The Role of Perceived Victimization, Emotions, and Context on Causal Attribution

By

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Keywords: social information processing, peer victimization, emotions, social context, causal attributions

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Abstract

This study examined the effects that context, peer victimization history, and emotion have on causal attributions. A mediational model was tested that attempts to describe how peer victimization affects causal attributions through emotion. This study included 170 fifth and eighth-grade children ranging from 10 to 15 years of age (M= 11.64, SD= 1.79). Attributions were shown to vary by social context, as were emotions. Causal attributions varied across context for both highly-victimized and non-victimized children. Additionally, feeling like crying was shown to mediate the relationship between peer blame and both characterological and behavioral self-blame attributions in private. Possible explanations and implications of the findings are discussed as well as future directions.

Keywords: social information processing, peer victimization, emotions, social context, causal attributions

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The Role of Perceived Victimization, Emotions, and Context on Causal Attribution
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Perceived Victimization, Emotions, and Context Influence Causal Attribution

Each day, children are presented with dozens of social cues and social situations
they are required to process, and how children process this information has been
extensively researched for the past couple of decades using social information processing
(SIP) theory (Crick & Dodge, 1994). This theory suggests that when presented with new
or challenging social situations, children must first encode and interpret the available
cues. Using those cues, children then determine a desired outcome and examine possible
response options based on their prior experiences. Finally, children determine which of
those response options has the best expected outcome, and then they enact that response.
At the core of this model is the database, consisting of prior knowledge, schemas, and
experiences, which influences the outcome every stage of SIP.

Utilizing this model, research has consistently found links between attributions and psychosocial adjustment (Berckman & Austin, 1993; Lowery, Jacobsen, & Ducette, 1993; McGee, Wolfe, & Olson, 2001), as well as attributions and aggression (Dodge & Frame, 1982; Dodge, Price, Bachorowski, & Newman, 1990; Dodge & Somberg, 1987). For example, Crick and Dodge (1996) demonstrated that hostile attribution biases are more prominent in children who exhibit reactive aggression behaviors. While this model has had some success, several studies suggest that emotion plays an important role in SIP (Crick & Ladd, 1993; Dodge & Somberg, 1987). Based on these findings, Lemerise and Arsenio (2000) proposed a reformulated model that incorporates emotional valence into each step of SIP to help account for differences in children's social information processing. Guided by this model, there is some evidence to suggest that emotion

moderates the relationship between sociometric status (accepted, rejected, aggressive) and attributions about social situations (Harper, Lemerise, & Caverly, 2010).

To date, most SIP research has focused on aggression, but SIP could be useful in understanding how victimized children process social situations (Graham & Juvonen, 1998). If victimized children have processing patterns that are markedly different from other children, those patterns could be a driving factor in maintaining their status as victims. Therefore, it is important how perceived victimization relates to children's SIP because extensive research has found that peer victimization can lead to pervasive negative effects on children's psychosocial adjustment. For example, academic achievement (Nakamoto & Schwartz, 2010), psychosomatic problems (Gini & Pozzoli, 2013), loneliness, anxiety, and depression (Hawker & Boulton, 2000; Reijntjes, Kamphuis, Prinzie, & Telch, 2010), and even school shootings (Verlinden, Hersen, & Thomas, 2000) have all been linked to peer victimization. However, while there is extensive research on the psychosocial outcomes related to peer victimization, less is known about how victims process social information.

Utilizing SIP theory, the current study aims to examine the relationship between perceived peer victimization, anticipated emotions, social context, and causal attributions. The attributions investigated are causal in nature, and include characterological self-blame (e.g., "I'm bullied because I'm ugly"), behavioral self-blame (e.g., "I'm bullied because of something I did"), and peer-blaming (e.g., "I'm bullied because this is a tough school") attributions. Additionally, there will be a focus on whether children's attributions and anticipated emotions vary based upon the social context of peer victimization. Independently, several studies have linked peer victimization to

characterological self-blame attributions (Graham & Juvonen, 1998; Harper, 2012; Vanhalst et al., 2015) and emotions to attributions, (Harper et al., 2010; Quiggle, Garber, Panak, & Dodge, 1992; Smith, Haynes, Lazarus, & Pope, 1993). However, to date, most SIP research has focused on childhood aggression and rejected children, but it stands to reason that victimized children may have characteristic SIP patterns as well. What remains unclear, however, is how the social context surrounding an event influences the attributions. This study aims to investigate both how context affects attributions and how that effect may vary based on prior victimization history and emotions.

Social Information Processing and Peer Victimization

At the heart of SIP theory lies the database that children carry with them into every social situation. This database grows and is developed based upon all previous social interactions children have had. It is theorized that this database colors children's decisions at each step of SIP (Crick & Dodge, 1994). Of particular interests to the current research is how this data base influences children's attributions about why an event occurred. During the attribution stage of SIP, two there are two types of attributions that occur: causal attributions ("The event occurred because I'm worthless") and intent attributions ("The peer was just joking"; Crick & Dodge, 1994).

