

EXAMINING THE IMPACT OF CORRECTING FOR NORM MISPERCEPTION
ON BULLYING AND BYSTANDER BEHAVIORAL INTENTIONS

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ABSTRACT

Research has documented that upwards of 85% of students across the preschool through high school levels have some involvement in bullying incidents, whether as bully, victim, or bystander. Recent evidence has emphasized the influential role of bystanders, in particular, with passive behavior reinforcing those who bully, and defending behavior—though infrequent—successfully ending bullying episodes quickly and effectively. To that end, the current study investigated whether personalized normative feedback could operate as a mechanism by which to reduce norm misperception of attitudes toward bullying, and thus, create positive change in bystander behavior. While this type of intervention has shown promising effects in a variety of contexts, no study to date has examined its utility in the specific context of bullying. Baseline participants included 188 seventh grade students, 175 of which were randomized into four study groups for follow-up data collection. Children in the experimental condition received personalized normative feedback on attitudes toward bullying. Control conditions were the following: general normative feedback on attitudes toward bullying, the absence of normative feedback, and personalized normative feedback on attitudes toward drug use. Findings indicated that normative feedback, both personalized and general, led to significant perceived peer attitude change in the direction of the group norm. No intervention effects emerged on either personal attitude change or bystander behavioral intentions. Looking to build upon the present findings, future directions consider methodology modifications and the examination of additional, relevant constructs. Implications highlight the positive clinical outcomes that could result from reduced norm misperception and increased engagement in prosocial bystander behavior.

DEDICATION

For my mom: I love you. This project is as much mine as it is yours, because I owe its completion to so much of what you have given me. Thank you for all that you do and have done. For letting it be when I erased holes in my Kindergarten notebooks. For encouraging me to have an opinion. For emphasizing athletics, and friendships, and drive. For prioritizing family. For rewarding achievements with books, and for taking me to New York City. For trusting my decisions. For challenging my ideas. And for always, always listening.

“Where shall I begin? Which of all my important nothings shall I tell you first?”

-Jane Austen, June 15, 1808

For my dad: I love you. I miss you.

“My favorite is a true tale about a man from South Africa who was called the Elephant Whisperer. His real name was Lawrence Anthony, and, like my mother, he did not believe in giving up on elephants. When two particularly wild herds were going to be shot for the destruction they’d caused, he saved them and brought them to his game reserve to be rehabilitated.

When Lawrence Anthony died, the two herds traveled through the Zululand bush for more than half a day and stood outside the wall that bordered his property. They had not been near the house in over a year. The elephants stayed for two days, silent, bearing witness.

No one can explain how the elephants knew that Anthony had died.

I know the answer.

If you think about someone you've loved and lost, you are already with them.

The rest is just details.”

-Jodi Picoult, *Leaving Time*

LIST OF ABBREVIATIONS AND SYMBOLS

n	Sample size of a group
M	Mean: The sum of a set of values divided by the number of values in the set
SD	Standard Deviation: Variation from the mean
F	Fisher's F ratio: A ratio of two variances
p	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
η^2	Partial eta squared
t	T statistic: Computed value of t-test
d	Cohen's d : Indicator of effect size
r	Pearson product-moment correlation
α	Cronbach's alpha: Coefficient of internal consistency
$<$	Less than
$>$	Greater than
$=$	Equal to
$+/-$	Plus or minus
$\%$	Percentage

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INTRODUCTION

School-age bullying is recognized as a specialized form of aggression comprised of three components: (1) repeated physical, verbal, or relational attacks, (2) committed by a person more powerful than the victim, with (3) intent to harm (Olweus, 1993; Shore, 2009). This harassment is typically cyclical in nature, as the target's response often indicates such factors as weakness, vulnerability, or limited social skills (Hodges & Perry, 1999; Reijntjes, Kamphuis, Prinzie, & Telch, 2010), reinforcing the bullying behavior and providing further motivation for continued harassment. While the subject matter of harassment can vary, common themes include racial or ethnic identity, appearance, sexual orientation, and social status amongst peers (Paluck & Shepherd, 2012). Bullying has traditionally been viewed as a purely at-school phenomenon, with home serving as an escape and refuge for targets of peer harassment (Simon & Nail, 2013). However, with advances in technology, our conceptualization of bullying has been forced to adapt (Walker, 2010). Today's bullying continues even off school grounds, through the use of cell phones and social media outlets (Simon & Nail, 2013). Victims are left to endure the harassment that permeates all environments and facets of their lives, unable to escape the far reach of technology. In a small minority of cases, victims of bullying have been pushed to take their own lives (Allen, 2013; Goldstein, 2013; Gologowski, 2014). These suicides of victimized youth have driven home the need for a clearer understanding of bullying behavior and the interventions that could minimize its toxic prevalence in our children's schools.

Direct Involvement in Bullying

Bullying represents a form of proactive aggression, consisting of unprovoked, goal-

oriented aggressive behavior designed to reach a particular end (e.g., influence or coerce others, attain or maintain dominance, achieve high status and popularity within peer groups) (Peeters, Cillessen, & Scholte, 2010; Salmivalli, 2010; Sijtsema, Veenstra, Lindenberg, & Salmivalli, 2009). This behavior is typically characterized by low arousal and anger (Polman, Orobio de Castro, Koops, van Boxtel, & Merk, 2007), can lead to feelings of pleasure or satisfaction (Crick, & Dodge, 1996; Roland & Idsøe, 2001), and is often reinforced by peer support (Mayberry & Espelage, 2007). Research has consistently linked bullying perpetration to short- and long-term delinquency, violence, and criminal behavior (Farrington, Lösel, Ttofi, & Theodorakis, 2012; Sourander et al., 2007). Furthermore, longitudinal studies have indicated that approximately 10% of bullies are persistent in this behavior, following a deviant path toward career criminality (Pepler, Jiang, Craig, & Connolly, 2008).

While the majority of bullies engage in bullying behavior temporarily, victim status is generally stable across time (Finkelhor, Ormrod, & Turner, 2007). Due to deficits in social skills, effective assertiveness, emotion regulation, and problem-solving and coping strategies (Gini, G., Pozzoli, T., & Hauser, M., 2011), victims of bullying are often vulnerable to revictimization. Research has found that victimization is related to concurrent and future anxiety and depression (Bond, Carlin, Thomas, Rubin, & Patton, 2001; Olweus, 2001; Roland, 2002), as well as to increased loneliness, lower self-esteem, and suicidal ideation (Hawker & Boulton, 2000; Kochenderfer & Ladd, 1996). Further, these children often begin to disengage from classroom activities, leading to poor academic performance and eventual school avoidance (Buhs, Ladd, & Herald, 2006; Furlong, Sharma, & Rhee, 2000). These findings remain even after controlling for other childhood risk factors across the individual, family, and neighborhood domains (Farrington et al., 2012).

Increasing research attention has been paid to bully-victims, a group characterized both by bullying perpetration and experienced victimization (Schwartz, 2000). While bully-victims display some proactive aggression, their bullying behavior is more often marked by reactive aggression, denoting a defensive response to provocation or threat (Camodeca & Goossens, 2005). Reactive aggression is typically emotional and impulsive, designed to stand up for oneself, retaliate, or relieve anger, fear, or anxiety (Espelage & Swearer, 2003; Mayberry & Espelage, 2007). Bully-victims are generally more maladjusted than their “pure” bully and “pure” victim counterparts. These individuals are socially unskilled, with deficits in emotion regulation and a propensity for impulsive and aggressive behavior (Schwartz, Proctor, & Chien, 2001). As a result, they tend to be disliked by their peers and feel less accepted by their teachers (Andreou, 2001), experience social isolation and loneliness (Georgiou & Stavrinides, 2008), and feel less safe at and connected to their schools (Bradshaw, O’Brennan, & Sawyer, 2008).

Bully-victims tend to experience higher levels of victimization than “pure” victims. It may be that bullies are more able to find accomplices and bystanders are less likely to intervene because peers perceive these students as deserving of their negative treatment, given their own aggressive behavior. For similar reasons, teachers may be less motivated to step in on a bully-victim’s behalf (Yang & Salmivalli, 2013), or they may simply perceive these students as contributors to problem scenarios, rather than recognizing true instances of victimization. An alternative explanation is that bully-victims lack the benefit of protective friendships, to an even higher degree than “pure” victims, which could otherwise have an inhibiting effect on their experience of victimization (Hodges & Perry, 1999).

Research has indicated that bully-victims experience more externalizing (e.g., conduct problems, aggression, hyperactivity) and internalizing (e.g., anxiety, depression, psychosomatic

disorders) problems than either “pure” bullies or “pure” victims (Menesini, 2009). Additionally, they report more involvement in other problem behaviors, including delinquency, alcohol use, eating disorders, parental rule violation, and weapon carrying. Finally, bully-victims have an increased risk for future maladjustment, antisocial behavior, and adult violence and criminality (Lester, Cross, Shaw, & Dooley, 2012). The detrimental short- and long-term consequences of bully, victim, and/or bully-victim status stress the need for effective, evidence-based programs designed to minimize schools’ incidences of bullying behavior, and thus, victimization.

Current Bullying Prevention and Intervention Programs

Evans, Fraser, & Cotter (2014) conducted a systematic review in which they explored the effectiveness of elementary and middle school bullying prevention and intervention programs. Examining publications from June 2009 through April 2013, they included studies that evaluated programs intended to reduce bullying perpetration and/or victimization, specified the definition and delivery of the intervention, and utilized an experimental and control group design. Overall, results were mixed, with the majority of studies finding significant effects being conducted outside the United States (i.e., Australia, Turkey, United Kingdom, Germany, Finland, China, and Canada). The authors theorized that implementing bullying prevention programs may be more difficult in the United States due to comparatively heterogeneous samples, both in terms of race/ethnicity and socioeconomic status. Further, they postulated that higher poverty levels in the United States, as compared to Northern and Western European countries where most bullying intervention studies have been conducted, could hinder intervention efforts. Bullying and victimization prevention programs may be insufficient to effectively address family and neighborhood risk factors associated with low income levels. Finally, even in the case of successful intervention programs outside the United States, Evans et al. (2014) expressed

concern that largely undefined differences between bullying and more general types of aggression could have resulted in misleading reports of effectiveness. Because many studies reporting significant effects failed to utilize measures that included either the term “bullying” or its definition, results may simply reflect decreases in broadly defined aggressive behavior rather than indicating reductions in aggressive behavior specific to bullying.

Of the twenty-four bullying interventions reviewed by Evans et al. (2014), only two peer-reviewed studies examined middle school populations in the United States. Bowllan (2011) investigated the impact of the Olweus Bullying Prevention Program (Olweus, 1993) on the frequency of bullying behavior in 7th and 8th grade classrooms of a northeastern, urban-suburban, Catholic school. The intervention occurred at the individual, classroom, school, and community levels, and the primary objective was to reduce the prevalence of bully/victim problems. Although a second stated objective was to shift bystander acceptance of bullying behavior to support for defenders of those who were victimized, no outcome measure of this objective was administered. The study produced mixed results, as 7th grade females reported decreases in victimization and exclusion, whereas 8th grade females reported increases in bullying perpetration and experience of victimization. There were no significant findings for either 7th or 8th grade males on these outcomes. Bowllan suggested that older female students may not respond as quickly or positively as younger female students to this type of school-wide intervention. Alternatively, they may simply report higher levels of bullying and/or victimization following their improved understanding and recognition of this behavior. It was noted that gender differences could be due to the type of bullying experienced (e.g., physical, verbal, relational). Bowllan indicated that further research of developmental considerations would be necessary to improve the effectiveness of the Olweus Bullying Prevention Program.

Espelage, Low, Polanin, & Brown (2013) examined the impact of the Second Step: Student Success Through Prevention program on verbal/relational bullying perpetration and peer victimization in 6th grade classrooms at thirty-six Midwestern schools. The intervention was administered through individual work, dyadic exercises, small group discussion, and whole class instruction, and included content related to bullying, problem-solving skills, emotion regulation, and empathy. The study produced no significant effects on either verbal/relational bullying perpetration or peer victimization. Since April 2013, no studies fitting the Evans et al. (2014) inclusion criteria have examined the effectiveness of middle school bullying interventions. The dearth of significant findings in middle school samples in the United States, as well as the simple scarcity of investigations involving this population, warrant further exploration of potentially effective bullying prevention programs. Moreover, most programs that *have* been implemented aim to influence only the behavior of children who bully. A deeper exploration of the social dynamics impacting bullying and bystander behavior could offer insight into current and developing interventions designed to create change at the broader, bystander level.

Social Context of Bullying and Bystander Behavior

Bullying has previously been treated as a dyadic interaction between one bully and one victim, which has since been expanded to include the involvement of immediate friend groups. These conceptualizations are incomplete, however, as bullying typically occurs within a larger social context in which it influences and is influenced by the attitudes and behaviors of others (Simon & Nail, 2013). In fact, research findings estimate that one third or more of students are involved as either bullies or victims (Craig & Harel, 2004; Currie et al., 2008; Nansel et al., 2001), with peers present for a vast majority of these bullying incidents (Hawkins, Pepler, & Craig, 2001). Studies place the percentage of students who witness a bullying episode in the high

eighties, a number that remains consistent across the preschool through high school levels (Bonanno & Hymel, 2006a, 2006b; Craig & Pepler, 1997). Importantly, the presence of peers has been linked to the persistence of bullying behavior (O'Connell, Pepler, & Craig, 1999), as attempts to intervene and help the victim only occur in approximately ten-to-twenty percent of all cases (Craig & Pepler, 1997; Hawkins et al., 2001). Acknowledging the involvement of individuals beyond the bully and victim (i.e., bystanders), research has increasingly examined bullying behavior as a group phenomenon (Espelage, Holt, & Henkel, 2003; Frey, Hirschstein, Edstrom, & Snell, 2009; Hawkins et al., 2001; Salmivalli & Voeten, 2004).

Bystanders play a critical role in bullying culture, either exacerbating or attenuating the degree to which bullying permeates the school environment (Salmivalli, Voeten, & Poskiparta, 2011). The literature has identified a number of bystander roles: assistants join in on the bullying, reinforcers provide positive feedback to bullies through laughing/cheering (active) or simply providing an audience (passive), defenders offer support to the victims, and outsiders remove themselves from bullying situations (Salmivalli, Lagerspetz, Bjorkqvist, Osterman, & Kaukiainen, 1996). In their exploration of these roles, Salmivalli et al. (1996) found that 87% of students could be considered participants in school bullying incidents, either as a bully, assistant, active or passive reinforcer, defender, or victim. Several studies have examined the frequency with which students fall into each of these categories. In a naturalistic study of elementary school students using videotaped episodes from the playground, O'Connell et al. (1999) found that bystanders actively reinforced bullies 21% of the time, passively reinforced them 54% of the time, and stepped in to defend victims 25% of the time. Similar results were found in a study of sixth and eighth graders, in which 6-12% of students acted as assistants, 16-17% served as reinforcers, 25-29% served as outsiders, and 17-20% acted as defenders (Salmivalli,

Lappalainen, & Lagersspetz, 1998). These findings demonstrate that roughly three-quarters of bystanders perpetuate bullying culture, whether through active engagement, passive involvement, or simple inaction.

While a number of studies have examined participant roles of bystanders, few have explored whether these varying levels of participation actually impact bullying behavior. Hawkins et al. (2001) explored this question broadly in a naturalistic, longitudinal study of children identified as bullies and victims. They found that although peers only intervened 19% of the time, these interventions were successful at stopping the bullying episodes within ten seconds in approximately two-thirds of cases. In another study, Salmivalli et al. (2011) compared the impact of active and passive reinforcement versus defending behavior on bullying. They found a positive correlation between reinforcing and bullying, and to a lesser degree, a negative correlation between defending and bullying. These results indicate that bystanders have the ability to influence bullying behavior, though children who bully may find positive feedback provided by reinforcers to be a more salient message than negative feedback provided by defenders. This notion highlights the need to not only engage students in efforts to aid victims, but also to minimize both active and passive reinforcing behaviors that encourage the continued perpetration of bullying culture.

Research results indicating that bystanders are effective at minimizing the frequency and duration of bullying incidents call into question why more students do not intervene. There is some evidence to suggest that children who witness bullying events morally disengage and report feeling no responsibility to help the victim (Obermann, 2011). However, the vast majority of research has yielded findings to the contrary, with children reporting opposition to bullies, support for victims, and a belief that intervening is the right course of action (Boulton, Bucci, &

Hawker, 1999; Charach, Pepler, & Ziegler, 1995; Eslea & Smith, 2000; Hymel, Schonert-Reichl, Bonanno, Vaillancourt, & Henderson, 2010; Menesini et al., 1997). Despite these attitudes against bullying, most bystanders are unwilling to intervene in a manner that aids the victim (Pepler, Smith, & Rigby, 2004; Stevens, DeBourdeaudhuij, & Van Oost, 2000). Children report anxiety about their own safety and social status as primary reasons for their engagement in bullying incidents and/or passive responses (Stevens et al., 2000).

