mediation. I adhered to suggestions for testing multi-level mediation presented by Hayes and Rockwood [31] and I used Rockwood's MLMED macro (downloadable at: https://njrockwood.com/mlmed) to conduct the analyses.

Impact of the workshop on roommate blame practices mediated by efficacy-related beliefs about blame. First, I examined whether, as predicted, our wise blame workshop produced changes in roommate blame practices because the workshop changed efficacy-related beliefs about blame (i.e., efficacy of blame, efficacy of self as blamer). Specifically, I tested mediation of the effect of our intervention on each dimension of the BI-R traveling through the dual mediators of belief in the efficacy of blame and belief in one's own efficacy as a blamer. I focused on all dimensions of the BI-R despite the fact that our intervention did not have a significant direct effect on several of those dimensions. The reason for this is that, as explained by Rucker et al. (2011), it is possible to have inadequate power to detect a direct effect while simultaneously having adequate power to detect the constituent pathways that make up an indirect effect. In such cases, one can find nonsignificant direct effects on one's IV on the DV but significant indirect effects of the IV on DV traveling through the mediator(s).

First, I examined dual mediation of the blame inefficacy intervention on expressed hostility through beliefs about the efficacy of blame and self-efficacy as blamer. The between-cluster effects—which treat the means of our 91 "pairs" as the unit of analysis—are shown in top half of Figure 3. As already reported, the wise blame workshop condition (compared to the control) reduced belief in the efficacy of blame, $t(89.11) = -2.81$, $p = .01$, and increased self-efficacy as a blamer, $t(88.48) = 2.11$, $p = .04$. New information provided by this model is that belief in the efficacy of blame was positively related to expressed hostility, $t(86.42) = 4.22$, $p <$

.001, and self-efficacy as blamer was marginally negatively related to expressed hostility, $t(87.73) = -1.93$, $p = .06$. As can be seen in the statistical information beneath the model, the indirect effect traveling through belief in the efficacy of blame was significant, whereas the indirect effect traveling through self-efficacy as blamer was not significant (although close). This model is consistent with the hypothesis that our workshop led to roommates being less likely to express hostile blame because the workshop persuaded them that such blame is unhelpful for achieving desired ends (i.e., improving their roommate's behavior). Less relevant to present concerns, I also present individual-level effects at the bottom of Figure 3. MLMED automatically calculates these individual-level effects (labeled "within-effects"). Individual-level effects are computed for any variables measured at the individual level (i.e., in the present case this excludes "workshop condition" because members of each pair have the same score on that variable). This is done by converting each individual roommate's score to a deviation from the mean of his or her pair. Then, in the present case, these deviation scores for the Y variable (expressed hostility) are regressed on deviation scores for the M variables (efficacy of blame, self-efficacy as a blamer). Results indicate whether, independent of the pair-level effect, there is also an individual-level effect. As can be seen at the bottom of Figure 3, there was a significant positive individual-level association between belief in blame efficacy and expressed hostility. The individual-level effect for self-efficacy as a blamer was weak and nonsignificant.

Next, I examined dual mediation of the Wise Blame intervention on compassion through efficacy-related beliefs. The model can be seen in Figure 4. Of course, the impact of the Wise Blame intervention on the mediators is identical in every model, so I will not repeat that information (see above for details). Beyond the effect of the intervention on the mediators, this model revealed that belief in the efficacy of blame was negatively related to compassion,

$t(86.66) = -2.48$, $p = .02$, and self-efficacy as blamer was positively related to compassion, $t(87.98) = 6.94$, $p < .001$. As can be seen in the statistical information beneath the model, both the indirect effect traveling through beliefs in the efficacy of blame and the indirect effect traveling through self-efficacy as a blamer were significant. This is consistent with the hypothesis that our workshop led to roommates taking a more compassionate approach to blaming because the workshop persuaded them that intense blame is unhelpful for achieving desired ends and that they are capable of blaming constructively. Finally, as can be seen at the bottom of Figure 4, the individual-level associations between belief in blame efficacy and compassion and between self-efficacy as a blamer and compassion were significant and in the expected direction.

Then, I examined dual mediation of the Wise Blame intervention on character derogation through efficacy-related beliefs. The model can be seen in Figure 5. Beyond the effect of the intervention on the mediators, this model revealed that belief in the efficacy of blame was positively related to character derogation, $t(86.79) = 2.11$, $p = .04$, and self-efficacy as blamer was negatively related to character derogation, $t(87.96) = -3.72$, $p < .001$. As can be seen in the statistical information beneath the model, both the indirect effect traveling through beliefs in the efficacy of blame and the indirect effect traveling through self-efficacy as blamer were significant. This is consistent with the hypothesis that our workshop led to roommates being less likely to blame by criticizing the character of their roommate because the workshop persuaded them that intense blame is unhelpful for achieving desired ends and that they are capable of blaming constructively. Finally, as can be seen at the bottom of Figure 5, the individual-level associations between belief in blame efficacy and character derogation and between self-efficacy as a blamer and character derogation were significant and in the expected direction.

Next, I examined dual mediation of the Wise Blame intervention on hostile emotions through efficacy-related beliefs. The model can be seen in Figure 6. Beyond the effect of the intervention on the mediators, this model revealed that belief in the efficacy of blame was positively related to hostile emotions, $t(81.49) = 3.32$, $p = .001$, and self-efficacy as blamer was negatively related to hostile emotions, $t(86.97) = -2.51$, $p = .01$. As can be seen in the statistical information beneath the model, both the indirect effect traveling through beliefs in the efficacy of blame and the indirect effect traveling through self-efficacy as blamer were significant. This is consistent with the hypothesis that our workshop led to roommates feeling less intense hostile emotions when blaming their roommate because the workshop persuaded them that intense blame is unhelpful for achieving desired ends and that they are capable of blaming constructively. Finally, as can be seen at the bottom of Figure 6, the individual-level association between belief in blame efficacy and hostile emotions was significant and in the expected direction, but the individual-level association between self-efficacy as a blamer and hostile emotions was only marginal.