In tangentially related research, intent attributions have been explored extensively with regards to hostile attribution bias (HAB; Crick & Dodge, 1996; Dodge & Frame, 1982; Dodge & Somberg, 1987; Quiggle et al., 1992). HAB is a bias that typically exists in aggressive children (Dodge & Frame, 1982) where individuals tend to perceive others' actions as hostile more often than others. This bias occurs in situations where other's intentions are ambiguous (Crick & Dodge, 1996; Dodge & Frame, 1982; Dodge &

Somberg, 1987), as well as in scenarios where the child was not necessarily present at the time the actions occurred (Crick & Dodge, 1996; Dodge & Frame, 1982). While this bias is not directly linked to peer victimization, it provides some logical support for the existence of attributional biases existing in outlier populations such as victimized children. Therefore, the current study seeks to explore the possibility of a victimization bias by experimentally manipulating the context of discrete episodes of peer victimization.

Social Information Processing and Emotion

The SIP model Lemerise and Arsenio (2000) proposed integrated emotion as an underlying filter between the individual's schemas and the stages of SIP. As such, different emotions could be described as different interpretive filters the individual's schemas go through before being applied to a stage of SIP, limiting the available schemas depending on the emotions experienced. For example, SIP theory suggests that if an individual were happy, the schemas they would access for an ambiguous situation would be positive in nature. Indeed, several studies provide support for the expectation that emotion influences SIP. For example, Quiggle et al. (1992) demonstrated that both aggressive children and depressed children have HAB, but the depressed children were more likely to make characterological self-blame attributions. While their study did not examine emotion specifically, a key component of depression is pervasive negative affect. Furthermore, Harper et al. (2010) showed that inducing a positive or negative mood could influence goal orientation (stage 3 of SIP) in participants. Additionally, Smith et al. (1993) demonstrated that attributions are closely related to emotions. Their study examined the attributions and emotions about a past event and showed a strong

relationship between them. However, while they propose that attributions give rise to emotions, they also note that this temporal order is not definite due to the lack of experimental control. By applying their findings to the integrated SIP model of Lemerise and Arsenio (2000), it is equally plausible that emotions precede and influence attributions. Therefore, this study aims to examine the effect that emotion has on attribution and whether this relationship is influenced by context of peer victimization.

Social Information Processing and Social Context

In terms of peer victimization research, social context has received little to no attention. However, there are two reasons to believe the social context in which peer victimization occurs has a significant impact on SIP. Theoretically, this hypothesis holds merit in the fact that different social contexts would provide different cues to encode and interpret in the early stages of SIP. Following SIP theory, different encoded cues would elicit different social schemas to be retrieved from the database. Logically, if stage 1 of SIP is different based on social context, the rest of the SIP process should follow accordingly or stage one becomes superfluous.

Tangentially, there is empirical support for social context altering perception in the form of emotion. Several studies (Hassin, Aviezer, & Bentin, 2013; Marian & Shimamura, 2012; Ngo & Isaacowitz, 2015; for further review, see Barrett et al., 2011) have demonstrated that the context in which a subject is placed can influence the perception of an emotion. Of particular interest, Grob, Dijkstra, & de Groot (2011) showed that various social contexts (public vs private) elicited different self-evaluative emotions while engaging in health risk behaviors. Specifically, the expression of self-evaluative emotions reflected the social context such that public context induced public

emotions (e.g., embarrassment) and private context induced private emotions (e.g., guilt). This finding seems complimentary to the hypothesis that different social contexts will lead to differing causal attributions, as the link between emotion and attribution has already been established. While the empirical evidence is tangential to the hypothesis of this study, when combined with the well-supported SIP theory, the expectation that social context will influence subsequent attributions seems to be soundly supported. Therefore, this study aims to explore relationship between social context and attribution.

Present Study

Previous research has shown that causal attributions can be affected by levels of perceived peer victimization (Graham & Juvonen, 1998; Harper, 2012; Vanhalst et al., 2015) and emotion (Harper et al., 2010; Lemerise & Arsenio, 2000; Quiggle et al., 1992; Smith et al., 1993). Based on these findings, we expect to find a similar increase in characterological self-blame attributions for participants with a prior history of victimization, as well as for those who expect to experience higher levels of negative emotions.

The combination of prior research and SIP theory suggests that there is a link between the social context in which peer victimization occurs and the resulting causal attributions. To date, research on SIP and victimization has been conducted using peer victimization in public contexts, and we therefore expect to find an association between victimization in a public context and levels of characterological self-blame, behavioral self-blame, and other-blaming attributions, as is consistent with previous studies. However, the aim of this study is to move beyond the public setting and explore the

effect that varying the context has on the resultant attributions. As such, we expect that context will be related to attributions.