Effect of Norm Misperception

These factors may reflect awareness of group norms, consistent with social norms theory as it relates to issues of social justice. Social norms theory describes situations in which individuals misperceive the attitudes and/or behaviors of their peers, falsely believing them to be different from their own (Berkowitz, 2003). This can lead to behavior that is intended to better approximate the perceived group norm (Prentice & Miller, 1993), but is inconsistent with the individuals' true beliefs and values (Miller & McFarland, 1991). Broadly, these misperceptions typically occur in relation to problem or risk behaviors (e.g., bullying), which are usually overestimated, and healthy or protective behaviors, which are usually underestimated. Social norms theory can also be extended to situations in which individuals refrain from intervening with the problem behavior of others. These bystanders, as "carriers of the misperception" (Perkins, 1997), contribute in a meaningful way to the social climate that allows the problem behavior to persist, despite the majority of the peer group's disapproval.

Research has demonstrated that perception of group norms within the social context greatly impacts bystander behavior (Sandstrom, Makover, & Bartini, 2013). In a study conducted by Gini, Pozzoli, Borghi, & Franzoni (2008), children were asked to read about a bullying incident in which bystanders assisted the bully, passively reinforced the bully, or defended the

victim. In general, assisting and passively reinforcing the bully were met with disapproval while defending the victim was met with support. However, children attributed more blame to the victim and reported less liking of the victim in the passive bystander condition. These results suggest that children may mistakenly attribute bystander passivity to peer beliefs that bullying is acceptable or that a victim is deserving of harassment (Sandstrom et al., 2013). Thus, some children may respond to bullying episodes in a passive manner due to a false perception that peers are in support of bullying behavior (Pozzoli & Gini, 2010; Swearer, Espelage, Vaillancourt, & Hymel, 2010). Building on these findings, Pozzoli & Gini (2010) found that children's decisions to respond passively or defend the victim depended upon which behavior they believed better matched the expectations of their peers. This held true even when perceived peer expectations contradicted the individuals' own sense of obligation in the matter. Thus, under perceived peer pressure to intervene, children were more likely to defend the victim, even when they felt no personal responsibility to do so.

A reverse phenomenon frequently plays out in the school environment, as students generally feel that their peers hold attitudes less disapproving than their own of bullying behavior. In these cases, they are motivated to participate in a manner supportive of the bullying episode, whether actively or passively, in order to align themselves with perceived group norms. In two separate studies (Sandstrom & Bartini, 2010; Sandstrom et al., 2013), students were asked to describe their personal attitudes and perceived group attitudes about bullying. In both cases, findings indicated that children perceived themselves as holding more prosocial attitudes about bullying than their peers. However, it is not possible for members of a group to systematically possess more prosocial attitudes than the group as a whole. These results offer support for the existence of norm misperception in the context of bullying and helping behaviors.

These same studies further explored the relation between norm misperception and bystander behavior. Sandstrom & Bartini (2010) operationalized norm misperception as the difference between individual and perceived group attitudes, and measured behavior through teacher ratings. Findings indicated that students who perceived themselves as more prosocial than their peers were more likely to respond passively to a witnessed bullying incident, despite this behavior better reflecting perceived group norms than individual beliefs. Similar results emerged from Sandstrom et al. (2013), in which norm misperception was operationalized as a discrepancy between perceived and actual group norms, and behavior was measured through self-report ratings. Findings indicated that students who reported lower levels of group prosocial attitudes were more likely to join in on bullying, whereas those who reported higher levels of group prosocial attitudes were more likely to help the victim. Together, these results provide evidence that perceived group norms influence bystander behavior in the context of bullying. For children who mistakenly view their classmates as holding pro-bullying attitudes, they likely feel that supporting the bully is the safe and popular choice (Pozzoli & Gini, 2010). In a similar vein, children who accurately view their peers as having prosocial attitudes may feel safe in helping a victim, believing that their classmates approve of this behavior (Sandstrom et al., 2013).

Correcting for Norm Misperception

The potential impact of correcting for norm misperception has been evaluated in a variety of contexts, including drinking habits of college students (i.e., LaBrie, Hummer, Neighbors, & Pedersen, 2008), drinking and driving behavior of adults in the community (i.e., Perkins, Linkenbach, Lewis, & Neighbors, 2010), use of alcohol, tobacco, and marijuana among high school students (Ott & Doyle, 2005), and gambling behavior of college students (Larimer et al., 2012). Results largely indicated reduced norm misperception and either positive plans or actual

behavioral change in the direction of the true norm. To date, only one study has examined the correction of norm misperception as a mechanism by which to change attitudes and behavior in the context of bullying.

Perkins, Craig, & Perkins (2011) employed a universal intervention utilizing print media posters to address misperceived norms among 6th through 8th graders across five middle schools. Pre-intervention data revealed that students perceived their peers to be approximately twice as supportive of pro-bullying attitudes than they actually were. Post-intervention follow-up data was collected between twelve and eighteen months after the initial data collection period. Because of new grade cohorts moving in and out of each school, this follow-up data was collected from one-third to two-thirds different respondents than had initially provided responses for pre-intervention data collection. Results indicated reduced misperceptions of support for and prevalence of bullying behaviors, reductions in personal pro-bullying attitudes, bullying engagement, and victimization experiences, and increased support for reporting bullying instances to parents and school authorities. Although this study did not include a control group, post-intervention change was directly correlated with reported exposure to the poster campaign, offering some support for the campaign's effectiveness.

Social norms theory predicts that correcting for norm misperception by revealing the true, healthier norm will have a positive impact on most individuals, either by reducing their participation in problem behavior or by encouraging them to engage in protective behavior (Berkowitz, 2003). Thus, the present study aimed to employ a social norms intervention that provided participants with direct feedback about their misperceptions of peers' attitudes toward bullying behavior. This was accomplished through the use of personalized normative feedback (PNF), which juxtaposes individuals' own perceptions of peer norms against their peers' true

normative values (Reid & Aiken, 2013). This type of intervention has been utilized successfully in a variety of contexts. Neighbors, Larimer, & Lewis (2004) administered a computer-delivered, personalized feedback with college students illustrating their overestimation of peers' drinking, as well as their own drinking behavior as it compared to their peers. Results indicated reductions in both norm misperception and personal drinking behavior. Celio & Lisman (2014) issued a personalized feedback to college students depicting their overestimation of peers' gambling behavior, along with a summary of their own gambling. Findings revealed reduced norm misperception, as well as decreased risk-taking behavior in a laboratory game, suggesting the potential for decreased future gambling involvement. Reid & Aiken (2013) provided a female, community sample with personalized feedback illustrating their underestimation of women's approval of those who take measures to protect their skin from the sun. Results indicated decreased norm misperception and improved attitudes and intentions regarding sun protection, in addition to more positive intentions and healthier self-reported behavior.

Purpose and Hypotheses

The *first aim* of the study was to confirm that norm misperception of bullying attitudes was present in the current sample. *Perceived* peer attitudes toward bullying were compared to the actual group norm, operationalized as the mean of participants' baseline *personal* attitude ratings across all classrooms. It was hypothesized that, at baseline, (1) students would underestimate their peers' anti-bullying and pro-helping attitudes.

The *second aim* of the study was to examine whether a targeted intervention could effectively reduce norm misperception. This intervention provided personalized normative feedback (PNF) to participants, illustrating the discrepancy between their ratings of perceived peer attitudes toward bullying and the actual group norm. Social norms theory predicts that by

providing accurate normative information, perceived peer attitudes can be shifted in the direction of the true norm, which can then lead to changes in personal attitudes. Because this intervention model predicts that both perceived peer and personal attitudes can shift in the same direction, changes in norm misperception are not measured by evaluating the gap between perceived and actual norms. Rather, changes in norm misperception can be evaluated by assessing differences between baseline and post-manipulation ratings for both perceived peer and personal attitudes (Perkins et al., 2011). The difference between baseline and post-manipulation perceived peer attitude ratings were compared between the experimental and three control groups. It was hypothesized that, following the manipulation, (2a) increases in anti-bullying and pro-helping *perceived peer attitudes* would be greater in the experimental group than in the control groups. Similarly, the difference between baseline and post-manipulation personal attitude ratings were compared between the experimental and three control groups. It was hypothesized that, following the manipulation, (2b) increases in anti-bullying and pro-helping *personal attitudes* would be greater in the experimental group than in the control groups.

The *third aim* of the study was to evaluate whether this targeted intervention utilizing personalized normative feedback (PNF) could lead to increased prosocial behavioral intentions in the presence of bullying incidents. The difference between baseline and post-manipulation ratings of participant role behavioral intentions were compared between the experimental and three control groups. It was hypothesized that, following the manipulation, (3) participants in the experimental group would indicate less bully intentions, more defender intentions, and less outsider intentions than participants in the control groups.

METHODOLOGY

Participants and Procedure

Parental informed consent forms were sent home with all 226 seventh grade students at Bessemer City Middle School during their spring semester. Both students and teachers were provided with incentives to encourage high return rates in a prompt manner. For returned signed consent forms, regardless of whether consent was provided, students were promised a small bag of chips and a small Gatorade. Teachers were offered \$20 for each classroom in which they received 75% of signed informed consents within one week (again, regardless of whether consent was given), and \$10 for each classroom in which they hit this 75% benchmark after the initial one-week period had passed. Given a total period of three weeks, students returned these forms at a rate of 93%.

Ultimately, baseline data was collected at the classroom level from 83% (n= 188) of the seventh grade student population. Participants were 49.5% male, 51.5% female, 91% African American, and 9% Other. Students who failed to return their consent forms, whose parents did not provide consent, and who were absent during data collection despite having parental consent were not included. Of the 188 baseline participants, 175 received parental consent (and provided assent) to participate in follow-up data collection. These students were randomly assigned to the experimental or one of three control conditions. Over the course of three weeks, participants met one-on-one with researchers in private classrooms. They first received the study manipulation per their randomized condition, and then repeated the measures initially completed during baseline data collection. Subjects were paid \$10 to thank them for their time and participation.

Measures

Perceived Peer and Personal Attitudes toward Bullying. (See Appendix A) At baseline and post-manipulation, participants were presented with ten statements about bullying attitudes, adapted from a measure of children's moral disengagement in the context of bullying (Hymel, Rocke-Henderson, & Bonanno, 2005), and utilized by Sandstrom & Bartini (2013) in their examination of norm misperception's role in peer harassment at school. Consistent with prior research on social norms estimation (Prentice & Miller, 1993; Shelton & Richeson, 2005), participants were asked to indicate (1) the extent to which they think *their peers* agree with each statement, and (2) the extent to which *they* agree with each statement. Responses were provided on a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). A subset of items was reverse scored, such that lower scores represented more pro-bullying attitudes (e.g., more tolerance for bullies, less empathy for victims, and less expectation for bystanders to intervene), and higher scores reflected more prosocial attitudes across these domains. Prior research (Sandstrom & Bartini, 2013) has documented an α of .83 for both the perceived peer attitudes toward bullying scale and the personal attitudes toward bullying scale. Similarly strong internal consistency was demonstrated in the current sample, with alphas of .86 and .80, respectively.

Participant Role Questionnaire. (See Appendix B) At baseline and post-manipulation, participants completed a seventeen-item, self-report adaptation of the Participant Role Questionnaire (Salmivalli et al., 1996), previously utilized by Sandstrom et al. (2013) in their examination of norm misperception's influence on bystander behavior in bullying situations. Responses were provided on a three-point Likert scale ranging 1 (never), 2 (sometimes), and 3 (often). Original research (Salmivalli et al., 1996) utilizing a peer-report version of this measure

demonstrated strong reliability and validity. The measure is comprised of five subscales: *Bully*, $\alpha = .93$ (i.e., initiates and leads bullying activities), *Assistant*, $\alpha = .81$ (i.e., follows and joins in on bullying activities), *Reinforcer*, $\alpha = .91$ (i.e., encourages bullying activity by laughing, cheering, or providing an audience), *Defender*, $\alpha = .93$ (i.e., intervenes to help victims of bullying), and *Outsider*, $\alpha = .89$ (i.e., avoids involvement in bullying activity). Research has indicated that children's self-reported roles in bullying episodes are consistent with their roles as reported by peers (Belacchi, 2008; Salmivalli et al., 1996). It is worth noting, however, that one study (Sandstrom et al., 2013) saw drops in these alpha values when treating the Participant Role Questionnaire as a self-report instrument, though the internal consistencies remained adequate (i.e., *Bully Composite*, $\alpha = .71$, *Defender*, $\alpha = .79$, and *Outsider*, $\alpha = .65$).

In the current study, the Participant Role Questionnaire was adapted to reflect future behavioral intentions rather than frequency of past behavior. Cronbach's alpha values were the following: *Bully*, $\alpha = .55$, *Assistant*, $\alpha = .32$, *Reinforcer*, $\alpha = .52$, *Defender*, $\alpha = .62$, and *Outsider*, $\alpha = .47$. The *Bully*, *Assistant*, and *Reinforcer* subscales were collapsed into a single *Bully Composite* subscale, $\alpha = .64$, consistent with prior research (Sandstrom & Bartini, 2010; Sandstrom et al., 2013). Item total correlations were performed on each subscale (i.e., *Bully*, *Assistant*, *Reinforcer*, *Bully Composite*, *Defender*, and *Outsider*) to examine whether item deletions could strengthen their internal consistencies. This exploration resulted in the deletion of two items from the *Outsider* subscale ("Do nothing and wait until the bullying stops" and "Ignore the bullying), producing a new alpha of .51. Thus, primary analyses conducted with data from the Participant Role Questionnaire used three main study variables: *Bully Composite*, $\alpha = .64$, *Defender*, $\alpha = .62$, and *Outsider*, $\alpha = .51$, with these subscales demonstrating poor to questionable internal consistency.

Perceived Peer Disapproval. (See Appendix C) For control group purposes, at baseline and post-manipulation, participants completed a three-item self-report adaptation of the Perceived Peer Disapproval measure, previously utilized by Rice, Donohew, & Clayton (2003) in their examination of individual and social factors that influence adolescent drug use. The items center on the acceptability of smoking cigarettes, drinking alcohol, and smoking marijuana. As with the Perceived Peer and Personal Attitudes toward Bullying measure, participants were asked to indicate (1) the extent to which they think *their peers* agree with each statement, and (2) the extent to which *they* agree with each statement. Ratings were provided on a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). On all three items, higher scores reflected anti-drug use attitudes. Strong internal consistency was demonstrated in the current sample, revealing an alpha of .83 on the Perceived Peer Attitudes toward Drug Use scale and an alpha of .80 on the Personal Attitudes toward Drug Use scale.

Manipulation and Manipulation Check

Approximately one month after baseline data was collected and immediately preceding follow-up data collection, participants were administered a brief manipulation. All subjects were shown one of four bar graphs, the content of which was determined by their study condition, and offered an accompanying verbal explanation of the depicted information. Following this graph presentation, a manipulation check in the form of a simple test question was employed in order to gauge participants' understanding of the feedback provided. Participants who answered these questions confidently and correctly were scored a 1, indicating quick and solid comprehension of the feedback. Those who were unsure or answered incorrectly were given a scripted response that broke the bar graph down into its individual components for easier interpretation. Participants who demonstrated a clear understanding of the feedback at this stage were scored a

2, while those who remained uncertain were offered further assistance in a free response format. Participants who appeared to hold even a tenuous grasp of the feedback at this stage were scored a 3, while all other participants received a 4.

Participants in the experimental condition (i.e., Bullying Attitudes: Personalized Normative Feedback) received personalized normative feedback from the Perceived Peer and Personal Attitudes toward Bullying measure, illustrating both their ratings of perceived peer attitudes toward bullying and the actual attitudinal norm. They were encouraged to consider and compare their perceptions with the true normative values. In order to assess participants' understanding of the feedback provided, they were asked, "Now that we've reviewed the chart, did your peers agree with this statement more or less than you thought they would?" (See Appendices D and E).

Participants in the first control condition (i.e., Bullying Attitudes: General Normative Feedback) received half of this personalized normative feedback chart, depicting the actual attitudinal norm absent of a personalized comparison. By providing information about the group norm in a format paralleling a universal intervention, the researcher was able to examine whether a personalized component of normative feedback contributed meaningfully to any significant change in the experimental condition. To gauge participants' understanding of the feedback delivered, they were asked, "Now that we've reviewed the chart, tell me how much your peers agreed with this statement." (See Appendices F and G).