Next, I examined dual mediation of the Wise Blame intervention on punishment through efficacy-related beliefs. The model can be seen in Figure 7. Beyond the effect of the intervention on the mediators, this model revealed that belief in the efficacy of blame was positively related to punishment, $t(87.62) = 3.26$, $p = .002$, and self-efficacy as blamer was negatively related to punishment, $t(87.74) = -4.47$, $p < .001$. As can be seen in the statistical information beneath the model both the indirect effect traveling through beliefs in the efficacy of blame and the indirect effect traveling through self-efficacy as blamer were significant. This is consistent with the hypothesis that our workshop led to roommates being less likely to retaliate against their roommate when she behaves badly because the workshop persuaded them that intense blame is

unhelpful for achieving desired ends and that they are capable of blaming constructively. Finally, as can be seen at the bottom of Figure 7, the individual-level associations between belief in blame efficacy and punishment and between self-efficacy as a blamer and punishment were significant and in the expected direction.

Lastly, I examined dual mediation of the Wise Blame intervention on self-regulation of hostility through efficacy-related beliefs. The model can be seen in Figure 8. Beyond the effect of the intervention on the mediators, this model revealed that belief in the efficacy of blame was negatively related to self-regulation of hostility, $t(86.72) = -3.31$, $p = .001$, and self-efficacy as blamer was positively related to self-regulation of hostility, $t(89.08) = 2.74$, $p = .006$. As can be seen in the statistical information beneath the model, both the indirect effect traveling through beliefs in the efficacy of blame and the indirect effect traveling through self-efficacy as blamer were significant. This is consistent with the hypothesis that our workshop led to roommates being more likely to regulate hostile emotions they feel while blaming their roommate because the workshop persuaded them that intense blame is unhelpful for achieving desired ends and that they are capable of blaming constructively. Finally, as can be seen at the bottom of Figure 8, the individual-level associations between belief in blame efficacy and punishment and between self-efficacy as a blamer and punishment were not significant.

Broader impacts of the workshop on relationship quality, satisfaction with college, and mental well-being mediated by efficacy-related beliefs about blame. Now, I turn to the question of whether the improvements in blame-related efficacy beliefs led to broader impacts of our Wise Blame workshop. I begin by looking at the outcome of overall relationship quality reported by the roommates. The model can be seen in Figure 9. Of course, as already noted, the impact of the Wise Blame intervention on the mediators is identical in every model, so I will not

repeat that information (see above for details). Beyond the effect of the intervention on the mediators, this model revealed that belief in the efficacy of blame was unrelated to relationship quality, $t(86.90) = -.11$, $p = .91$, whereas self-efficacy as a blamer was positively related to roommate relationship quality, $t(88) = 7.08$, $p < .001$. As can be seen in the statistical information beneath the model, the indirect effect traveling through belief in the efficacy of blame was not significant, whereas the indirect effect traveling through self-efficacy as a blamer was significant. This is consistent with the hypothesis that our Wise Blame workshop produced improvements in overall relationship quality by helping roommates to develop self-efficacy as a blamer. Finally, as can be seen at the bottom of Figure 9, the individual-level associations between belief in blame efficacy and relationship quality and between self-efficacy as a blamer and relationship quality were significant and in the expected direction.

Next, I examined satisfaction with college experience. The model can be seen in Figure 10. Beyond showing the impact of our intervention on the mediators, this model further reveals that belief in the efficacy of blame was not significantly related to satisfaction with college experience, $t(86.19) = -.15$, $p = .88$, whereas self-efficacy as a blamer was positively related to satisfaction with college experience, $t(87.33) = 2.19$, $p = .03$. As can be seen in the statistical information beneath the model, the indirect effect traveling through beliefs in the efficacy of blame was not significant, nor was the indirect effect traveling through beliefs in self-efficacy as blamer. I note, however, that if I request 93% confidence intervals (rather than 95%) for the indirect effects, I find that the bootstrapped confidence interval for the indirect effect traveling through self-efficacy as a blamer no longer includes 0. Thus, given the significant links between the Wise Blame intervention and self-efficacy as a blamer, between self-efficacy as a blamer and overall satisfaction with the college experience, and the marginal indirect effect, it seems most

reasonable to conclude that our Wise Blame intervention had a small effect on improving satisfaction with one's college experience by increasing one's belief that one can blame constructively in one's roommate relationship. Finally, as can be seen at the bottom of Figure 10, the individual-level association between belief in blame efficacy and satisfaction with college experience was not significant, but the individual-level association between self-efficacy as a blamer and satisfaction with college experience was significant and in the expected direction.

Lastly, I examined psychological adjustment. The model can be seen in Figure 11. Beyond showing the impact of our intervention on the mediators, this model revealed that belief in the efficacy of blame was not significantly related to psychological adjustment, $t(85.39) = -.45$, $p = .66$, whereas self-efficacy as a blamer was associated with reduced depressive symptoms, $t(86.60) = -2.07$, $p = .04$. As can be seen in the statistical information beneath the model, the indirect effect traveling through beliefs in the efficacy of blame was not significant, nor was the indirect effect traveling through beliefs in self-efficacy as blamer. Yet, similar to the prior paragraph, I note that if I request 92% confidence intervals (rather than 95%) for the indirect effects, I find that the bootstrapped confidence interval for the indirect effect traveling through self-efficacy as a blamer no longer includes 0. Thus, given the significant links between the Wise Blame intervention and self-efficacy as a blamer, between self-efficacy as a blamer and reduced depressive symptoms, and the marginal indirect effect, it seems most reasonable to conclude that our Wise Blame intervention had a small effect on lowering depressive symptoms by increasing one's belief that one can blame constructively in one's roommate relationship. Finally, as can be seen at the bottom of Figure 11, the individual-level associations between belief in blame efficacy and psychological adjustment and self-efficacy as a blamer and psychological adjustment were not significant.

General Discussion

Blame can be detrimental to social relationships. Research has shown the negative impacts of blame in a variety of domains, such as in marriage (Durtschi et al., 2011), the workplace (Anderson & Pearson, 1999), parenting (Baumrind et al., 2010), and political conversations (Abelson & Miller, 1967). In intimate relationships, blame has been associated with hostile communication, and such communication is reciprocated by partners, ultimately harming intimate relationships years later (Durtschi et al., 2011). In conversations, blame can polarize people in their political views, making individuals cling harder to beliefs they are blamed for (Abelson & Miller, 1967). In peer groups, blame can lead to social rejection by other peers and increase negative mental health symptoms in blamers weeks later (Gill & Shapiro, 2015).

Given the detrimental impact of blame in the contexts of relationships, political polarization, and mental health, it is important to study ways it can be reduced. Prior work has focused on reducing blame and its negative impacts through emotion-regulation strategies (Finkel et al., 2013; Kross & Ayduk, 2010) and by changing perceptions of norm-violators (Gill & Cerce, 2017). Previous research has shown that cognitive reappraisal can preserve martial quality over months by reducing conflict related distress (Finkel et al., 2013). Other work has shown that spontaneous engagement with self-distancing is associated with reduced reciprocation of hostility during a conflict discussion task (Kross & Ayduk, 2010). In terms of changing perceptions of norm-violators, Gill and Cerce (2017) found that diminished perceptions of a transgressor's freedom of action and control of self-formation both independently decreased blame. Our approach to the problem of blame differed from these previous studies in that I examined whether reducing beliefs about the efficacy of blame and increasing people's self-

efficacy as blamers can reduce can temper harsh blame practices, and lead to positive downstream consequences on relationship quality, satisfaction with college, and mental health.

Blame-related efficacy beliefs have been shown to play an important role in blame practices and punishment. In terms of belief in the efficacy of blame, Vidmar and Miller (1980) have described military supervisors as varying sanctions directed at their subordinates as a function of their beliefs about which sanctions would be effective for their context (Kipnis & Consentino, 1969). In relation to capital punishment, efficacy-based arguments against the death penalty, such as how it may not reduce subsequent homicides, were effective at reducing support for capital punishment even compared to humanitarian arguments. In terms belief in self-efficacy as a blamer, Bandura (2023) has shown that people enact new behaviors once they feel capable of engaging in such behaviors. Therefore, if people feel capable of engaging in constructive blame practices, they may be more likely to enact them. Our main interest lied in examining whether impacting these blame-related efficacy beliefs, specifically, decreasing roommate pairs' belief in the efficacy of blame, and increasing their self-efficacy as blamers, will reduce harsh blame practices.

To examine this, I randomly assigned roommate pairs to our experimental condition, which was a wise blame workshop. The wise blame workshop involved exposing roommate pairs to studies that show the detrimental impacts of blame on intimate relationships, political conversations, and in peer groups. The goal of this component of the workshop was to reduce the extent to which roommate pairs believed harsh blaming was effective at inducing positive behavioral change. The workshop also involved describing tools for effective blame communication, such as the Gottman method. The goal of this component of the workshop was to increase the extent to which roommate pairs felt confident and able to constructively hold their

roommate accountable for bad behaviors they have committed. I had all roommate pairs a week later then complete a variety of variables that measured their blame-related efficacy beliefs, habitual blame practices with respect to their roommate, roommate relationship quality, psychological adjustment, and satisfaction with college.

Our results found that roommate pairs who received the wise blame workshop intervention were less likely to believe in the efficacy of harsh blame practices and were more confident in their ability to constructively hold their roommate accountable compared to roommate pairs who were not exposed to the workshop. Furthermore, I found positive effects of the intervention on all habitual blame intensity measures, such as compassion, character derogation, punishment, and self-regulation of hostility, traveling through belief in blame efficacy and in self-efficacy as a blamer (the indirect effect for expressed hostility only traveled through belief in blame efficacy). These findings were consistent with the idea that the intervention reduced belief in the efficacy of blame and increased self-efficacy as a blamer which led to roommate pairs expressing less hostility, more compassion, less character derogation, less punishment, and more regulation of hostility.

In terms of broader outcomes beyond blame practices and habits, I found an indirect effect of the intervention on roommate relationship quality traveling through belief in self-efficacy as a blamer. This was consistent with the idea that increased self-efficacy as a blamer as a result of the intervention led to better roommate relationship quality. I found a similar, but only marginal effect of the intervention for college satisfaction and psychological adjustment traveling through self-efficacy as a blamer. Applying 93% and 92% confidence intervals respectively, our results were consistent with the idea that increased self-efficacy as a blamer as a

result of the intervention increased satisfaction with college and reduced depressive symptoms among roommate pairs.

These results contribute to the literature by highlighting the role of blame-related efficacy beliefs in driving blame practices and by showing the broader impact of such beliefs. These results show that believing harsh blame is effective at achieving positive behavioral change in others, and not feeling sufficiently confident in constructively communicating with others, drive harsh blame practices. Our intervention shows that targeting such beliefs, specifically, reducing belief in the efficacy of harsh blame practices and increasing pairs' self-efficacies as blamers, can make people become less likely to engage in toxic blame practices in their relationships. To our knowledge, prior research has not examined the role of blame-related efficacy beliefs in driving blame practices in interpersonal relationships.