Participants in the second control condition (i.e., Bullying Attitudes: No Normative Feedback) received the remaining half of the experimental condition's personalized normative feedback chart, depicting only their ratings of perceived peer attitudes toward bullying. Failing to provide a comparison to the actual group norm allowed this control group to act as a placebo,

indicating that any significant change in the experimental condition was due to the presented social comparison. To assess participants' understanding of the feedback offered, they were presented with two follow-up questions. First, they were asked, "Now that we've reviewed the chart, does this bar show how much your peers *actually* agreed with this statement or how much you *thought* your peers would agree with this statement?" Then, consistent with the first control condition, they were asked, "Tell me how much you thought your peers would agree with this statement." (See Appendices H and I).

Participants in the third control condition (i.e., Drug Use Attitudes: Personalized Normative Feedback) received personalized normative feedback from the Perceived Peer Disapproval measure, illustrating both their ratings of perceived peer attitudes toward drug use and the actual attitudinal norm. As with the experimental condition, they were encouraged to consider and compare their perceptions with the true normative values. By providing personalized normative feedback on a separate construct, the researcher was able to examine whether any significant change in the experimental condition was driven purely by general social comparisons, or rather, by social comparisons specific to bullying attitudes. Mirroring the experimental condition, in order to gauge participants' understanding of the feedback given, they were asked, "Now that we've reviewed the chart, did your peers agree with this statement more or less than you thought they would?" (See Appendices J and K).

Informal Qualitative Follow-Up: Exploratory Investigations

Group Belonging. Because social norms theory predicts that individuals provided with accurate normative information will not only adjust their perceived peer attitudes to better match the group norm, but will also adjust their own attitudes in the same direction, questions arose regarding feelings of group belonging. In other words, while perceived peer and personal attitude

change toward the true group norm (typically healthy and prosocial) is positive, it remains that individuals view themselves as feeling differently from their peers, and thus, potentially as outside members of their peer groups. To better assess the salience of this phenomenon, participants in the experimental condition were asked a series of free response, follow-up questions after the completion of data collection. (See Appendix L). These questions centered on whether they believed they and their peers were in agreement regarding their feelings toward bullying, and whether they drew any comparisons between themselves and their peer group when providing these attitudinal ratings.

Bystander Behavior and Anticipated Peer Response. While social norms theory posits that perceived group norms influence individual behavior, few studies have focused on the examination of mediators that could explain this purported causal link (Cotter & Smokowski, 2016). One hypothesis points to a perceived threat of diminished social standing and/or loss of friendships, in the case that individuals act beyond the bounds of accepted group norms (Rimal & Real, 2005). Given the central role that social relationships play during adolescence, a threat to these relationships would be a particularly salient behavioral motivator during this developmental stage (Kroger, 2007). In order to gather exploratory information as to the potential lasting power of any significant effects within the experimental condition, participants in this study group were presented with two additional free response, follow-up questions (See Appendix M). These questions asked participants to generate their most likely response to witnessing a school bullying incident, as well as to imagine their peers' reaction to that behavioral action. Theoretically, responses in line with group norm values should garner positive peer reactions, and thus be reinforced, whereas responses contradicting group norm values should result in negative peer reactions, and thus be discouraged, and ultimately, discontinued.

Pilot Study: Testing of the Study Manipulation

A pilot study was conducted to gather information regarding the feasibility and believability of the proposed experimental manipulation. Baseline data was collected from eight 7th grade classrooms at Eastwood Middle School (n= 58). A one-sample t-test was run to determine whether a significant difference existed between baseline perceived peer attitude ratings and the actual attitudinal norm. Results of the t-test revealed that the perceived peer attitudes mean of 2.37 (SD= .43) was significantly discrepant from the actual attitudinal norm (M= 3.11, SD= .37), $t(57) = -13.18, p < .001, d = 1.73$. This finding offered preliminary support for Hypothesis 1, indicating that students underestimated their peers' anti-bullying and pro-helping attitudes.

Eight children (3 male, 5 female; 2 White, 6 African American) were recruited for the manipulation and post-manipulation data collection. Meeting with the primary investigator on a one-on-one basis in their home settings, participants were presented with personalized normative feedback regarding bullying attitudes. They were then asked to complete the Perceived Peer and Personal Attitudes toward Bullying measure, as well as the Participant Role Questionnaire. Table A below depicts the means and standard deviations for these eight participants on the Perceived Peer and Personal Attitudes toward Bullying measure for baseline and post-manipulation.

Table A
Pilot: Perceived Peer and Personal Attitudes toward Bullying

	Mean	Standard Deviation
Perceived Peer Baseline	2.26	.41
Perceived Peer Post-Manipulation	3.06	.50
Personal Baseline	3.09	.43
Personal Post-Manipulation	3.79	.28

This data indicates that change occurred in the hypothesized direction, with perceived peer attitude ratings increasing toward the actual attitudinal norm, and personal attitude ratings

increasing, as well. Regarding changes in behavioral intentions, Table B below depicts the means and standard deviations for the eight participants on the Participant Role Questionnaire for baseline and post-manipulation.

Table B
Pilot: Participant Role Questionnaire

	Mean	Standard Deviation
Bully Composite Baseline	9.50	0.76
Bully Composite Post-Manipulation	10.25	2.19
Defender Baseline	7.63	2.20
Defender Post-Manipulation	8.50	0.76
Outsider Baseline	10.00	2.73
Outsider Post-Manipulation	9.50	1.31

This data indicates that intentions increased for bullying and defending behaviors, but decreased for outsider behaviors. Although intentions for bullying behavior changed opposite to the hypothesized direction, the researcher noted two subjects interpreting two “Bully Composite” items as “Defender” items because they began with the word, “help.” The wording of these items was since modified in order to avoid similar confusion for participants in the full study.

Regarding the Defender and Outsider scales, change occurred in the hypothesized directions.

Of primary concern regarding the feasibility of the proposed study was whether children believed that the presented true norm was a genuine value reflective of their peers’ beliefs. All eight participants reported trusting that the presented norm was true, though several acknowledged it was surprising and “hard to believe” because their peers behave inconsistently with their reported feelings. Of equal importance was children’s understanding of the personalized normative feedback. During the pilot study, the information was provided through a pie chart. However, at the conclusion of each data collection session, the participants were also presented with the information depicted in a bar graph and asked to describe which method was

easier to understand, and why. Six of the eight participants reported that the bar graph was easier to interpret, often citing the y-axis labels. Additionally, seven of the eight participants indicated that a verbal explanation accompanying the figure would be helpful. Thus, the present study utilized a bar graph for personalized normative feedback, supported by a standardized verbal explanation of the presented figure.

The primary investigator also explored how interesting participants found the feedback, as well as whether they thought their peers might be interested. In general, they responded positively to both prompts, noting appreciation that they were approached about their feelings on the topic rather than their teachers being asked, and reporting surprise at how much their peers cared about others. Finally, participants were asked if they felt the feedback they received allowed them more freedom to help bullying victims. While some reported that they have typically already engaged in helping behaviors, others' responses suggested some level of liberation from worry about negative peer reactions. Comments included, "If they agree with me stepping in, they won't say anything negative about it" and "Now I know how other people feel, and they want to stop the bullying."

RESULTS

Preliminary Analyses

Table 1 shows the means, standard deviations, skewness, and kurtosis of the study variables at baseline. Initial analyses yielded four positively skewed variables. Their original skewness and kurtosis values were the following: Participant Role Bully= 3.25, 10.25; Participant Role Assistant= 2.47, 6.61; Participant Role Reinforcer= 1.55, 2.18; and Participant Role Bully Composite= 2.09, 5.50. These values signify little to no endorsement of bullying behavior by study participants. To better normalize these distributions, log transformations were performed, and the resulting values are reflected in Table 1. Log transformations were also performed on these variables at Time 2 in order to maintain scale consistency.

Initial analyses also yielded one negatively skewed variable. The original skewness and kurtosis values were as follows: Personal Attitudes toward Drug Use= -1.90, 3.69. Further exploration of the data revealed five outliers, with z-scores falling beyond a value of +/- 3.29. These scores reflect a small subset of study participants who, in contrast with their peers, strongly endorsed positive attitudes toward drug use. To better normalize the distribution, their scores were capped to match the peer group's next highest level of drug use endorsement. Table 1 reflects skewness and kurtosis values following the capping of these five outlier scores.

Table 2 presents study variable correlations at baseline for the full sample. For ease of interpretation, table abbreviations are provided in the following overview. Within construct, Perceived Peer Attitudes toward Bullying (PPB) correlated positively with Personal Attitudes toward Bullying (PB), and Perceived Peer Attitudes toward Drug Use (PPD) correlated

positively with Personal Attitudes toward Drug Use (PD). Across constructs, Perceived Peer Attitudes toward Bullying (PPB) correlated positively with Perceived Peer Attitudes toward Drug Use (PPD), and Personal Attitudes toward Bullying (PB) correlated positively with Personal Attitudes toward Drug Use (PD).

Regarding bully and bystander participant roles, Bully Composite (RC) correlated negatively with both Defender (RD) and Outsider (RO), while no significant correlation emerged between these latter two variables. Participant roles also correlated with personal attitudes toward bullying and drug use. Due to instrument design, bullying endorsement is denoted by *higher* scores on the Participant Role Questionnaire, but *lower* scores on measures of perceived peer and personal attitudes toward bullying and drug use. Thus, negative correlations across these instruments indicate a direct relationship, whereas positive correlations indicate an inverse relationship. Personal Attitudes toward Bullying (PB) correlated directly with the Bully Composite (RC) role but inversely with the Defender (RD) role. In other words, greater attitudinal support of bullying was linked to increased bullying intentions and decreased defending intentions. Similarly, Personal Attitudes toward Drug Use (PD) correlated directly with the Bully Composite (RC) role but inversely with both the Defender (RD) and Outsider (RO) roles. Thus, greater attitudinal support of drug use was linked to increased bullying intentions and decreased defending and outsider intentions.

Prior to collection of post-manipulation data, baseline participants were randomized into four conditions: one experimental, “Bullying Attitudes: Personalized Normative Feedback,” and three controls, “Bullying Attitudes: General Normative Feedback,” “Bullying Attitudes: No Normative Feedback,” and “Drug Use Attitudes: Personalized Normative Feedback.” To assess for baseline differences between groups, a one-way multivariate analysis of variance

(MANOVA) was performed (see Table 3). The following dependent variables were included: perceived peer attitudes toward bullying, personal attitudes toward bullying, participant role: bully composite, participant role: defender, participant role: outsider, perceived peer attitudes toward drug use, and personal attitudes toward drug use. Preliminary testing for univariate and multivariate outliers, normality, linearity and multicollinearity, homogeneity of variance-covariance matrices, and homogeneity of variance indicated that all assumptions were met. Demonstrating successful random assignment of participants, the MANOVA yielded no significant differences between groups on the combined dependent variables, $F(21, 431) = .711$, $p > .05$. Study variable descriptives (see Tables 4 through 7) and correlations (see Tables 8 through 11) at baseline and post-manipulation are provided, with each table reflecting one of the four study conditions.

Primary Analyses: Part I (n=188)

Aim 1. A one-sample t-test was conducted to evaluate whether norm misperception of bullying attitudes was present in the current sample. Preliminary assumption testing was performed to check for normality and the presence of outliers, with no violations noted. Perceived peer attitudes toward bullying ($M=2.59$) were significantly discrepant from the actual attitudinal norm ($M=3.50$), $t(184) = -20.35$, $p < .001$, $d = 1.50$. Thus, hypothesis 1 was confirmed, as participants significantly underestimated their peers' anti-bullying and pro-helping attitudes.

Intermediate Analyses: Control Condition Design (n= 188)

To mirror the use of participants' true attitudes toward bullying in the experimental condition, the current study proposed utilizing participants' true attitudes toward drug use in the "Drug Use Attitudes: Personalized Normative Feedback" control condition. However, the feasibility of this proposal rested on two prerequisites: first, that norm misperception of drug use

attitudes be present in the current sample. This stipulation was evaluated via a one-sample t-test, following assumption testing that revealed no violations. Perceived peer attitudes toward drug use ($M= 2.65$) were significantly discrepant from the actual attitudinal norm ($M= 3.57$), $t(186)=-15.94$, $p< .001$, $d= 1.17$, as participants significantly underestimated their peers' disapproval of drug use.

Having met the first prerequisite, it was also required that the *degree* of norm misperception with regard to bullying and drug use attitudes be equivalent. Difference scores were computed for both constructs by subtracting each participant's perceived peer ratings from the actual attitudinal norm. Following preliminary testing confirming that all assumptions had been met, a one-sample t-test comparing bullying and drug use difference scores was performed. The degree of norm misperception between the bullying ($M= .91$) and drug use ($M= .92$) constructs did not differ significantly, $t(184)= -.14$, $p> .05$, satisfying the second prerequisite for use of participants' true responses in the drug use control condition.

Primary Analyses: Part II (n=175)

Aim 2. A one-way multivariate analysis of covariance (MANCOVA) was performed to assess whether the implemented intervention effectively reduced norm misperception with regard to bullying attitudes (see Tables 12 and 13). Study condition (i.e., experimental and controls) was entered as the independent variable, and difference scores for perceived peer and personal attitudes toward bullying were entered as dependent variables. Difference scores were computed by subtracting baseline scores from post-manipulation scores for both perceived peer ratings and personal ratings. Preliminary analyses revealed moderate correlations between baseline values and difference scores, significant at $p< .01$: perceived peer bullying attitudes, $r= -.49$; personal bullying attitudes, $r= -.54$. Thus, baseline values for these variables were entered as covariates in

order to account for their effect on the degree of change across time (Larimer et al., 2012; Neighbors et al., 2004; Reid & Aiken, 2013). Preliminary assumption testing was completed for univariate and multivariate outliers, normality, linearity and multicollinearity, homogeneity of regression slopes, homogeneity of variance-covariance matrices, and homogeneity of variance, with no serious violations observed.

The MANCOVA yielded a statistically significant difference between groups on the combined dependent variables, $F(6, 328) = 2.891, p < .01, \eta^2 = .05$. Follow-up univariate ANOVAs revealed a statistically significant difference between groups on perceived peer attitude difference scores, $F(3, 165) = 4.950, p < .01, \eta^2 = .08$, using a Bonferroni adjusted alpha level of .025. No significant difference between groups on personal attitude difference scores emerged, $F(3, 165) = .219, p > .05$. In order to compare the control conditions against the experimental condition, a Simple Contrast was added to the analysis. Reported mean difference scores for each study condition were adjusted to account for the effect of the covariates. Results indicated that difference scores were significantly greater ($p < .01$) in the “Bullying Attitudes: Personalized Normative Feedback” ($M = .40$) experimental condition than in the following controls: “Bullying Attitudes: No Normative Feedback” ($M = .02$) and “Drug Use Attitudes: Personalized Normative Feedback” ($M = .11$). No difference was found between the experimental group and the “Bullying Attitudes: General Normative Feedback” ($M = .23$) control group.

Control conditions were also compared to one another via Simple Contrasts, yielding one significant finding: difference scores were greater ($p < .05$) in “Bullying Attitudes: General Normative Feedback” ($M = .23$) than in “Bullying Attitudes: No Normative Feedback” ($M = .02$). Hypothesis 2a was partially confirmed, as increases in anti-bullying and pro-helping *perceived peer attitudes* toward bullying were greater in the experimental condition than in two of three

control conditions. With equivalent difference scores on *personal attitudes* toward bullying across study groups, no findings emerged in support of Hypothesis 2b.

Aim 3. A one-way multivariate analysis of covariance (MANCOVA) was conducted to assess whether the implemented intervention effectively altered behavioral intentions in instances of school bullying, such that Bully Composite and Outsider intentions were reduced while Defender intentions were improved (see Tables 14 and 15). Study condition (i.e., experimental and controls) was entered as the independent variable, and difference scores for Bully Composite, Defender, and Outsider participant roles were entered as dependent variables. Difference scores were computed by subtracting baseline scores from post-manipulation scores for all three participant roles. Preliminary analyses revealed moderate correlations between baseline values and difference scores, significant at $p < .01$: Bully Composite, $r = -.62$; Defender, $r = -.61$; Outsider: $r = -.59$. Thus, baseline values for these variables were entered as covariates in order to account for their effect on the degree of change across time. Preliminary assumption testing for univariate and multivariate outliers, normality, linearity and multicollinearity, homogeneity of regression slopes, homogeneity of variance-covariance matrices, and homogeneity of variance revealed no serious violations. The MANCOVA yielded no significant differences between groups on the combined dependent variables, $F(9, 468) = 1.155, p > .05$.

Thus, no findings emerged in support of Hypothesis 3.¹²³

¹ A MANCOVA examining the Bully, Assistant, and Reinforcer participant role difference scores as individual constructs, rather than as comprising a single Bully Composite difference score, revealed no significant differences between study groups, $F(9, 480) = 1.106, p > .05$.