These results also contribute to the literature by showing the broader impact of blame-related efficacy beliefs. Indeed, our work found a significant indirect effect of the intervention on roommate relationship quality traveling through self-efficacy as a blamer, such that the intervention increased self-efficacy as a blamer, which was associated with improved roommate relationship quality. I also found that increased self-efficacy as a blamer as a result of the intervention was marginally associated with increased satisfaction with college experience and reduced depressive symptoms. Such results are in line with work that suggests blaming others increases mental distress (e.g., Tennen & Affleck, 1990) and that quality relationships, which presumably lack harsh blame interactions, contribute to overall satisfaction with life (e.g., Malvaso & Kang, 2022). To our knowledge, prior research has not delved into the role of blame-related efficacy beliefs in contributing to these broader constructs like relationship quality, mental health, and life satisfaction.

Future research should examine the role of blame-related efficacy beliefs in other domains and look into ways wise blame interventions can be scalable. To what extent does belief in the efficacy of harsh blame practices, and self-efficacy as a constructive blamer, predict harsh parenting practices, political toxicity, and other behaviors? It could be fruitful to examine the role of blame-related efficacy beliefs in these other interpersonal and intergroup domains. For example, political partisans may engage in toxic behavior on online platforms toward political outgroup members as a result of believing that such behavior is effective at changing hearts and minds. Or, political partisans may engage in such behavior because they lack the tools and ability to more constructively communicate with political outgroup members.

It could also be interesting to consider how our wise blame intervention could be scaled. The in-person workshops I conducted required lots of coordination and time commitment between many participants and research assistants. This may be a reason why I had a significant amount of attrition for the workshops, as 21 of our roommate pairs that were assigned to the experimental condition did not attend the workshops. It is possible that the intervention could be as effective in a shorter video format, and thereby, could be sent more broadly.

Overall, our results have implications for reducing harsh blame practices and improving relationship quality. Our work provided a novel contribution by showing that belief in the efficacy of harsh blame, and self-efficacy belief about being a constructive blamer, drives blame practices in interpersonal relationships and has downstream effects on individuals and their relationships. When such beliefs are targeted, such that belief in the efficacy of blame is decreased, and self-efficacy about blaming is increased, they can reduce harsh blame practices like the expression of hostility, and increase positive blame practices, like the expression of compassion. Targeting such beliefs, specifically self-efficacy beliefs about blaming, can also

have positive downstream consequences, such as improving relationship quality. Our research suggests that a possible solution to blame and its detrimental impacts on ourselves and in our social relationships lies in a wise reflection on the inefficacy of blame and having the tools for constructive communication.

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Table 1

Descriptive Statistics for All Variables at T1

	M	*SD*	α
Hostile Emotions	2.60	1.24	.79
Expressed Hostility	2.25	1.13	.70
Punishment	1.41	0.62	.71
Character Derogation	2.04	1.17	.77
Self-Regulation	5.85	1.08	.79
Compassion	6.14	0.82	.76
Belief in Blame Efficacy	2.37	1.09	.65
Self-Efficacy as Blamer	6.05	0.79	.77
Roommate Offenses	1.75	0.53	.69
Roommate Harsh Offenses	1.07	0.20	.54
Mental Health	2.05	0.60	.84
Relationship Quality	4.41	0.65	.89
College Satisfaction	4.68	1.26	.89

Table 2

Descriptive Statistics for All Variables at T2

	M	*SD*	α
Hostile Emotions	2.66	1.30	.83
Expressed Hostility	2.20	1.12	.77
Punishment	1.62	0.79	.78
Character Derogation	2.11	1.17	.81
Self-Regulation	5.91	1.07	.81
Compassion	6.03	0.83	.82
Belief in Blame Efficacy	2.19	1.11	.75
Self-Efficacy as Blamer	6.09	0.89	.89
Roommate Offenses	1.82	0.62	.79
Roommate Harsh Offenses	1.10	0.28	.78
Mental Health	2.00	0.59	.84
Relationship Quality	4.36	0.72	.92
College Satisfaction	4.84	1.38	.92

Figure Captions

Figure 1: Effect of wise blame workshop on all blame practices variables.

Figure 2: Effect of wise blame workshop on blame-related efficacy beliefs.

Figure 3: Mediation: Does the Wise Blame Workshop decrease expressed hostility by reducing belief in the efficacy of blame and/or by increasing one's self-efficacy as a blamer? Coefficients are unstandardized.

Figure 4: Mediation: Does the Wise Blame Workshop increase compassion by reducing belief in the efficacy of blame and/or by increasing one's self-efficacy as a blamer? Coefficients are unstandardized.

Figure 5: Mediation: Does the Wise Blame Workshop decrease character derogation by reducing belief in the efficacy of blame and/or by increasing one's self-efficacy as a blamer? Coefficients are unstandardized.

Figure 6: Mediation: Does the Wise Blame Workshop decrease hostile emotions by reducing belief in the efficacy of blame and/or by increasing one's self-efficacy as a blamer? Coefficients are unstandardized.

Figure 7: Mediation: Does the Wise Blame Workshop decrease punishment by reducing belief in the efficacy of blame and/or by increasing one's self-efficacy as a blamer? Coefficients are unstandardized.

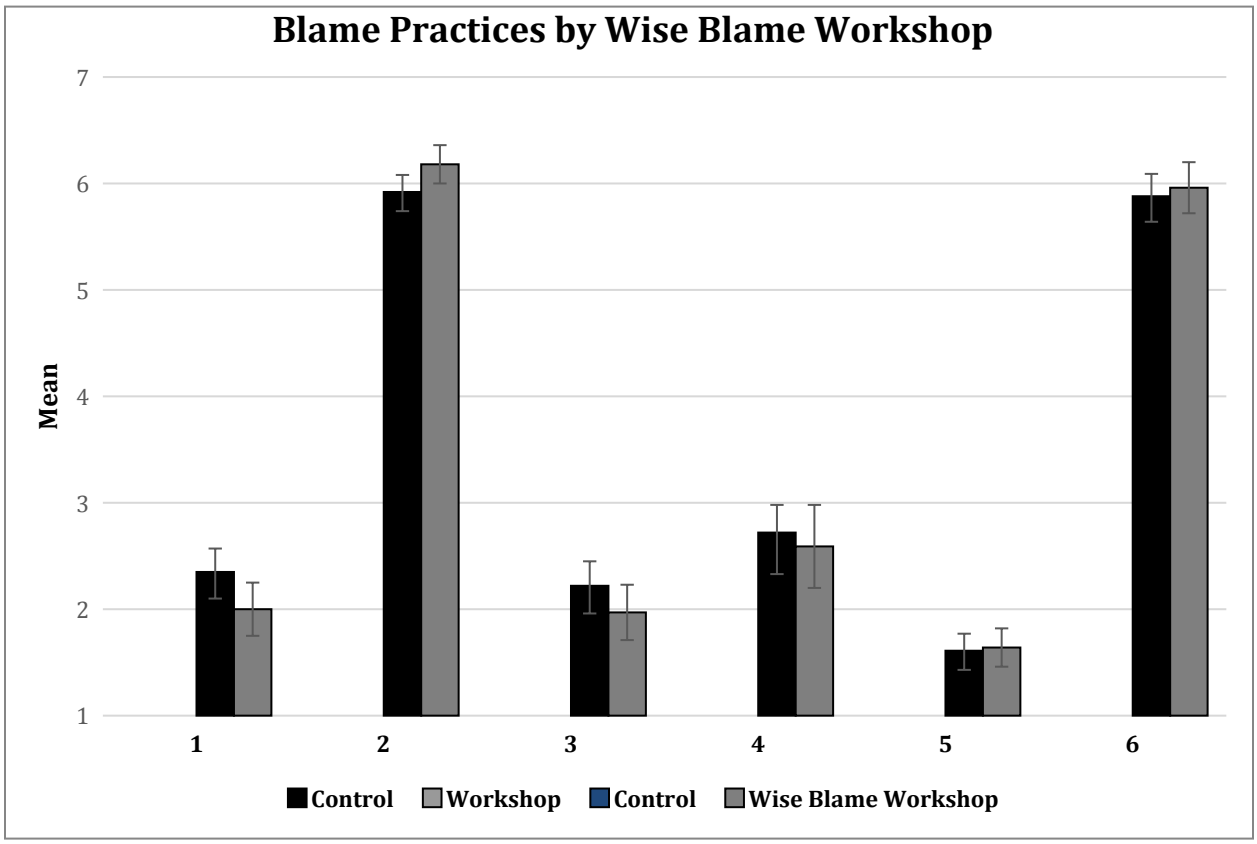
Figure 8: Mediation: Does the Wise Blame Workshop increase self-regulation of hostility by reducing belief in the efficacy of blame and/or by increasing one's self-efficacy as a blamer? Coefficients are unstandardized.

Figure 9: Mediation: Does the Wise Blame Workshop improve relationship quality by reducing belief in the efficacy of blame and/or by increasing one's self-efficacy as a blamer? Coefficients are unstandardized.

Figure 10: Mediation: Does the Wise Blame Workshop increase satisfaction with college by reducing belief in the efficacy of blame and/or by increasing one's self-efficacy as a blamer? Coefficients are unstandardized.

Figure 11: Mediation: Does the Wise Blame Workshop decrease depressive symptoms by reducing belief in the efficacy of blame and/or by increasing one's self-efficacy as a blamer? Coefficients are unstandardized.

Figure 1


Blame Practices by Wise Blame Workshop
Mean
7
6
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Control
Workshop
Control
Wise Blame Workshop