² An ANCOVA evaluating whether the implemented intervention effectively reduced bullying intentions, with the Bully Composite variable recoded into an absent/present split, revealed no significant differences between study groups, $F(3, .226) = .985, p > .05$.

³ A MANCOVA assessing whether the implemented intervention effectively altered behavioral intentions in instances of school bullying, with the Bully Composite, Defender, and Outsider variables recoded into low/medium/high splits, revealed no significant differences between study groups, $F(9, 375) = 1.115, p > .05$.

Manipulation Check: Additional Analyses (n= 155)

To further investigate the impact of personalized normative feedback on norm misperception and behavioral intentions related to bullying, the analyses for hypotheses 2 and 3 were repeated, including only those participants who scored a 1 or 2 on the administered manipulation check. These scores reflect individuals who demonstrated a clear and convincing understanding of the feedback provided. New results emerged with regard to hypothesis 2, while hypothesis 3 testing revealed no changes to the original findings.

Consistent with hypothesis 2 analyses performed with the full sample, the MANCOVA (see Tables 16 and 17) yielded a statistically significant difference between groups on the combined dependent variables (i.e., difference scores for perceived peer and personal attitudes toward bullying), $F(6, 296) = 3.452, p < .01, \eta^2 = .07$. Follow-up univariate ANOVAs revealed a statistically significant difference between groups on perceived peer attitude difference scores, $F(3, 149) = 6.564, p < .01, \eta^2 = .12$, using a Bonferroni adjusted alpha level of .025. In order to compare the control conditions against both the experimental condition and one another, Simple Contrasts were added to the analysis.

Two new findings were revealed from the contrast analyses. Reported mean difference scores for each study condition were adjusted for the effect of the covariates (i.e., baseline values of perceived peer and personal attitudes toward bullying). First, a nonsignificant trend ($p = .054$) emerged in the difference between the “Bullying Attitudes: Personalized Normative Feedback” experimental condition and the “Bullying Attitudes: General Normative Feedback” control condition. The experimental group ($M = .46$), while not significant, yielded greater difference scores than the control group ($M = .25$). Second, results indicated that difference scores were significantly greater ($p < .01$) in the “Bullying Attitudes: General Normative Feedback” ($M = .25$)

control than in the “Drug Use Attitudes: Personalized Normative Feedback” ($M = .09$) control. Of additional note, and similar to prior findings, difference scores were significantly greater in the “Bullying Attitudes: General Normative Feedback” ($M = .25$) control group than in the “Bullying Attitudes: No Normative Feedback” ($M = -.01$) control group, at an alpha level of .01.

Exploratory Investigations (n=44)

Group Belonging. In order to glean some understanding of participants’ sense of belongingness within their peer group, those in the experimental condition were asked a brief series of open-ended questions following the completion of post-manipulation data collection. An informal review of their responses revealed the following trends. When asked broadly whether they and their peers have similar feelings about bullying, responses fell into three primary categories: Yes ($n = 18$) (e.g., “Yes, we all think bullying is not right and don’t want to see anyone being bullied”), Mixed: Some Agreement, Some Disagreement ($n = 13$) (e.g., “Sometimes, but people are different. Half start the bullying, the other half fights them off”), and No: Me vs. Them ($n = 9$) (e.g., “No, it’s bad. People watch and laugh when someone gets bullied. I think it’s wrong”). Four participants provided unclear answers, and were therefore excluded from this review. Of note, while the Aim 2 MANCOVA yielded significant differences between groups on perceived peer attitudes toward bullying, with these ratings moving closer to the true group norm, a t-test run on the experimental condition revealed that a lesser degree of norm misperception still remained. Perceived peer attitudes toward bullying ($M = 2.93$) were significantly discrepant from the actual attitudinal norm ($M = 3.58$), $t(43) = -7.97$, $p < .001$, $d = 1.20$. Thus, despite the objective presence of norm misperception, in which participants viewed themselves as more prosocial than their peers, 78% of respondents reported feeling, to some degree, a sense of group belonging.

The issue of group belonging was further explored through a series of questions designed to uncover the degree to which participants made conscious comparisons between themselves and their peers in their completion of the Perceived Peer and Personal Attitudes toward Bullying measure. Specifically, they were asked whether their personal attitude ratings changed, whether their perceived peer attitude ratings changed, and finally, why they thought their ratings either changed or stayed the same. The majority of respondents ($n = 31$) were unable to articulate whether their ratings changed, in which direction, or why. However, some ($n = 5$) identified clearly that their perceived peer attitude ratings changed in the direction of the group norm as a result of the personalized feedback provided. They made such comments as “I thought they would disagree with the statement, but looking at the bar graph, they agreed” and “I didn’t know that they actually feel sorry for people. I learned that from the chart.” Finally, while others ($n = 8$) reported that their perceived peer attitude ratings moved in a positive direction, with half also indicating that their personal attitude ratings changed in a similar manner, they did not point to the delivered personalized normative feedback as the cause. Rather, they tended to credit their observations of reduced bullying at school, as well as peers’ attempts to aid victims in cases in which bullying did occur. These findings suggest that perceived peer attitudes largely changed below the level of consciousness.

Bystander Behavior and Anticipated Peer Response. In an attempt to gain insight into the study manipulation’s potential for creating lasting behavioral change, participants in the experimental condition were asked two open-ended questions, following the series of questions focused on group belonging. An informal analysis of their responses yielded the following themes. When asked how they were likely to behave in the case of a future witnessed school bullying incident, responses fell into three major categories: “Direct Intervention” ($n = 13$),

“Help-Seeking from Teachers” ($n = 29$), and “Watching/Inaction” ($n = 5$). These n values exceed the sample total of 44 due to responses from several participants who indicated they would both intervene directly and request teacher assistance. Within the “Direct Intervention” category, the majority of respondents ($n = 12$) endorsed telling the bully to stop, while others ($n = 3$) indicated their inclination toward comforting the victim. Again, n values exceed the category sample of 13 due to responses from participants who reported their intentions to both confront the bully and offer help to the victim. Overall, within a narrow scope of generated responses, participants indicated primarily prosocial behavioral intentions.

When asked to imagine how their peers might react to their anticipated course of action, participants offered a range of responses that were coded into four primary categories: “Positive” ($n = 10$), “Mixed” ($n = 7$), “Negative” ($n = 20$), and “Neutral” ($n = 6$). One participant reported uncertainty as to a predictable peer response, and was therefore excluded from this review. Two subthemes emerged under the “Positive” category: “Assist the subject” ($n = 4$) and “Support the subject” ($n = 6$), and two subthemes emerged under the “Negative” category: “Target the subject” ($n = 14$) and “Displeasure with subject” ($n = 6$). Examples of anticipated peer reaction themes and subthemes are displayed in Table 18. Notably, a pattern was observed with regard to behavioral intentions and their corresponding anticipated peer reactions. Of the 10 participants who reported they would directly intervene in the bullying incident, 50% predicted a positive response from peers while 20% predicted a negative response. Conversely, of the 26 participants who indicated they would seek help from a teacher, only 12% predicted a positive response from peers, whereas 65% predicted a negative response. These findings reflect an error in expectation, in which participants are unlikely to act in accordance with their help-seeking intentions, given their anticipated negative- and thus, inhibitory- peer response.

DISCUSSION

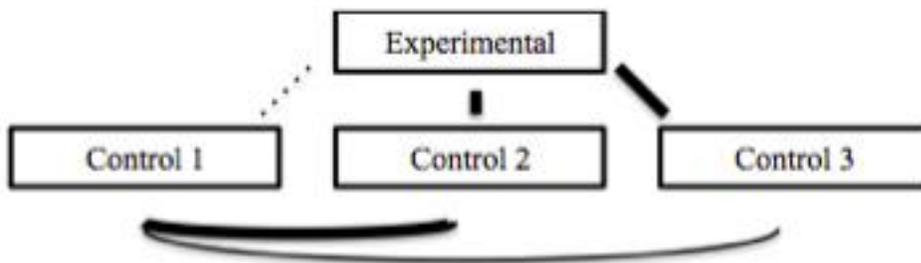
Research has documented that bystander intervention successfully curbs school bullying behavior (Hawkins et al., 2001), as does the simple absence of peer reinforcement, which is often implied through bystander watching and/or inaction (Salmivalli et al., 2011). However, studies show that despite personal attitudes opposed to bullying and in support of helping behavior (Hymel et al., 2010), students rarely intervene on behalf of victims (Pepler et al., 2004). Consistent with social norms theory, this hesitation may reflect individuals' attempts to behave in line with misperceived group norms, given that students often overestimate their peers' endorsement of bullying (Pozzoli & Gini, 2010; Sandstrom et al., 2013). The present study extended prior research by examining whether a brief manipulation could reduce this norm misperception, and thus, lead to minimized intentions for bullying involvement- both active and passive- and improved intentions for defending behavior.

In keeping with previous findings, norm misperception of bullying attitudes emerged in the current study sample, as individuals systematically viewed themselves as more prosocial than their peers. Figure 1 depicts the following overview of significant findings. It was hypothesized that, following the administration of the study manipulation, participants in the experimental condition would significantly alter their perceived peer attitude ratings in the direction of the group norm. This hypothesis was partially realized, as predicted differences emerged between the "Bullying Attitudes: Personalized Normative Feedback" experimental condition and two of three control conditions: "Bullying Attitudes: No Normative Feedback" and "Drug Use Attitudes: Personalized Normative Feedback." Similarly, greater change in the direction of the

group norm occurred in the “Bullying Attitudes: General Normative Feedback” control condition than in the “Bullying Attitudes: No Normative Feedback” control condition.

When these group differences were examined further, using only those participants who demonstrated clear understanding of the delivered feedback as measured through a manipulation check, the reported results held while two new results emerged. There was a nonsignificant trend consistent with hypothesized perceived peer attitude change between the “Bullying Attitudes: Personalized Normative Feedback” experimental condition and the “Bullying Attitudes: General Normative Feedback” control condition. Additionally, greater change in the direction of the group norm emerged in the “Bullying Attitudes: General Normative Feedback” control condition than in the “Drug Use Attitudes: Personalized Normative Feedback” control condition. No evidence was found in support of hypotheses predicting change in either personal attitudes toward bullying or future behavioral intentions.

Figure 1
Perceived Peer Attitude Change



Experimental= Bullying Attitudes: Personalized Normative Feedback, **Control 1**= Bullying Attitudes: General Normative Feedback, **Control 2**= Bullying Attitudes: No Normative Feedback, **Control 3**= Drug Use Attitudes: Personalized Normative Feedback

Experimental Change > Control 1, Control 2, and Control 3 change
Control 1 Change > Control 2 and Control 3 change

- indicates significant difference
- indicates significant difference in manipulation check analyses
-** indicates nonsignificant trending difference in manipulation check analyses

Norm Misperception

Few studies have attempted to uncover the mechanism behind norm misperception as it relates to school bullying attitudes. In these limited explorations, pluralistic ignorance has been targeted as the predominant explanatory theory (Sandstrom & Bartini, 2010; Sandstrom et al., 2013). Pluralistic ignorance is a phenomenon in which individuals privately condemn but publicly support what they perceive to be the majority view (i.e., group norm), while in actuality, the majority shares their privately held condemnation (Miller & McFarland, 1991). In the context of misperceived attitudes toward bullying, this phenomenon may go hand in hand with the fundamental attribution error (FAE). The FAE describes a tendency to attribute others' behavior to dispositional traits without considering the role of situational factors (Andrews, 2001).

Taken together, it may be that when children observe assistant, reinforcer, and outsider behavior, they assume it reflects their peers' internal thoughts and feelings (i.e., approval of bullying). Thus, despite personal disapproval of bullying and inclinations toward helping the victim, students match the bystander behavior of their peers, aiming to align themselves with the perceived group norm. This explanation is consistent with anecdotal evidence supplied by pilot and full study participants in the experimental condition. They noted that the provided normative feedback was hard to believe, given that their peers' self-reported attitudes were inconsistent with their behavior. Some respondents were so convinced that their peers' behavior revealed their true attitudes toward bullying, they accused them of intentionally providing untruthful ratings for the purpose of social desirability. Per this conceptualization, because students fail to recognize that the same social pressures motivating their own bystander behavior could also explain the behavior of their peers, the cycle of norm misperception and bystander passivity is able to persist.

Perceived Peer Attitude Change

Results of the current study indicate that normative feedback has the potential to interrupt this cycle and reduce the presence of norm misperception. Significant differences consistent with social norms theory emerged between study groups, such that both personalized and general normative feedback on bullying attitudes led to greater perceived peer attitude change than either the absence of normative feedback or personalized normative feedback on drug use attitudes. Notably, significant findings between general normative feedback and personalized normative feedback on drug use attitudes were found only when participants who failed to demonstrate a clear understanding of the feedback were excluded from the analyses. These results illustrate that changes in perceived peer attitudes were due not only to a social comparison, but to a social comparison specifically on the construct in question.

Contradictory to hypothesized findings, however, no differences emerged on perceived peer attitude change between the personalized normative feedback and general normative feedback study groups. One possible explanation may be that participants in the general feedback condition essentially added a personalized component to their feedback, minimizing the difference between these two groups. Mirroring that of the personalized feedback condition, participants may have considered the depiction of how their peers really felt in the context of what they knew to be their own expectations. Alternatively, it could be that the tangible nature of personalized normative feedback does create an effect above and beyond that of general normative feedback. However, this effect may be negated by the resultant stabilization of perceived peer attitudes, restricting the opportunity for change. Of some consideration, analyses utilizing only those participants who demonstrated solid comprehension of the feedback revealed a nonsignificant trend, in which perceived peer attitude change emerged to a greater degree in

response to personalized normative feedback than to general normative feedback. Though only *trending* in a significant direction, these findings suggest that future research could meaningfully explore whether a personalized component of normative feedback has any influence, above that of general normative feedback, on perceived peer attitude change.

Interestingly, participants in the experimental condition were largely (70%) unable to articulate whether change in perceived peer attitudes had occurred, in which direction, and why. While an additional 18% did report a shift in their ratings toward the group norm, they could not identify the provided normative feedback as the driving force behind this change. These findings are consistent with attitude and social judgment research, in which evidence suggests that attitude formation often, if not typically, occurs in response to a stimulus immediately, unintentionally, and without conscious awareness (Bargh & Chartrand, 1999). Importantly, studies have concluded that intention and engagement in this process have no impact on its influence (Ambady & Rosenthal, 1992). In other words, newly formed attitudes would have nearly equivalent effects whether they were developed at the conscious or subconscious level. This is an important consideration as it relates to the potential for perceived peer attitude change, and thus reduced norm misperception, to influence bullying and bystander behavior.

Group Belonging

Although perceived peer attitude change in the experimental condition was significant in the direction of the group norm, a lesser degree of norm misperception still remained. This was seemingly contrasted with the 78% of follow-up question respondents who reported that they and their peers shared, at least to some extent, similar attitudes toward bullying. Further examination revealed, however, that this discrepancy may not be the contradiction it appears. It is likely that the rating response style of the Perceived Peer and Personal Attitudes toward Bullying measure

captured a perceived *degree* of difference, rather than a blanket difference, between the self and peers. Likewise, when questioned broadly as to whether they and their peers had similar attitudes toward bullying, their reported sense of attitude agreement reflected a larger, general impression, beyond that of the nuanced differences previously indicated. Indeed, when individuals are broadly asked to place themselves within the context of their social group, they are motivated to report agreement with their peers in order to validate their beliefs (Messe & Sivacek, 1979). In this characterization of themselves as belonging to the peer group, a cognitive shift occurs in which they set aside distinctive personal qualities, and rather, view themselves in terms of common group attributes (Turner, 1987). Seemingly then, individuals are able to perceive nuanced differences between themselves and their peers without sacrificing their overall feelings of belongingness within the peer group.

Personal Attitude Stability

Social norms theory predicts that as perceived peer attitudes change, so will personal attitudes. However, this hypothesis was not realized in the present study, as no group differences on personal attitude change emerged. A possible explanation for this finding lies in the stability of personal attitudes. While individuals can only make inferences about the mental states of others based on their external, observable behavior, they have direct access to their own mental states (Andrews, 2001). Because their internal thoughts and feelings are personally knowable, it logically follows that individuals may be more certain of their own beliefs than they are of their peers'. Attitude certainty has been linked to both greater resistance to persuasion (Petrocelli, Tormala, & Rucker, 2007) and greater attitude stability over time (Bassili, 1996). Thus, it may be that while perceived peer attitudes have some flexibility to adjust in response to new information, personal attitudes do not share the same fluidity.