Figure 2

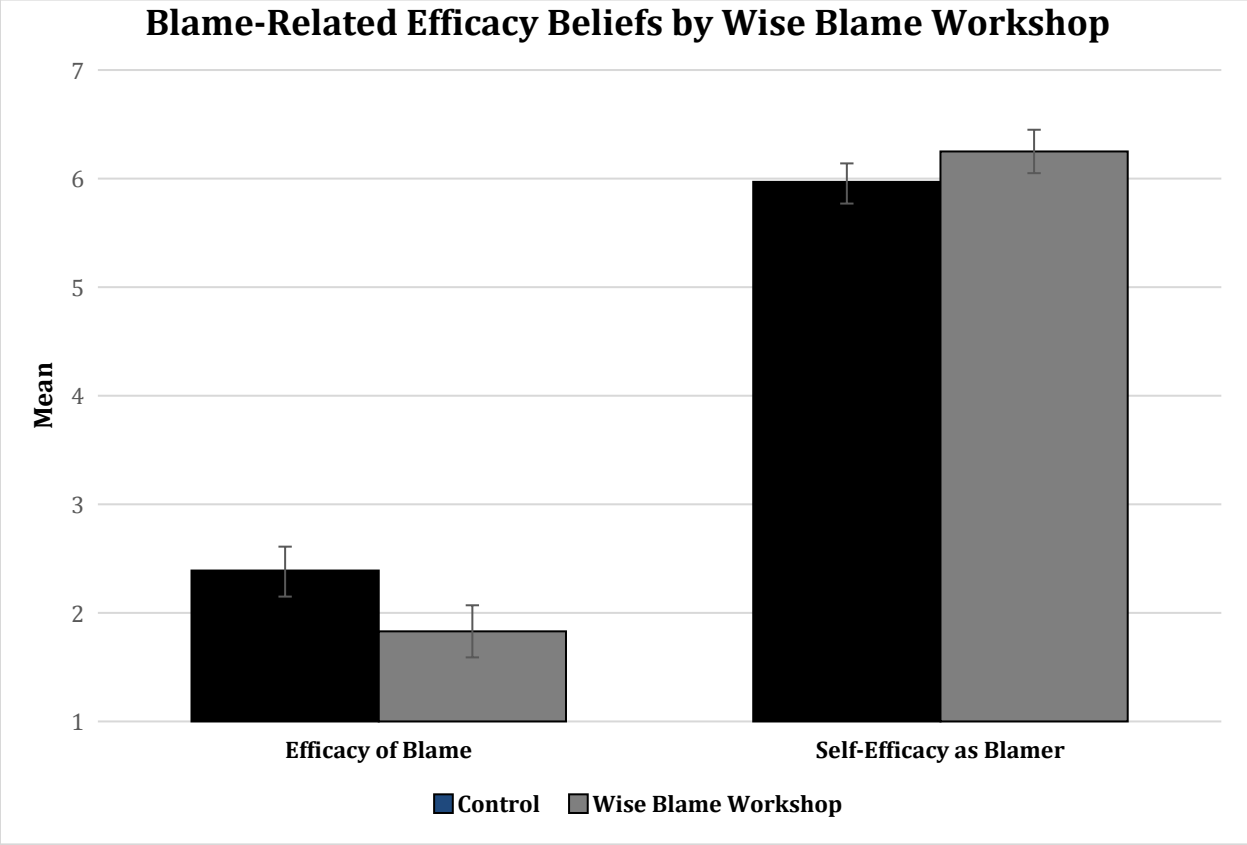


Figure 3

Indirect (Mediated) Effects Via:

Belief in blame efficacy: Effect = -.10 [95% *Monte Carlo CI*(-.19, -.03)]

Self-efficacy as a blamer: Effect = -.03 [95% *Monte Carlo CI*(-.10, .003)]

Individual-Level Effects on Expressed Hostility

Belief in Blame Efficacy: $B = .34$, $t(88.21) = 3.53$, $p < .001$

Self-Efficacy as a Blamer : $B = -.12$, $t(87.69) = -1.03$, $= .31$

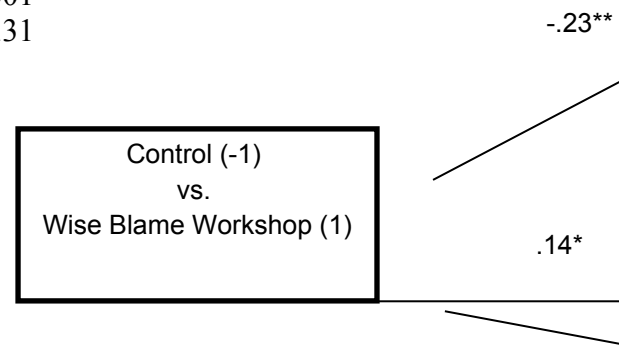


Figure 4

<u>Indirect (Mediated) Effects Via:</u>

Belief in blame efficacy: Effect = .04 [95% *Monte Carlo CI*(.005, .09)]

Self-efficacy as a blamer: Effect = .08 [95% *Monte Carlo CI*(.004, .16)]

<u>Individual-Level Effects on Compassion:</u>

Belief in blame efficacy: $B = -.17$, $t(88.78) = -2.51$, $p = .01$

Self-efficacy as a blamer: $B = .33$, $t(88.25) = 3.84$, $p < .001$

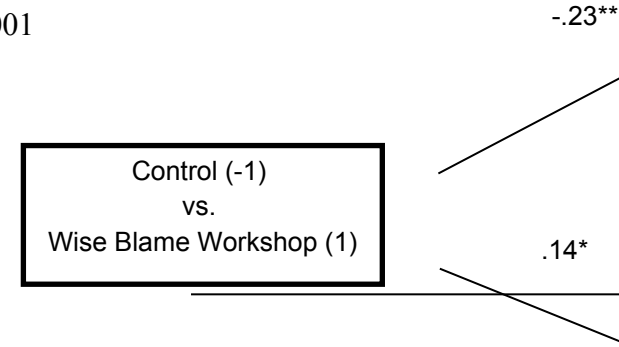


Figure 5

Indirect (Mediated) Effects Via:

Belief in blame efficacy: Effect = -.06 [95% *Monte Carlo CI*(-.04, -.002)]

Self-efficacy as a blamer: Effect = -.08 [95% *Monte Carlo CI*(-.17, -.004)]

Individual-Level Effects on Character Derogation:

Belief in blame efficacy: $B = .21$, $t(88.42) = 2.20$, $p = .03$

Self-efficacy as a blamer: $B = -.31$, $t(86.93) = -2.56$, $p = .01$

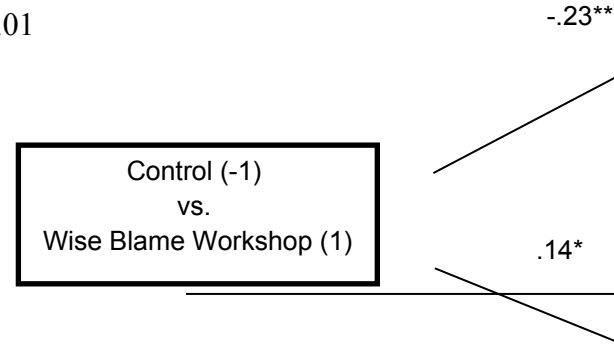


Figure 6

Indirect (Mediated) Effects Via:

Belief in blame efficacy: Effect = .10 [95% *Monte Carlo CI*(-.21, -.02)]

Self-efficacy as a blamer: Effect = -.06 [95% *Monte Carlo CI*(-.15, -.0001)]

Individual-Level Effects on Hostile Emotions:

Belief in blame efficacy: $B = .42$, $t(84.98) = 4.23$, $p < .001$

Self-efficacy as a blamer: $B = -.23$, $t(86.30) = -1.85$, $p = .07$

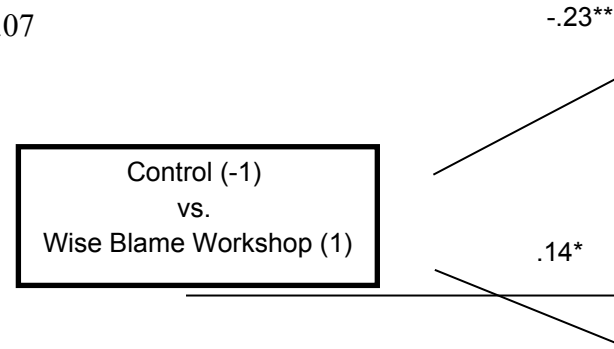


Figure 7

Indirect (Mediated) Effects Via:

Belief in blame efficacy: Effect = -.06 [95% *Monte Carlo CI*(-.13, -.06)]

Self-efficacy as a blamer: Effect = = -.003)] .06 [95% *Monte Carlo CI*(-.12, -.01)]

Individual-Level Effects on Punishment:

Belief in blame efficacy: $B = .20$, $t(89.10) = 3.14$, $p = .002$

Self-efficacy as a blamer: $B = -.16$, $t(87.09) = -2.10$, $p = .04$

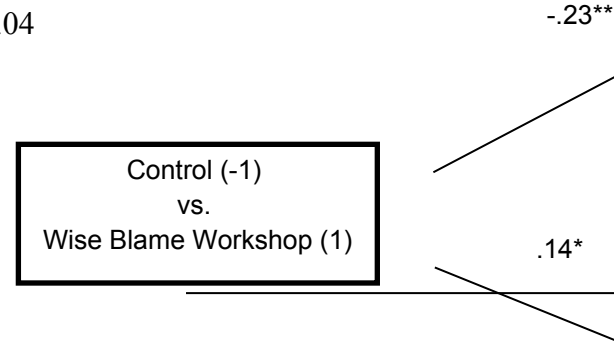


Figure 8

Indirect (Mediated) Effects Via:
Belief in blame efficacy: Effect = .09 [95% *Monte Carlo CI*(.02, .18)]
Self-efficacy as a blamer: Effect = = .05 [95% *Monte Carlo CI*(.0009, .13)]

Individual-Level Effects on Self-Regulation of Hostility:
Belief in blame efficacy: *B* = -.13, t(87.19) = -1.58, p = .12
Self-efficacy as a blamer: *B* = .11, t(86.77) = 1.12, p = .27

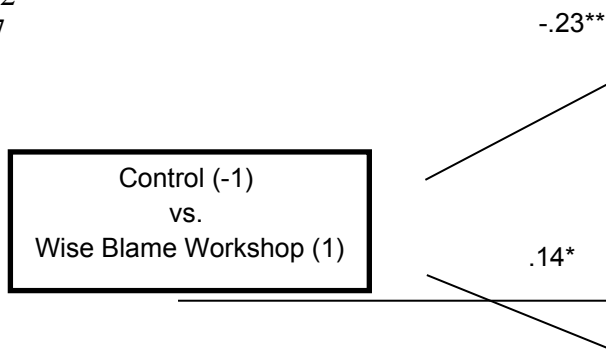


Figure 9

Indirect (Mediated) Effects Via:

Belief in blame efficacy: Effect = .00 [95% *Monte Carlo CI*(-.03, .04)]

Self-efficacy as a blamer: Effect = .08 [95% *Monte Carlo CI*(.004, .17)]

Individual-Level Effects on Roommate Relationship Quality:

Belief in blame efficacy: $B = -.15$, $t(87.79) = -3.37$, $p = .001$

Self-efficacy as a blamer: $B = .27$, $t(87.36) = 4.69$, $p < .001$

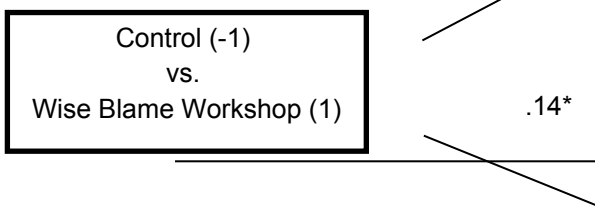
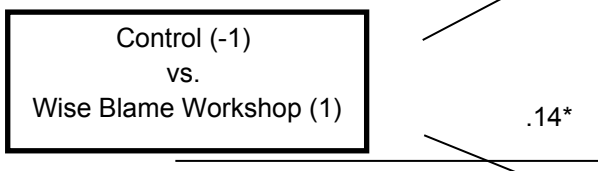


Figure 10

Indirect (Mediated) Effects Via:
Belief in blame efficacy: Effect = .00 [95% *Monte Carlo CI*(-.07, .09)]
Self-efficacy as a blamer: Effect = .06 [95% *Monte Carlo CI*(-.003, .15)]

93% CI: Indirect (Mediated) Effects Via:
Self-efficacy as a blamer: Effect = .06 [93% *Monte Carlo CI*(.0002, .14)]

Individual-Level Effects on Satisfaction with College:
Belief in blame efficacy: $B = .02$, $t(87.20) = .14$, $p = .89$
Self-efficacy as a blamer: $B = .18$, $t(86.76) = 1.32$, $p = .19$



-.23**

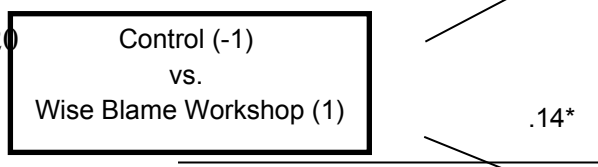
.14*

Figure 11

Indirect (Mediated) Effects Via:
Belief in blame efficacy: Effect = .01 [95% *Monte Carlo CI*(-.02, .04)]
Self-efficacy as a blamer: Effect = -.02 [95% *Monte Carlo CI*(-.06, .002)]

92% CI: Indirect (Mediated) Effects Via:
Self-efficacy as a blamer: Effect = -.02 [92% *Monte Carlo CI*(-.06, -.0002)]

Individual-Level Effects on Psychological Adjustment:
Belief in blame efficacy: *B* = -.01, t(86.64) = -.24, p = .81
Self-efficacy as a blamer: *B* = -.08, t(86.17) = -1.28, p = .20



APPENDIX A

Habitual, Dorm Room Blame Intensity

Assessed on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Inner Hostility

1. If my roommate does something I have asked him/her *not* to do, I get extremely angry.
2. I get really furious when my roommate is inconsiderate towards me.
3. I feel like screaming when my roommate ignores my wishes or acts like my perspective does not matter.