Several alternative explanations for the absence of personal attitude change are important to consider. First, it's possible that personal attitudes are not entirely unchanging, but due to their stability, are simply slow to change. Theoretically, personal attitude change would follow perceived peer attitude change on the basis of social comparison (Mussweiler, 2003). In essence, characterizing oneself as prosocial implies that one is more prosocial than others. However, this comparison relies on the accessibility of the comparative target (i.e., how prosocial others are). The more accessible this piece of knowledge, the more likely it is to be used in a social comparison, and the more likely it is to influence characterization of the self (Higgins, 1996). Thus, the fact that perceived peer attitude ratings were newly adjusted may have diminished participants' ability to access them as a reference point for personal attitude ratings. Rather, personal attitude change may only occur once these newly acquired perceived peer attitudes have had the opportunity to settle and operate as a more salient comparative target.

Second, factors related to the study design and methodology could have prevented the detection of intervention effects on personal attitudes toward bullying. It may be that the relationship between normative feedback and personal attitude change is dependent upon certain moderators. For instance, children's popularity with peers, their strength of identification with the peer group, and their friendship characteristics (e.g., number, quality, bullying/bystander behavior) could all impact the provided normative feedback's relevancy to personally held attitudes. Alternatively, the lack of personal attitude change in the hypothesized direction may be due to the restricted range of the Perceived Peer and Personal Attitudes toward Bullying scale. Because the baseline mean fell at 3.50 with a standard deviation of .40 on a four-point Likert scale, there was little room for upward movement of personal attitude ratings during post-manipulation data collection. The pilot data for the current study produced some evidence

hinting at the potential validity of this notion. Of the eight participants for whom the experimental manipulation was administered and post-manipulation data was collected, the personal attitudes mean shifted from 3.09 to 3.79. However, due to the small sample size, it was not assessed whether this shift reflected statistically significant change. Further, it cannot be assumed that this small subset of participants was representative of the entire pilot sample.

Bystander Behavioral Intentions

Consistent with social norms theory, it was hypothesized that reduced norm misperception would contribute to decreased intentions for bullying and outsider behavior, as well as improved intentions for defending behavior. However, no evidence emerged in support of this hypothesis. One possible explanation is grounded in the Theory of Planned Behavior (TPB), a social-cognitive model designed to capture key cognitive predictors of various health behaviors (Montaño & Kasprzyk, 2002). In fact, recent literature has highlighted its utility in the specific context of bullying, differentiating between defenders and those less inclined to intervene (DeSmet et al., 2014). The Theory of Planned Behavior posits that individuals' intentions to engage in certain behaviors are influenced by three factors: (1) personal attitudes toward the behavior (encompasses not only individuals' personal feelings about the behavior in question, but also what they predict as the likely outcome), (2) perceived social norms, and (3) perceived behavioral control (Ajzen, 1991). The current study targeted perceived social norms, aiming to increase students' awareness of their peers' prosocial values, thereby increasing their perceived social support for defending behavior. However, it may be that this intervention was not powerful enough to produce significant effects on behavioral intentions.

There are several ways in which the study design could be altered in order to enhance the strength of the intervention. First, the potential issue of dosage could be addressed through a

“booster” feedback delivery. Options might include additional one-on-one personalized normative feedback with an experimenter, text messages or emails reminding students of the prevailing attitudinal norm, or a school-wide effort to make the information readily available and easily digestible (e.g., posters, pamphlets). Second, it is possible that the strength of the intervention could be improved through an open dialogue led by teachers and/or guidance counselors and carried out by the student body. Indeed, there is evidence that attitudes are better predictors of behavior when they are developed through direct, rather than indirect, experience (Glasman & Albarracín, 2006). Additionally, there is support for this modality of normative feedback delivery in the college drinking behavior literature (Schroeder & Prentice, 1998). An important consideration in this delivery method, though, is the minimization of deviancy training (i.e., escalating problem behavior in the context of interventions administered to peer groups) (Dishion, McCord, & Poulin, 1999). Researchers developing and disseminating this type of feedback would need to exercise caution in order to avoid such iatrogenic effects.

An optimistic take on the null findings with regard to bystander behavioral intentions might be that the study manipulation put into place a mechanism for change over time, with effects not immediately discernable. However, actively intervening in an individual’s problematic behavior presents challenges, even for well-trained adults (Casey & Ohler, 2012). It is possible that developmental considerations (e.g., problem-solving abilities, friendships/ social status) add still further complexity to bystander intervention at the adolescent level. Returning to the Theory of Planned Behavior, the present study did not address the role of perceived behavioral control, which has considerable overlap with the Situational Model of Bystander Behavior (SMB). This model underscores the intrapersonal processes that influence whether one intervenes with the troublesome behavior of another. Such processes include (1) recognizing that

a problem is occurring, (2) interpreting a situation as problematic, (3) viewing oneself as responsible for intervening, (4) understanding how to intervene effectively, and (5) taking action (Latané & Darley, 1969). It may be that feelings of personal responsibility and self-efficacy, captured by both theoretical models, are important components of bystander behavioral change.

Notably, the current study's informal investigation into predicted bystander responses to school bullying episodes, as well as anticipated peer reactions to this bystander behavior, yielded important information relevant to both the Theory of Planned Behavior and the Situational Model of Bystander Behavior. When participants were asked how they were likely to behave in the case of a witnessed bullying incident, they generated a narrow range of responses centered primarily on help-seeking, and to a lesser degree, direct intervention. Furthermore, of those who indicated help-seeking as their first line response, only 12% predicted a positive peer response, while 65% predicted a negative one. Based on these expected outcomes, as well as the TPB's assertion that individuals are less likely to intervene when they believe that peer ridicule or retaliation may result (Thornberg et al., 2012), it is unlikely that students would follow through with their stated intentions. Similarly, the fact that participants most commonly generated an intended behavioral response for which they largely predicted a negative outcome suggests a lack of knowledge and/or understanding regarding effective intervention. At a basic level, individuals cannot consciously change their behavior without the information and skill set to do so. These findings suggest that this SMB component could be a critical factor in producing actual bystander behavioral change.

A final consideration regarding the unsupported hypothesized change in bystander intentions is that of measurement. While the Participant Role Questionnaire (PRQ) has demonstrated strong reliability and validity in the assessment of bystander roles, the current

study made several adaptations to the instrument that could have negatively impacted its utility. First, its highest reported reliability ratings were achieved when utilized as a peer-report measure (Salmivalli et al., 1996). It is possible that its reliability is weakened when treated as a self-report measure. There is some evidence to back this notion, as one study saw slight decreases in reliability when administering the PRQ as a measure completed by self-report (Sandstrom et al., 2013). This issue may have been compounded by the current study's attempt to use this instrument as a measure of future intention, rather than past behavior. Whereas students may be accurate reporters of their roles in prior bullying incidents, they may struggle to predict with consistency how they are likely to behave in the future, resulting in variable responses. Lastly, while previous studies have successfully utilized the PRQ to detect significant effects, all findings have emerged from a single time point. Thus, despite the PRQ's strong psychometric properties, it is possible that it is not sensitive enough to detect change in bystander roles across time. Further analysis would be necessary to determine whether these measurement concerns played a role in the failure to uncover significant findings related to intended bystander behavior.

Limitations and Future Directions

This study has several limitations. Of particular importance, data was collected from a racially homogenous sample, with participants comprised only of 7th grade students from a single school. This lack of diversity limits the generalizability of significant findings. Future investigations should seek to collect data from a more heterogeneous sample, allowing for the examination of intervention effects across race, grade, and school culture.

Current study findings suggest that modifications to the utilized measures may improve their appropriateness to address the research questions, as well as strengthen their psychometric properties. While the Perceived Peer and Personal Attitudes toward Bullying measure has

demonstrated its utility in identifying the presence of norm misperception, the current study represents the first attempt to utilize it as a measure of change across time. Evidence emerged suggesting that restricted range could be a concern when used in this manner, as the variability of responses was limited toward the top end of the scale. Future researchers may choose to add points to the Likert scale in an effort to draw baseline scores away from the ceiling. Additionally, as previously discussed, attempts to utilize the Participant Role Questionnaire (PRQ) as a self-report measure assessing behavioral intentions may have weakened its reliability. The PRQ may operate most strongly when administered as a peer-report measure designed to assess past bystander behavior.

Ultimately, social norms theory was only partially supported, as perceived peer attitude change in the hypothesized direction occurred, but changes in personal attitudes and behavioral intentions did not follow. However, given the study limitations and considerations that emerged, it is too strong a response to dismiss the role of social norms theory in future investigations. Rather, several adjustments to the study design could be instrumental in determining which intervention factors, appropriately drawn from both social norms theory and other relevant models, may be best suited to minimizing bullying behavior and empowering students to defend those victimized. First, an investigation into attitudinal and bystander behavioral change would be strengthened by a third data collection point. This would allow researchers to explore the stability of perceived peer attitude change, as well as whether personal attitudes show a gradual shift over time. Additionally, this third time point would be necessary in the assessment of actual behavioral change, likely a more accurate measure than that of behavioral intentions. Second, future studies may wish to consider utilizing a “booster” feedback delivery or open dialogue format in an attempt to strengthen the intervention’s ability to produce significant effects.

Finally, both the Theory of Planned Behavior and Situational Model of Bystander Behavior present a number of possible contributors to bystander decision-making beyond the scope of perceived social norms. Future research may benefit from the examination of these factors (e.g., personal responsibility, self-efficacy, predicted outcomes) in concordance with norm misperception, aiming to develop a more comprehensive, explanatory picture.

Clinically, the current study offers some insight into bullying and bystander interventions that could feasibly be introduced into the school setting. The ability of normative feedback to move perceived peer attitudes toward bullying in the direction of the group norm has important implications. For instance, increasing students' awareness of the prosocial values held by their peers could improve feelings of safety and support within the school environment, as well as encourage students to positively assert their expectation for the kind treatment of others. Certainly, interventions that target bystander behavior have the potential to minimize both the occurrence and negative impact of bullying by working toward a student body increasingly willing to trade in passive observation for the active defense of victims.

Active intervention in the problem behavior of others is influenced by a complex interplay of cognitive, situational, and behavioral factors (Casey, Lindhorst, & Storer, 2016). The current study's significant findings regarding perceived peer attitude change in the direction of the group norm suggest that reducing norm misperception of attitudes toward bullying in an effort to increase defending bystander behavior is a worthwhile endeavor. However, when considered in light of such factors as personal attitude stability, perceived behavioral control, and effective intervention skills, it becomes increasingly clear that correcting for misperceived attitudinal norms is only one piece of an exceedingly intricate puzzle.

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TABLES

Table 1
Study Variable Descriptives: Baseline

	Mean	Std. Deviation	Skewness	Kurtosis
Perceived Peer Attitudes toward Bullying	2.59	.61	-.03	-.34
Personal Attitudes toward Bullying	3.50	.40	-.59	-.30
Participant Role: Bully ^{TF}	.50	.07	2.95	7.93
Participant Role: Assistant ^{TF}	.53	.09	1.90	3.03
Participant Role: Reinforcer ^{TF}	.57	.11	1.06	.14
Participant Role: Bully Composite ^{TF}	1.01	.07	1.50	2.23
Participant Role: Defender	7.35	1.66	-.61	-.70
Participant Role: Outsider	6.12	1.74	-.06	-.88
Perceived Peer Attitudes toward Dugs	2.65	.79	-.11	-.46
Personal Attitudes toward Drugs	3.57	.61	-1.60	2.05

Note: ^{TF} indicates transformed variable

Table 2
Study Variable Correlations: Baseline

	PPB	PB	RB	RA	RR	RC	RD	RO	PPD	PD
PPB	---									
PB	.15*	---								
RB	-.05	-.33**	---							
RA	-.02	-.03	.42**	---						
RR	-.18*	-.32**	.46**	.20**	---					
RC	-.11	-.29**	.72**	.69**	.82**	---				
RD	.19*	.51**	-.27**	-.03	-.40**	-.32**	---			
RO	-.21**	.11	-.13	-.09	-.20**	-.18*	-.13	---		
PPD	.52**	.16*	-.11	.03	-.23**	-.14	.21**	-.08	---	
PD	.09	.50**	-.15*	-.07	-.22**	-.21**	.26**	.24**	.33**	---

Note. ** indicates correlation is significant at the .01 level; * indicates correlation is significant at the .05 level

PPB= Perceived peer attitudes toward bullying; **PB**= Personal attitudes toward bullying; **RB**= Participant Role Questionnaire, Bully subscale; **RA**= Participant Role Questionnaire, Assistant subscale; **RR**= Participant Role Questionnaire, Reinforcer subscale; **RC**= Participant Role Questionnaire, Bully Composite subscale; **RD**= Participant Role Questionnaire, Defender subscale; **RO**= Participant Role Questionnaire, Outsider subscale; **PPD**= Perceived peer attitudes toward drug use; **PD**= Personal attitudes toward drug use

Table 3
MANOVA: Baseline Group Differences

	F	p	η^2
Perceived Peer Attitudes toward Bullying	.54	.66	.01
Personal Attitudes toward Bullying	.16	.92	.003
Participant Role: Bully Composite	.60	.61	.01
Participant Role: Defender	.02	1.00	.000
Participant Role: Outsider	.92	.44	.02
Perceived Peer Attitudes toward Dugs	.63	.60	.01
Personal Attitudes toward Drugs	.80	.50	.02

Table 4
Study Variable Descriptives: Experimental, Bullying Attitudes: Personalized Normative Feedback

	Mean	Std. Deviation	Skewness	Kurtosis
Perceived Peer Attitudes toward Bullying	2.52	.63	-.28	-.18
Personal Attitudes toward Bullying	3.51	.36	-.69	-.30
Participant Role: Bully ^{TF}	.51	.08	2.63	6.03
Participant Role: Assistant ^{TF}	.53	.10	1.98	3.71
Participant Role: Reinforcer ^{TF}	.59	.13	.82	-.71
Participant Role: Bully Composite ^{TF}	1.02	.09	1.44	1.93
Participant Role: Defender	7.28	1.87	-.61	-1.07
Participant Role: Outsider	5.73	1.77	.20	-.88
Perceived Peer Attitudes toward Dugs	2.64	.84	-.28	-.48
Personal Attitudes toward Drugs	3.59	.55	-1.65	3.04
T2 Perceived Peer Attitudes toward Bullying	2.93	.54	-.004	-.67
T2 Personal Attitudes toward Bullying	3.58	.39	-1.18	1.14
T2 Participant Role: Bully ^{TF}	.51	.08	2.41	4.78
T2 Participant Role: Assistant ^{TF}	.52	.08	2.09	4.78
T2 Participant Role: Reinforcer ^{TF}	.54	.09	1.24	.25
T2 Participant Role: Bully Composite ^{TF}	1.00	.06	1.63	3.42
T2 Participant Role: Defender	7.37	1.50	-.72	.38
T2 Participant Role: Outsider	5.75	1.81	.22	-.66
T2 Perceived Peer Attitudes toward Dugs	3.11	.76	-.78	.28
T2 Personal Attitudes toward Drugs	3.75	.50	-2.20	4.10

Note: ^{TF} indicates transformed variable

Table 5

Study Variable Descriptives: Control, Bullying Attitudes: General Normative Feedback

	Mean	Std. Deviation	Skewness	Kurtosis
Perceived Peer Attitudes toward Bullying	2.49	.56	.58	-.03
Personal Attitudes toward Bullying	3.46	.45	-.79	.26
Participant Role: Bully ^{TF}	.50	.06	2.63	6.01
Participant Role: Assistant ^{TF}	.54	.11	1.61	1.43
Participant Role: Reinforcer ^{TF}	.56	.11	.90	-.31
Participant Role: Bully Composite ^{TF}	1.01	.08	1.38	1.55
Participant Role: Defender	7.33	1.63	-.78	-.27
Participant Role: Outsider	6.02	1.64	.03	-.52
Perceived Peer Attitudes toward Dugs	2.52	.80	.02	-.37
Personal Attitudes toward Drugs	3.55	.69	-1.49	1.26
T2 Perceived Peer Attitudes toward Bullying	2.77	.57	-.36	-.31
T2 Personal Attitudes toward Bullying	3.59	.39	-1.16	.97
T2 Participant Role: Bully ^{TF}	.49	.06	3.55	11.09
T2 Participant Role: Assistant ^{TF}	.52	.10	2.32	5.31
T2 Participant Role: Reinforcer ^{TF}	.55	.11	1.92	4.01
T2 Participant Role: Bully Composite ^{TF}	1.00	.08	2.78	9.25
T2 Participant Role: Defender	7.82	1.53	-1.19	.84
T2 Participant Role: Outsider	6.30	1.66	.11	-.55
T2 Perceived Peer Attitudes toward Dugs	2.61	.82	-.04	-.72
T2 Personal Attitudes toward Drugs	3.59	.82	-2.48	5.41