Outer Expression of Hostility

1. If my roommate acts in a way that makes me angry, I am likely to raise my voice, yell, and use other means to outwardly express my feelings.
2. When my roommate upsets me, I express my anger fully and openly.
3. If my roommate behaves inappropriately, they will know that I am disgusted by it because I will let my feelings show.

Punitiveness/Punishment

1. When my roommate upsets me, I try to get "revenge" in some way.
2. When my roommate's behavior has made me angry, there are times I have tried to make them angry as "payback."
3. I try to shame or humiliate my roommate when they are treating me (or others) badly.

Character Derogation

1. When my roommate behaves badly, I think: What a jerk!
2. There have been times I thought—based on their behavior—that my roommate was a horrible, awful person.
3. I have thought of my roommate as a repulsive person when they did things I don't like.

Blame Regulation

1. When my roommate makes me angry, I try to manage my anger.
2. When my roommate does something I don't like, I try to keep my negative emotions under control.
3. When I am feeling contempt or disgust towards my roommate, I try not to express it too fully and openly.

Blame Compassion

1. No matter what my roommate does, I try to be understanding towards them.
2. I try to be compassionate towards my roommate even when they upset me.
3. When I call out my roommate for their bad behavior, I always try do it with a kind and sympathetic attitude.

APPENDIX B

Beliefs About the Efficacy of Blame

Assessed on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

1. Harshly blaming my roommate whenever s/he does something wrong is likely to improve his/her behavior.
2. Fully and openly expressing my anger towards my roommate when s/he is being inconsiderate will help her/him become more thoughtful about how to behave.
3. Being angry towards my roommate when they upset me will make them change their behavior.

APPENDIX C

Beliefs in Self-Efficacy as Blamer

Assessed on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

1. I know how to communicate in ways that will resolve conflict with my roommate.
2. I am able to kindly communicate with my roommate.
3. I can request my needs from my roommate in a proper and respectful manner.

APPENDIX D

Frequency of Roommates Offenses

Assessed on a scale from 1 (*almost never*) to 5 (*constant*).

My roommate…

1. Fails to clean up after him/herself....
2. Uses my belongings without my permission....
3. Does not respect my personal space and privacy...
4. Disturbs my sleep schedule...
5. Invites people over without my permission...
6. Disrupts my ability to work...
7. My roommate is extremely unkind and hostile toward me...
8. My roommate puts themselves and others in physical danger…
9. My roommate steals my belongings....
10. My roommate is very aggressive and hostile towards me and others....
11. My roommate does extremely bad things to me…

APPENDIX E

Psychological Adjustment (CESD-10)

INSTRUCTIONS: Please answer the following questions by selecting the appropriate response. For each of the following statements, please select the response that best describes how often you felt or behaved this way during the past week.

	Rarely or None of the Time (Less than 1 day) **0**	**Some or a Little of the Time** (1-2 days) **1**	**Occasionally or a Moderate Amount of the Time** (3-4 days) **2**	**Most or All of the Time** (5-7 days) **3**
I was bothered by things that usually don't bother me.				
I had trouble keeping my mind on what I was doing.				
I felt depressed.				
I felt that everything I did was an effort.				
I felt hopeful about the future.				
I felt fearful.				
My sleep was restless.				

I was happy.				
I felt lonely.				
I could not get "going."				

APPENDIX F

Roommate Relationship Quality (Relationship Assessment Scale; Hendrick, 1988)

Please indicate how you feel about your relationship with your roommate using the scales below.

1----------2----------3----------4----------5

Not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**

How well does your roommate meet your needs? _____

In general, how satisfied are you with your roommate relationship? _____

How good is your roommate relationship compared to most? _____

How often do you wish you hadn't gotten into this roommate relationship? _____

To what extent has your roommate relationship met your original expectations? _____

How much do you like your roommate? _____

How many problems are there in your roommate relationship? _____

APPENDIX G

Satisfaction with Lehigh (Satisfaction with Life Scale; Diener et al., 2015)

The following items reflect different feelings that an individual may have about his or her life. There are no "right" or "wrong" responses to these statements.

Please indicate in the blank preceding each statement the extent to which you agree or disagree with that statement. ***PLEASE USE THE FOLLOWING SCALE:***

1----------2----------3----------4----------5----------6----------7

Strongly disagree **Disagree** **Slightly disagree** **Neutral** **Slightly agree** **Agree** **Strongly agree**

_ (1) In most ways my life at Lehigh is close to my ideal.

_ (2) The conditions of my life at Lehigh are excellent.

_ (3) I am satisfied with my life at Lehigh.

_ (4) So far I have gotten the important things I want from my experience at Lehigh.

_ (5) If I could redo my time at Lehigh thus far, I would change almost nothing.

APPENDIX H

Wise Blame Workshop Script

Workshop Slides: https://docs.google.com/presentation/d/182tvqoL3HfozKB9q1vZ1W8x-y2OmPBkX8O94eBqgZaE/edit?usp=sharing