Note: ^{TF} indicates transformed variable

Table 6

Study Variable Descriptives: Control, Bullying Attitudes: No Normative Feedback

	Mean	Std. Deviation	Skewness	Kurtosis
Perceived Peer Attitudes toward Bullying	2.58	.59	-.31	-.20
Personal Attitudes toward Bullying	3.53	.37	-.30	-.77
Participant Role: Bully ^{TF}	.50	.07	2.74	6.33
Participant Role: Assistant ^{TF}	.50	.06	2.73	6.55
Participant Role: Reinforcer ^{TF}	.55	.10	1.41	1.68
Participant Role: Bully Composite ^{TF}	.99	.07	2.56	6.80
Participant Role: Defender	7.29	1.54	-.43	-.74
Participant Role: Outsider	6.36	1.71	-.28	-.87
Perceived Peer Attitudes toward Dugs	2.70	.72	-.05	-.21
Personal Attitudes toward Drugs	3.44	.70	-1.32	.86
T2 Perceived Peer Attitudes toward Bullying	2.57	.64	.32	-.71
T2 Personal Attitudes toward Bullying	3.60	.34	-.44	-.86
T2 Participant Role: Bully ^{TF}	.49	.04	4.99	25.43
T2 Participant Role: Assistant ^{TF}	.50	.05	2.25	4.21
T2 Participant Role: Reinforcer ^{TF}	.52	.08	1.62	1.70
T2 Participant Role: Bully Composite ^{TF}	.98	.05	2.67	9.00
T2 Participant Role: Defender	7.84	1.23	-.63	-.66
T2 Participant Role: Outsider	5.88	1.66	.03	-.82
T2 Perceived Peer Attitudes toward Dugs	2.77	.79	.20	-1.09
T2 Personal Attitudes toward Drugs	3.65	.63	-2.79	8.75

Note: ^{TF} indicates transformed variable

Table 7

Study Variable Descriptives: Control, Drug Use Attitudes: Personalized Normative Feedback

	Mean	Std. Deviation	Skewness	Kurtosis
Perceived Peer Attitudes toward Bullying	2.55	.60	.16	-.07
Personal Attitudes toward Bullying	3.50	.43	-.44	-1.0
Participant Role: Bully ^{TF}	.50	.05	2.95	7.89
Participant Role: Assistant ^{TF}	.53	.07	.97	-.39
Participant Role: Reinforcer ^{TF}	.58	.13	.95	.11
Participant Role: Bully Composite ^{TF}	1.02	.06	.80	.30
Participant Role: Defender	7.36	1.69	-.58	-.63
Participant Role: Outsider	6.40	1.85	-.22	-.90
Perceived Peer Attitudes toward Dugs	2.55	.78	-.03	-.26
Personal Attitudes toward Drugs	3.64	.51	-1.81	3.82
T2 Perceived Peer Attitudes toward Bullying	2.65	.56	-.35	-.35
T2 Personal Attitudes toward Bullying	3.61	.37	-.65	-.56
T2 Participant Role: Bully ^{TF}	.48	.02	6.63	44.00
T2 Participant Role: Assistant ^{TF}	.52	.08	1.63	1.10
T2 Participant Role: Reinforcer ^{TF}	.53	.08	.99	-.48
T2 Participant Role: Bully Composite ^{TF}	.99	.05	1.15	.53
T2 Participant Role: Defender	7.55	1.45	-.62	-.64
T2 Participant Role: Outsider	6.02	1.69	.08	-.79
T2 Perceived Peer Attitudes toward Dugs	2.92	.72	-.40	.18
T2 Personal Attitudes toward Drugs	3.73	.40	-1.20	.04

Note: ^{TF} indicates transformed variable

Table 8
Study Variable Correlations: Experimental, Bullying Attitudes: Personalized Normative Feedback

	PPB	PB	RB	RA	RR	RC	RD	RO	PPD	PD	T2 PPB	T2 PB	T2 RB	T2 RA	T2 RR	T2 RC	T2 RD	T2 RO	T2 PPD	T2 PD
PPB	---																			
PB	.17	---																		
RB	-.07	-.55**	---																	
RA	-.08	-.02	.47**	---																
RR	-.35*	-.41**	.51**	.37*	---															
RC	-.25	-.39**	.75**	.75**	.87**	---														
RD	.19	.42**	-.48**	-.26	-.52**	-.56**	---													
RO	-.23	-.18	-.08	-.15	-.22	-.19	.06	---												
PPD	.64**	.29	-.09	-.15	-.36*	-.30	.31*	-.19	---											
PD	.13	.39**	-.07	.05	-.32*	-.18	.22	.16	.42**	---										
T2PPB	.39**	.22	-.13	-.10	-.31*	-.24	.19	-.20	.47**	.15	---									
T2PB	.24	.63**	-.69**	-.30*	-.49**	-.60**	.56**	-.08	.31*	.19	.49**	---								
T2RB	-.24	-.44**	.49**	.19	.20	.33*	-.15	-.01	-.08	-.09	-.08	-.46**	---							
T2RA	-.08	-.16	.63**	.67**	.34*	.65**	-.20	-.03	.05	.08	-.06	-.38*	.42**	---						
T2RR	-.23	-.19	.38*	.002	.48**	.37*	-.10	-.38*	-.12	-.28	.03	-.26	.19	-.02	---					
T2RC	-.28	-.37*	.71**	.40**	.54**	.66**	-.23	-.25	-.03	-.18	-.06	.51**	.72**	.64**	.66**	---				
T2RD	.20	.30	-.27	.11	-.17	-.13	.26	-.20	.15	.33*	.26	.42**	-.32*	.03	-.30*	-.34*	---			
T2RO	-.38*	-.31*	.08	.06	.13	.13	-.09	.44**	-.36*	-.05	-.20	-.15	.10	.15	-.04	.08	.10	---		
T2PPD	.28	.05	.01	-.16	-.34	-.27	.14	-.19	.61**	.33*	.56**	.30*	.09	.06	-.13	-.01	.18	-.28	---	
T2PD	.18	.25	-.30*	.13	-.28	-.22	.16	-.20	.34*	.45**	.15	.40**	-.10	-.13	-.31*	-.28	.45**	-.24	.48**	---

Note. ** indicates correlation is significant at the .01 level; * indicates correlation is significant at the .05 level

PPB= Perceived peer attitudes toward bullying; **PB**= Personal attitudes toward bullying; **RB**= Participant Role Questionnaire, Bully subscale; **RA**= Participant Role Questionnaire, Assistant subscale; **RR**= Participant Role Questionnaire, Reinforcer subscale; **RC**= Participant Role Questionnaire, Bully Composite subscale, **RD**= Participant Role Questionnaire, Defender subscale; **RO**= Participant Role Questionnaire, Outsider subscale; **PPD**= Perceived peer attitudes toward drug use; **PD**= Personal attitudes toward drug use; **T2PPB**= Time 2 Perceived peer attitudes toward bullying; **T2PB**= Time 2 Personal attitudes toward bullying; **T2RB**= Time 2 Participant Role Questionnaire, Bully subscale; **T2RA**= Time 2 Participant Role Questionnaire, Assistant subscale; **T2RR**= Time 2 Participant Role Questionnaire, Reinforcer subscale; **T2RC**= Time 2 Participant Role Questionnaire, Bully Composite subscale, **T2RD**= Time 2 Participant Role Questionnaire, Defender subscale; **T2RO**= Time 2 Participant Role Questionnaire, Outsider subscale; **T2PPD**= Time 2 Perceived peer attitudes toward drug use; **T2PD**= Time 2 Personal attitudes toward drug use

Table 9

Study Variable Correlations: Control, Bullying Attitudes: General Normative Feedback

	PPB	PB	RB	RA	RR	RC	RD	RO	PPD	PD	T2 PPB	T2 PB	T2 RB	T2 RA	T2 RR	T2 RC	T2 RD	T2 RO	T2 PPD	T2 PD
PPB	---																			
PB	.27	---																		
RB	.02	-.16	---																	
RA	-.04	-.09	.62**	---																
RR	-.17	-.26	.46**	.44**	---															
RC	-.09	-.22	.73**	.85**	.82**	---														
RD	.16	.45**	-.10	-.13	-.29	-.24	---													
RO	-.02	.35*	-.12	-.12	-.12	-.14	.30	---												
PPD	.54**	-.04	-.04	.08	-.17	-.05	.23	.003	---											
PD	.21	.66**	-.32*	-.26	-.36*	-.40**	.48**	.35*	.28	---										
T2PPB	.64**	.02	.06	-.18	-.18	-.16	.32*	.14	.44**	.02	---									
T2PB	.18	.48**	-.46**	-.48**	-.52**	-.58**	.48**	.32*	.01	.40**	.32*	---								
T2RB	.02	-.22	.80**	.72**	.33*	.72**	-.23	-.17	.09	.40**	-.08	-.49**	---							
T2RA	.04	-.13	.50**	.67**	.32*	.59**	-.21	-.24	-.04	.32*	-.18	-.41**	.67**	---						
T2RR	-.30	-.48**	.22	.37*	.46**	.51**	-.41**	-.36*	-.17	.52**	-.26	-.49**	.47**	.51**	---					
T2RC	-.11	-.37*	.52**	.64**	.47**	.69**	-.37*	-.35*	-.08	.50**	-.21	-.55**	.76**	.85**	.86**	---				
T2RD	.29	.41**	-.27	-.28	-.34*	-.34*	.73**	.19	.28	.43**	.51**	.66**	-.39**	-.33*	-.43**	-.46**	---			
T2RO	.04	.37*	-.24	-.05	-.16	-.16	.06	.50**	-.06	.32*	.06	.05	-.27	-.19	-.39**	-.35*	.14	---		
T2PPD	.23	.09	.18	-.07	.06	.002	.13	.10	.40**	.12	.48**	.11	.09	-.07	-.20	-.10	.21	.07	---	
T2PD	-.22	.27	.03	-.23	-.02	-.13	.07	.34*	-.001	.36*	-.14	.05	-.09	-.24	-.29	-.28	.03	.29	.55**	---

Note. ** indicates correlation is significant at the .01 level; * indicates correlation is significant at the .05 level

PPB= Perceived peer attitudes toward bullying; PB= Personal attitudes toward bullying; RB= Participant Role Questionnaire, Bully subscale; RA= Participant Role Questionnaire, Assistant subscale; RR= Participant Role Questionnaire, Reinforcer subscale; RC= Participant Role Questionnaire, Bully Composite subscale, RD= Participant Role Questionnaire, Defender subscale; RO= Participant Role Questionnaire, Outsider subscale; PPD= Perceived peer attitudes toward drug use; PD= Personal attitudes toward drug use; T2PPB= Time 2 Perceived peer attitudes toward bullying; T2PB= Time 2 Personal attitudes toward bullying; T2RB= Time 2 Participant Role Questionnaire, Bully subscale; T2RA= Time 2 Participant Role Questionnaire, Assistant subscale; T2RR= Time 2 Participant Role Questionnaire, Reinforcer subscale; T2RC= Time 2 Participant Role Questionnaire, Bully Composite subscale, T2RD= Time 2 Participant Role Questionnaire, Defender subscale; T2RO= Time 2 Participant Role Questionnaire, Outsider subscale; T2PPD= Time 2 Perceived peer attitudes toward drug use; T2PD= Time 2 Personal attitudes toward drug use

Table 10
Study Variable Correlations: Control, Bullying Attitudes: No Normative Feedback

	PPB	PB	RB	RA	RR	RC	RD	RO	PPD	PD	T2 PPB	T2 PB	T2 RB	T2 RA	T2 RR	T2 RC	T2 RD	T2 RO	T2 PPD	T2 PD
PPB	---																			
PB	.04	---																		
RB	.01	-.34*	---																	
RA	.08	-.43**	.67**	---																
RR	-.09	-.40*	.72**	.46**	---															
RC	.01	-.45**	.92**	.77**	.91**	---														
RD	.21	.44**	-.26	-.23	-.52**	-.42**	---													
RO	-.19	.08	-.32*	-.08	-.24	-.23	.04	---												
PPD	.51**	.29	-.08	.01	-.08	-.02	.25	.06	---											
PD	-.07	.62**	-.12	-.24	-.08	-.16	.24	.25	.46**	---										
T2PPB	.75**	-.19	.12	.13	.05	.15	.03	-.22	.39**	-.23	---									
T2PB	.19	.50**	.05	-.10	-.07	-.07	.15	-.03	.19	.26	.26	---								
T2RB	-.17	-.20	.34*	.23	.38*	.40*	-.32*	-.13	-.15	-.19	-.01	.13	---							
T2RA	-.18	-.32*	.31*	.35*	.39*	.44**	-.17	.06	-.14	-.23	-.16	.01	.66**	---						
T2RR	-.34*	-.36*	.33*	.29	.59**	.55**	-.42**	-.10	-.31*	-.17	-.12	-.13	.51**	.45**	---					
T2RC	-.31*	-.39*	.40**	.37*	.60**	.60**	-.39*	-.07	-.27	-.23	-.13	-.05	.77**	.79**	.89**	---				
T2RD	.12	.50**	-.09	-.28	-.24	-.30	.52**	-.14	-.02	.30	-.01	.39**	-.26	-.06	-.17	-.19	---			
T2RO	.02	-.07	-.14	.10	.10	.08	-.24	.04	-.08	-.04	.08	-.06	.02	-.24	.001	-.08	-.43**	---		
T2PPD	.57**	.10	-.02	.01	.02	.05	.07	-.20	.56**	-.02	.65**	.31*	-.18	-.28	-.32*	-.33*	-.08	.11	---	
T2PD	.26	.41**	.08	-.03	.04	.06	.11	-.24	.31*	.20	.14	.48**	-.03	-.19	-.13	-.15	-.05	.20	.43**	---

Note. ** indicates correlation is significant at the .01 level; * indicates correlation is significant at the .05 level

PPB= Perceived peer attitudes toward bullying; PB= Personal attitudes toward bullying; RB= Participant Role Questionnaire, Bully subscale; RA= Participant Role Questionnaire, Assistant subscale; RR= Participant Role Questionnaire, Reinforcer subscale; RC= Participant Role Questionnaire, Bully Composite subscale, RD= Participant Role Questionnaire, Defender subscale; RO= Participant Role Questionnaire, Outsider subscale; PPD= Perceived peer attitudes toward drug use; PD= Personal attitudes toward drug use; T2PPB= Time 2 Perceived peer attitudes toward bullying; T2PB= Time 2 Personal attitudes toward bullying; T2RB= Time 2 Participant Role Questionnaire, Bully subscale; T2RA= Time 2 Participant Role Questionnaire, Assistant subscale; T2RR= Time 2 Participant Role Questionnaire, Reinforcer subscale; T2RC= Time 2 Participant Role Questionnaire, Bully Composite subscale, T2RD= Time 2 Participant Role Questionnaire, Defender subscale; T2RO= Time 2 Participant Role Questionnaire, Outsider subscale; T2PPD= Time 2 Perceived peer attitudes toward drug use; T2PD= Time 2 Personal attitudes toward drug use

Table 11
Study Variable Correlations: Control, Drug Use Attitudes: Personalized Normative Feedback

	PPB	PB	RB	RA	RR	RC	RD	RO	PPD	PD	T2 PPB	T2 PB	T2 RB	T2 RA	T2 RR	T2 RC	T2 RD	T2 RO	T2 PPD	T2 PD	
PPB	---																				
PB	.05	---																			
RB	-.04	-.31*	---																		
RA	-.15	.25	.25	---																	
RR	.02	-.29	.21	-.19	---																
RC	-.04	-.21	.54**	.34*	.82**	---															
RD	.12	.69**	-.20	.33*	-.31*	-.13	---														
RO	-.46**	.12	.02	-.14	-.18	-.23	.06	---													
PPD	.25	.15	-.21	-.05	-.17	-.21	.05	-.14	---												
PD	.07	.29	-.03	-.04	-.15	-.18	.09	.21	.15	---											
T2PPB	.45**	.003	-.13	-.15	-.03	-.10	.14	-.37*	.42**	-.12	---										
T2PB	.06	.58**	-.23	.09	-.13	-.16	.24	.05	.01	.34*	.06	---									
T2RB	.04	-.04	.30*	.15	.24	.32*	-.13	.01	-.11	.01	.07	.12	---								
T2RA	-.13	.02	-.03	.18	.03	.10	-.09	.13	.07	.09	-.34*	.06	-.08	---							
T2RR	-.02	-.32*	.19	-.15	.48**	.40**	-.32*	-.07	.12	-.19	.03	-.36*	.32*	.22	---						
T2RC	-.11	-.18	.15	.03	.36*	.36*	-.27	.05	.09	-.06	-.19	-.15	.29	.73**	.81**	---					
T2RD	.23	.61**	-.27	.15	-.32*	-.25	.62**	.17	.31*	.03	.27	.30*	-.06	-.04	-.09	-.09	---				
T2RO	-.30*	.07	.15	-.04	.15	.13	.02	.31*	.01	.22	-.08	.16	-.002	.10	-.24	-.08	-.15	---			
T2PPD	.15	-.19	-.10	-.18	-.04	-.14	-.02	-.06	.42**	-.04	.69**	-.01	.02	-.08	.09	-.01	-.02	.12	---		
T2PD	.02	.24	-.04	-.10	-.10	-.07	.12	.02	-.08	.21	.13	.63**	-.02	-.07	-.22	-.18	.19	.16	.17	---	

Note. ** indicates correlation is significant at the .01 level; * indicates correlation is significant at the .05 level

PPB= Perceived peer attitudes toward bullying; **PB**= Personal attitudes toward bullying; **RB**= Participant Role Questionnaire, Bully subscale; **RA**= Participant Role Questionnaire, Assistant subscale; **RR**= Participant Role Questionnaire, Reinforcer subscale; **RC**= Participant Role Questionnaire, Bully Composite subscale, **RD**= Participant Role Questionnaire, Defender subscale; **RO**= Participant Role Questionnaire, Outsider subscale; **PPD**= Perceived peer attitudes toward drug use; **PD**= Personal attitudes toward drug use; **T2PPB**= Time 2 Perceived peer attitudes toward bullying; **T2PB**= Time 2 Personal attitudes toward bullying; **T2RB**= Time 2 Participant Role Questionnaire, Bully subscale; **T2RA**= Time 2 Participant Role Questionnaire, Assistant subscale; **T2RR**= Time 2 Participant Role Questionnaire, Reinforcer subscale; **T2RC**= Time 2 Participant Role Questionnaire, Bully Composite subscale, **T2RD**= Time 2 Participant Role Questionnaire, Defender subscale; **T2RO**= Time 2 Participant Role Questionnaire, Outsider subscale; **T2PPD**= Time 2 Perceived peer attitudes toward drug use; **T2PD**= Time 2 Personal attitudes toward drug use

Table 12

H2 MANCOVA: Perceived Peer and Personal Attitudes toward Bullying Descriptives

		Mean	Standard Deviation
Perceived Peer Attitudes Difference Score	Experimental	.41	.66
	Control 1	.25	.48
	Control 2	-.005	.44
	Control 3	.10	.61
Personal Attitudes Difference Score	Experimental	.07	.33
	Control 1	.08	.35
	Control 2	.07	.35
	Control 3	.13	.37

Experimental= Bullying Attitudes: Personalized Normative Feedback, **Control 1**= Bullying Attitudes: General Normative Feedback, **Control 2**= Bullying Attitudes: No Normative Feedback, **Control 3**= Drug Use Attitudes: Personalized Normative Feedback

Table 13

H2 MANCOVA: Perceived Peer and Personal Attitudes toward Bullying

	F	p	η^2
Perceived Peer Attitudes Difference Score	4.95	.003	.08
Personal Attitudes Difference Score	.22	.88	.004

Table 14
H3 MANCOVA: Participant Role Descriptives

		Mean	Standard Deviation
Bully Composite Difference Score	Experimental	-.02	.07
	Control 1	-.01	.06
	Control 2	-.01	.06
	Control 3	-.03	.06
Defender Difference Score	Experimental	.10	2.09
	Control 1	.50	1.17
	Control 2	.57	1.28
	Control 3	.17	1.41
Outsider Difference Score	Experimental	-.05	1.91
	Control 1	.24	1.68
	Control 2	-.32	2.45
	Control 3	-.41	2.12

Experimental= Bullying Attitudes: Personalized Normative Feedback, **Control 1**= Bullying Attitudes: General Normative Feedback, **Control 2**= Bullying Attitudes: No Normative Feedback, **Control 3**= Drug Use Attitudes: Personalized Normative Feedback

Table 15
H3 MANCOVA: Participant Roles

	F	p	η^2
Bully Composite Difference Score	.94	.42	.02
Defender Difference Score	1.37	.25	.03
Outsider Difference Score	.71	.55	.01

Table 16

*H2 Manipulation Check MANCOVA:
Perceived Peer and Personal Attitudes toward Bullying Descriptives*

		Mean	Standard Deviation
Perceived Peer Attitudes Difference Score	Experimental	.47	.64
	Control 1	.27	.47
	Control 2	-.04	.45
	Control 3	.09	.62
Personal Attitudes Difference Score	Experimental	.09	.32
	Control 1	.09	.36
	Control 2	.05	.35
	Control 3	.11	.37

Note. Data reflects only those participants who scored a 1 or 2 on the manipulation check

Experimental= Bullying Attitudes: Personalized Normative Feedback, **Control 1**= Bullying Attitudes: General Normative Feedback, **Control 2**= Bullying Attitudes: No Normative Feedback, **Control 3**= Drug Use Attitudes: Personalized Normative Feedback

Table 17

*H2 Manipulation Check MANCOVA:
Perceived Peer and Personal Attitudes toward Bullying*

	F	p	η^2
Perceived Peer Attitudes Difference Score	6.56	.000	.12
Personal Attitudes Difference Score	.14	.94	.003

Note. Data reflects only those participants who scored a 1 or 2 on the manipulation check

Table 18
Major Anticipated Peer Reaction Themes

Positive Response	Mixed Response	Negative Response	Neutral Response
Subtheme: Assist the subject		Subtheme: Target the subject	
[They would] help the victim as well or go with me to the teacher	Some might say that I did a good thing, [but] some might disagree because they are friends with the bully	They would say I'm a snitch and pick on me for the rest of the school year	They wouldn't react
Subtheme: Support the subject		Subtheme: Displeasure with subject	
[They would] be happy I stopped the bullying and am sticking up for the person		[They would] be mad [because] they want the fight to be longer Some people would start not liking me because they don't think you should get in their business	They would stand and watch too

APPENDIX A

Perceived Peer and Personal Attitudes toward Bullying

Instructions: Please rate the extent to which you agree with each statement. Also, please rate the extent to which you think most other kids in your grade agree with each statement.

1A. I THINK that kids who get picked on a lot usually deserve it.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1B. MOST KIDS IN MY GRADE THINK that kids who get picked on a lot usually deserve it.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2A. I LIKE it when someone sticks up for kids who are being bullied.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2B. MOST KIDS IN MY GRADE LIKE it when someone sticks up for kids who are being bullied.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3A. I FEEL bad when I see another student being bullied.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3B. MOST KIDS IN MY GRADE FEEL bad when they see another student being bullied.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4A. I RESPECT kids who try to stop bullying.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4B. MOST KIDS IN MY GRADE RESPECT kids who try to stop bullying.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5A. I THINK that when a bully is picking on somebody, it's alright to stand there and watch.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5B. MOST KIDS IN MY GRADE THINK that when a bully is picking on somebody, it's alright to stand there and watch.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6A. I THINK it can be funny to see people being picked on.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6B. MOST KIDS IN MY GRADE THINK it can be funny to see people being picked on.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7A. I THINK students should NOT try to stop other kids from bullying. They should mind their own business.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7B. MOST KIDS IN MY GRADE THINK students should NOT try to stop other kids from bullying. They should mind their own business.

Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8A. I THINK it is a good idea for kids to tell an adult when they see a classmate get bullied.

Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8B. MOST KIDS IN MY GRADE THINK it is a good idea for kids to tell an adult when they see a classmate get bullied.

Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9A. I THINK that bullying ANY kid is wrong, even kids I don't like.

Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9B. MOST KIDS IN MY GRADE THINK that bullying ANY kid is wrong, even kids they don't like.

Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10A. I THINK that when a kid is getting picked on, other kids should try to stop it.

Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10B. MOST KIDS IN MY GRADE THINK that when a kid is getting picked on, other kids should try to stop it.

Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX B

Participant Role Questionnaire

Instructions: Please answer the following question. Imagine that bullying were to occur at your school tomorrow. How likely are you to do each of the following?

1= Not at all likely 2= Somewhat likely 3= Very likely

Start the bullying	1	2	3
Miss the whole thing (not be there when the bullying occurs)	1	2	3
Join in the bullying if someone else has started it	1	2	3
Comfort the victim or encourage him/her to tell the teacher about the bullying	1	2	3
Come around to watch the situation	1	2	3
Get others to join in the bullying	1	2	3
Stay outside the situation	1	2	3
Tell the others to stop bullying	1	2	3
Gang up on the victim with the bully	1	2	3
Don't take sides with anyone	1	2	3
Laugh at people getting bullied	1	2	3
Think of new ways to pick on the victim	1	2	3
Do nothing and wait until the bullying stops	1	2	3
Try to make the others stop bullying	1	2	3
Catch or hold the victim to help the bully	1	2	3
Encourage the bully by shouting or saying things to the bully like "show him!"	1	2	3
Ignore the bullying	1	2	3

APPENDIX C

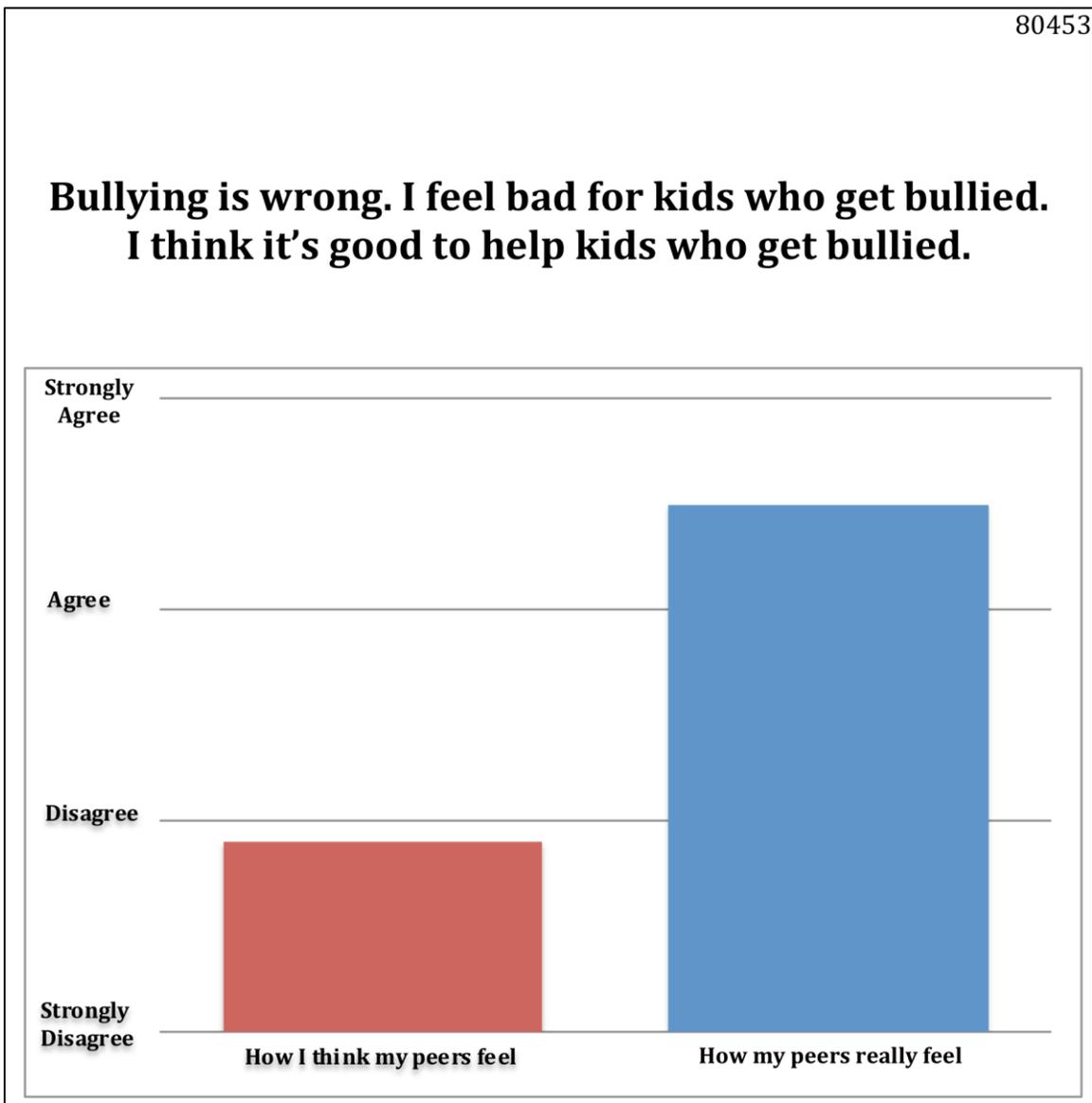
Perceived Peer Disapproval (Attitudes toward Drug Use)

Instructions: Please rate the extent to which you agree with each statement. Also, please rate the extent to which you think most other kids in your grade agree with each statement.

1A. I THINK smoking cigarettes is a bad thing to do.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1B. MOST KIDS IN MY GRADE THINK smoking cigarettes is a bad thing to do.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2A. I THINK drinking alcohol (beer, wine, liquor) is a bad thing to do.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2B. MOST KIDS IN MY GRADE THINK drinking alcohol (beer, wine, liquor) is a bad thing to do.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3A. I THINK smoking marijuana (grass, pot, hash) is a bad thing to do.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3B. MOST KIDS IN MY GRADE THINK smoking marijuana (grass, pot, hash) is a bad thing to do.			
Strongly Disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX D

Experimental Condition Feedback
“Bullying Attitudes: Personalized Normative Feedback” (Sample)



APPENDIX E

Experimental Condition Script “Bullying Attitudes: Personalized Normative Feedback”

“Last month, you and your classmates filled out several rating forms. Some of them were about bullying and some of them were about drug use. Do you remember that? Ok, good. I put some of the information from those answers into a chart, but before we look at it, I want you to read the following statement out loud.”

Bullying is wrong. I feel bad for kids who get bullied. I think other kids should try to help kids who get bullied.

“Ok. Now look at this chart. The red shows how much you think your peers agree with the statement you just read. The blue shows how much your peers actually agree with this statement. So you thought your peers would agree this much [use finger to indicate the top of the red bar and where it falls on the y-axis scale], but they actually agreed this much [use finger to indicate the top of the blue bar and where it falls on the y-axis scale].”

“Now that we’ve reviewed the chart, did your peers agree with this statement more or less than you thought they would?”

If correct: Move on to complete the measures.

If incorrect (or if correct, but they seem unsure): Explain again using similar language and gestures, but verbalize the y-axis values (e.g., “Since the red bar falls just under the disagree line, this means you thought your peers would disagree with this statement. But the blue bar crosses this agree line and is moving toward the strongly agree line, which means they actually agree pretty strongly with this statement.”)

“So if we look at this again, did your peers agree with this statement more or less than you thought they would?”

If correct: Move on to complete the measures.

If incorrect (or if correct, but they seem unsure): Explain the graph in your own words, and try to ensure that they understand it before moving forward.

Next to the graph, write their score on the manipulation check.

1= Responded correctly and confidently

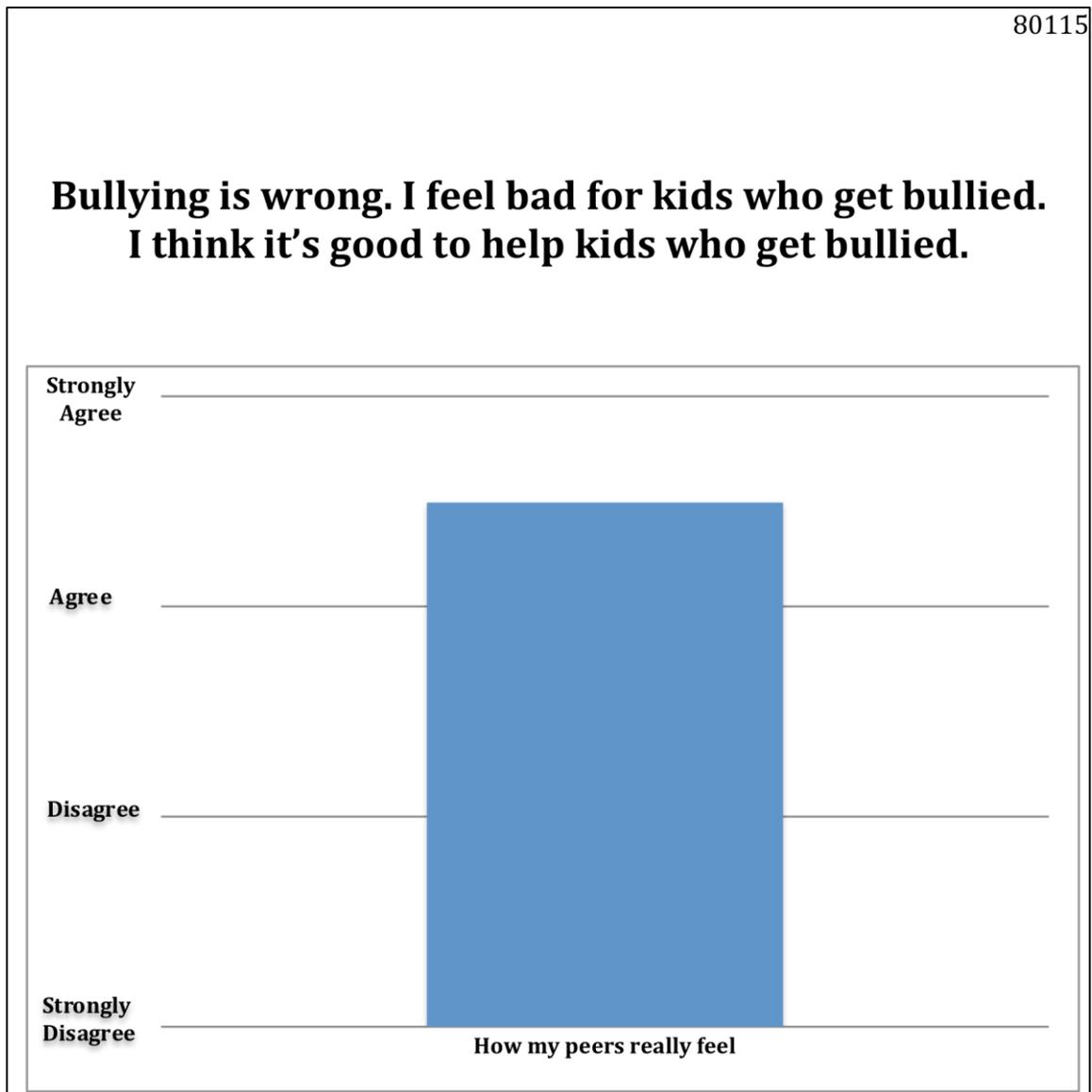
2= Responded incorrectly or seemed unsure; provided more detailed explanation

3= Responded incorrectly or seemed unsure after more detailed explanation; used own words

4= Never seemed to understand what the graph depicted

APPENDIX F

Control Condition 1 Feedback
“Bullying Attitudes: General Normative Feedback” (Sample)



APPENDIX G

Control Condition 1 Script “Bullying Attitudes: General Normative Feedback”

“Last month, you and your classmates filled out several rating forms. Some of them were about bullying and some of them were about drug use. Do you remember that? Ok, good. I put some of the information from those answers into a chart, but before we look at it, I want you to read the following statement out loud.”

Bullying is wrong. I feel bad for kids who get bullied. I think other kids should try to help kids who get bullied.

“Ok. Now look at this chart. The blue shows how much your peers agree with the statement you just read. So they agreed this much [use finger to indicate the top of the blue bar and where it falls on the y-axis scale].”

“Now that we’ve reviewed the chart, tell me how much your peers agreed with this statement.”

If correct: Move on to complete the measures.

If incorrect (or if correct, but they seem unsure): Explain again using similar language and gestures, but verbalize the y-axis values (e.g., “Since the blue bar crosses this agree line and is moving toward the strongly agree line, this means that your peers agree pretty strongly with this statement.”)

“So if we look at this again, tell me how much your peers agreed with this statement.”

If correct: Move on to complete the measures.

If incorrect (or if correct, but they seem unsure): Explain the graph in your own words, and try to ensure that they understand it before moving forward.

Next to the graph, write their score on the manipulation check.

1= Responded correctly and confidently

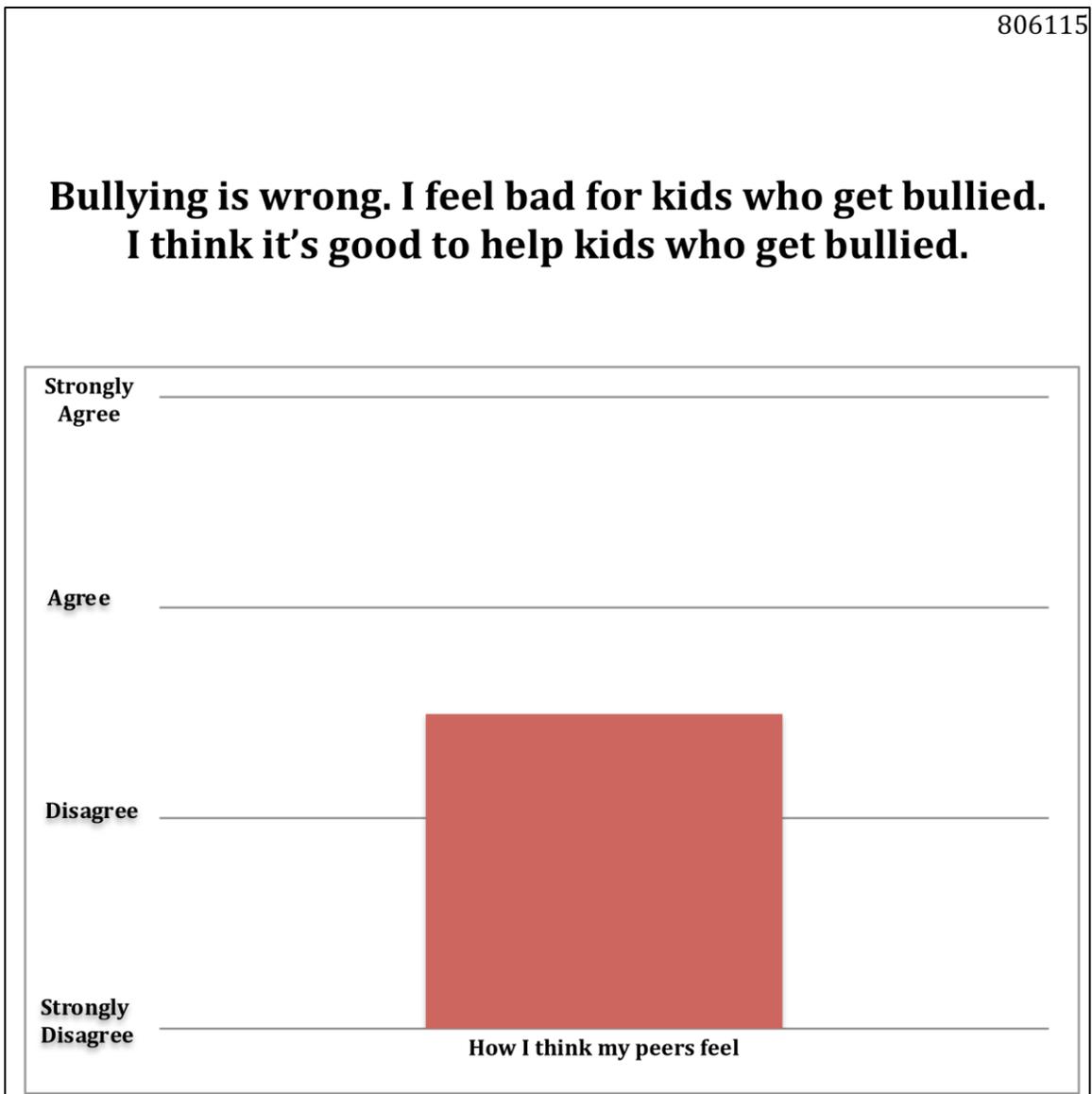
2= Responded incorrectly or seemed unsure; provided more detailed explanation

3= Responded incorrectly or seemed unsure after more detailed explanation; used own words

4= Never seemed to understand what the graph depicted

APPENDIX H

Control Condition 2 Feedback
“Bullying Attitudes: No Normative Feedback” (Sample)



APPENDIX I

Control Condition 2 Script “Bullying Attitudes: No Normative Feedback”

“Last month, you and your classmates filled out several rating forms. Some of them were about bullying and some of them were about drug use. Do you remember that? Ok, good. I put some of the information from those answers into a chart, but before we look at it, I want you to read the following statement out loud.”

Bullying is wrong. I feel bad for kids who get bullied. I think other kids should try to help kids who get bullied.

“Ok. Now look at this chart. The red shows how much you thought your peers would agree with the statement you just read. So you thought your peers would agree this much [use finger to indicate the top of the red bar and where it falls on the y-axis scale].”

“Now that we’ve reviewed the chart, does this bar show how much your peers *actually* agreed with this statement or how much you *thought* your peers would agree with this statement?”

**** Make sure they understand this graph does not show how their peers actually feel. It shows how they thought their peers would feel. ****

Then: “Tell me how much you thought your peers would agree with this statement.” (Ask this follow-up question only after they have answered the first question correctly, even if that means you do not ask this follow-up question until stage 2 or 3 of the manipulation check).

If correct: Move on to complete the measures.

If incorrect (or if correct, but they seem unsure): Explain again using similar language and gestures, but verbalize the y-axis values (e.g., “Since the red bar falls between the disagree and agree lines, this means you thought your peers would have mixed feelings. You thought they would sometimes agree with this statement, but you also thought they would sometimes disagree with this statement.”

“So if we look at this again, does this bar show how much your peers *actually* agreed with this statement or how much you *thought* your peers would agree with this statement?”

**** Make sure they understand this graph does not show how their peers actually feel. It shows how they thought their peers would feel. ****

Then: “Tell me how much you thought your peers would agree with this statement.” (Ask this follow-up question only after they have answered the first question correctly, even if that means you do not ask this follow-up question until stage 3 of the manipulation check).

If correct: Move on to complete the measures.

If incorrect (or if correct, but they seem unsure): Explain the graph in your own words, and try to ensure that they understand it before moving forward.

Next to the graph, write their score on the manipulation check.

1= Responded correctly and confidently

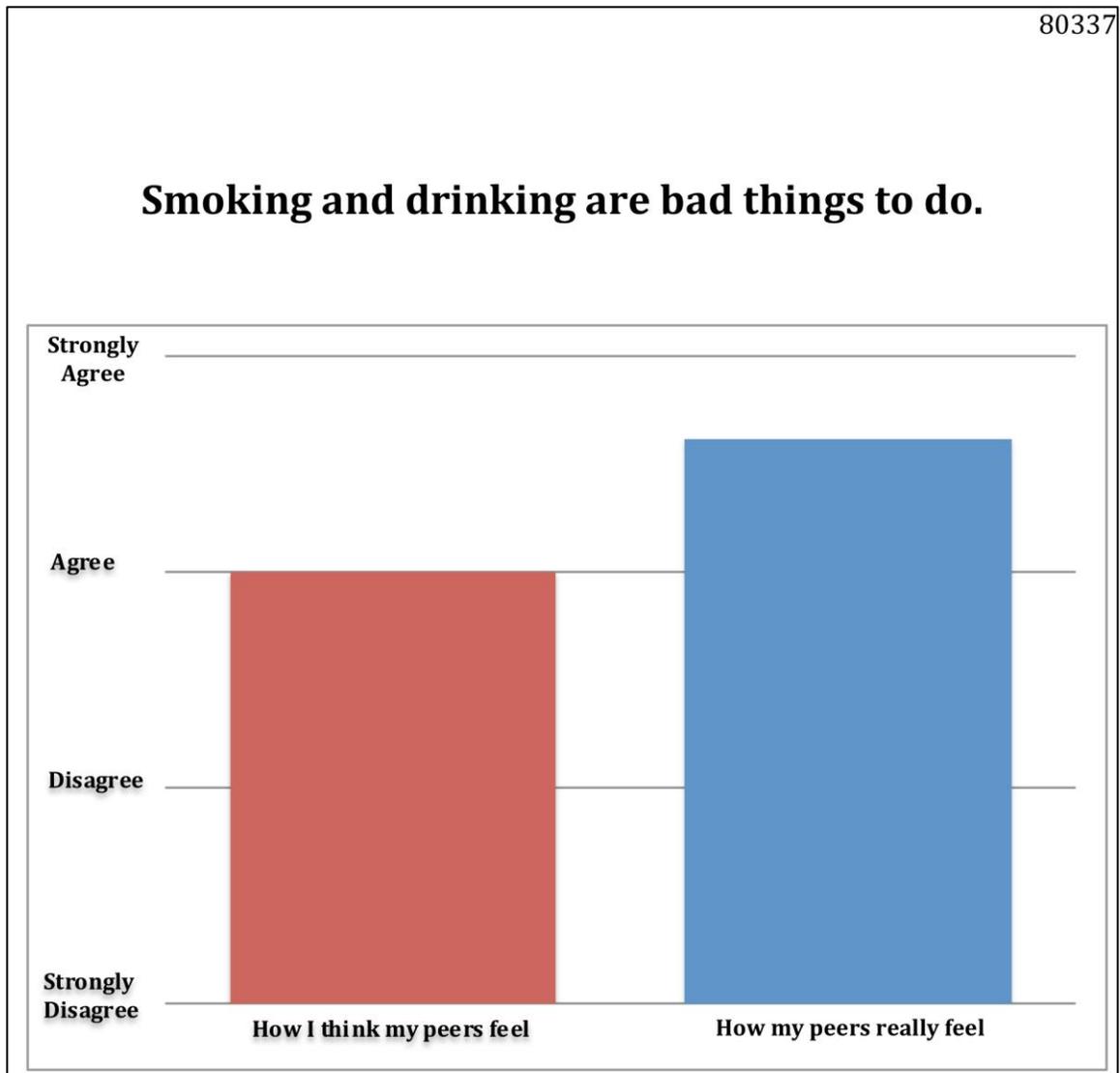
2= Responded incorrectly or seemed unsure; provided more detailed explanation

3= Responded incorrectly or seemed unsure after more detailed explanation; used own words

4= Never seemed to understand what the graph depicted

APPENDIX J

Control Condition 3 Feedback
“Drug Use Attitudes: Personalized Normative Feedback” (Sample)



APPENDIX K

Control Condition 3 Script “Drug Use Attitudes: Personalized Normative Feedback”

“Last month, you and your classmates filled out several rating forms. Some of them were about bullying and some of them were about drug use. Do you remember that? Ok, good. I put some of the information from your answers into a chart, but before we look at it, I want you to read the following statement out loud.”

Smoking and drinking are bad things to do.

“Ok. Now look at this chart. The red shows how much you think your peers agree with the statement you just read. The blue shows how much your peers actually agree with this statement. So you thought your peers would agree this much [use finger to indicate the top of the red bar and where it falls on the y-axis scale], but they actually agreed this much [use finger to indicate the top of the blue bar and where it falls on the y-axis scale].”

“Now that we’ve reviewed the chart, did your peers agree with this statement more or less than you thought they would?”

If correct: Move on to complete the measures.

If incorrect (or if correct, but they seem unsure): Explain again using similar language and gestures, but verbalize the y-axis values (e.g., “Since the red bar falls exactly at the agree line, this means you thought your peers would just agree with this statement. But the blue bar crosses this agree line and is moving toward the strongly agree line, which means they actually agree pretty strongly with this statement.”

“So if we look at this again, did your peers agree with this statement more or less than you thought they would?”

If correct: Move on to complete the measures.

If incorrect (or if correct, but they seem unsure): Explain the graph in your own words, and try to ensure that they understand it before moving forward.

Next to the graph, write their score on the manipulation check.

1= Responded correctly and confidently

2= Responded incorrectly or seemed unsure; provided more detailed explanation

3= Responded incorrectly or seemed unsure after more detailed explanation; used own words

4= Never seemed to understand what the graph depicted

APPENDIX L

Group Belonging Follow-Up

Do you think that you and your peers agree about bullying?

Turn to the first page of the “Perceived Peer and Personal Attitudes toward Bullying” measure:
I want to know if you think your ratings were different today than they were the last time you filled out this form.

First, I want you to focus on how you feel about these statements (part A). Do you think your ratings changed or stayed the same? If they changed, how so?

Now, I want you to focus on how you think your peers feel about these statements (part B). Do you think your ratings changed or stayed the same? If they changed, how so?

Why do you think your ratings changed/stayed the same?

APPENDIX M

Bystander Behavior and Anticipated Peer Response Follow-Up

If a bullying incident happened tomorrow, what do you think you would do?

How do you think your peers would react?

APPENDIX N

IRB Approval Certificate



March 25, 2016

Casey Dillon
Department of Psychology
College of Arts & Sciences
Box 870348

Re: IRB# 15-002-R1
"Examining the Impact of Correcting for Norm Misperception on Bullying and Bystander Behavior"

Dear Ms. Dillon:

The University of Alabama Non-Medical IRB recently met to consider your renewal application. The IRB voted to approve your protocol for a one year period.

Your application will expire on March 24, 2017. If your research will continue beyond this date, complete the IRB Renewal Application by the 15th of the month prior to project expiration. If you need to modify the study, please submit the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the IRB Study Closure Form.

Should you need to submit any further correspondence regarding this application, please include the above application number.

Good luck with your research.

Sincerely,



Stuart Usdan, PhD
Chair, Non-Medical Institutional Review Board