In the public context, we anticipate children will endorse higher predicted levels of feeling down, helpless, and wanting to cry. With the additional observers present in the public context, it stands to reason that these emotions will be higher due to the increased social pressure. Further, we believe that these elevated emotions will be associated with an increase in the characterological and behavioral self-blame attributions that children endorse. Salovey (1992) showed that a negative mood causes self-focused attention, and we expect that self-focused attention will result in an increased rate of self-blame attributions.

Conversely, we hypothesize that the private context will result in children predicting higher levels of feeling afraid, mad, furious, and okay. We expect the isolated nature of the private context to elicit a more intense fear response, as well as more directed anger due to the readily identified antagonist. Because of their potential external focus, we anticipate these emotions will contribute to an increase in peer-blame attributions.

For children who have been highly victimized, that history of victimization may provide a template for processing other victimization events. We predict the attributions of children with minimal or no history of being victimized to vary across contexts, while the attributions of their bullied peers will not. As hostile attribution bias has shown, outlier populations can exhibit different patterns of responding based on their experiences. Therefore, we expect that highly-victimized children may exhibit a stable pattern of responding. As the consistent link between a history of peer victimization and

characterological self-blame (Graham & Juvonen, 1998; Harper, 2012; Vanhalst et al., 2015) is well established, we expect levels of characterological self-blame attributions to be maintained across contexts for the children who report higher levels of perceived peer victimization.

Finally, we hypothesize that the relationship between victimization history and attributions will be mediated by emotions. For children with a history of prior peer victimization, we anticipate higher levels of feeling down, helpless, feeling like crying, and fearfulness than their non-victimized peers across both contexts, which we then anticipate will lead to increases in both characterological and behavioral self-blame across both contexts.

Methods

Participants

For this study, 170 students (58.2% female) from six fifth and five eighth grade classes were surveyed during the spring term. Participants were selected from a small southern town, and their socio-economic statuses ranged from lower to upper middle class. The children's ages ranged from 10 to 15 (M= 11.71 , SD= 1.55). Participants were 60.8% Caucasian, 28.7% African American, and 8.8% Other.

Materials

Attribution Questionnaire. Developed by Graham and Juvonen (1998), this questionnaire was used to assess participant's attributions about peer victimization scenarios. Two scenarios were read to the participants. One case of peer victimization took place in a crowded hallway between classes (public), and the other peer victimization scenario was set in an empty locker room after class (private). Both

scenarios described the victimization as happening to the participant (For scenarios, see appendix A). After each scenario, participants were asked to respond to 16 questions with their level of agreement on a 5-point Likert-type scale. These questions measured characterological self-blame, behavioral self-blame, and external/other blame.

Participants also responded to 6 questions about the level of expected negative emotion (mad, down, fearful, feeling like crying, helpless, and furious) they expected to experience during each scenario using the same 5-point Likert-type scale. A neutral emotion, "ok," was also included using the same 5-point scale.

Social Experiences Questionnaire (SEQ). Perceived peer victimization frequency was measured using the SEQ, a 15 item assessment developed by Grotpeter and Crick (1996). The measure consists of 5 items measuring relational aggression, 5 items measuring overt aggression, and 5 items measuring frequency of receiving pro-social behavior. The 5 pro-social questions were "positively toned [sic] filler questions" (Grotpeter & Crick, 1996). Items are phrased as comparisons, and participants were then asked to endorse one of the two conditions as either "sort of true" or "really true". For example, the second question says, "Some kids often are left out on purpose when it is time to play or do an activity, but other kids are often not left out on purpose when it is time to play or do an activity." For this question, a victim of relational aggression might endorse the first condition as "really true". Item scores range from 1 to 4, with a maximum sore of 20 on each scale. Participants were grouped using a median-split, as well as using +/- 1 standard deviation to create an extreme-split.

Procedures

Children were recruited from 5th and 8th grade classes in public schools in a small southern town. An in-class presentation outlining the consent form was given to each class by research assistants. Parental consent forms were then sent home with the students, and children who returned signed consent forms were allowed to select a small prize as an incentive. The total value of prizes per class was approximately ten dollars. The children's assent was obtained prior to conducting the administration of the measures.

Teams of five research assistants were sent to each class to administer the measures. On average, there were 20 students per class, so they were divided into four small groups of five. One research assistant supervised the administration of the measures to the entire class, while the remaining assistants ensured the progress and quality of the administration for each small group. After the questionnaires were completed, the children were debriefed and given the opportunity to ask any questions they may have had about the study.

Results

The Relationship between Context and Causal Attributions

To examine our hypothesis that causal attributions would be different in public versus private contexts, we used a repeated-measures t-test for each of the three attributions. A significant difference was found between public (M=2.897, SD=.987) and private (M=2.653, SD=1.117) characterological self-blame attributions (t(161)=3.84, p= .0002). There was also a significant difference between public (M=2.875, SD=1.04) and private (M=2.653, SD=1.166) behavioral self-blame attributions (t(161)=2.21, p=.0285).

Peer-blame attributions (t(161)=2.2, p=.0289) were also higher in the public context (M=3.57, SD=.836) than in private (M=3.43, SD=.966). Consistent with our hypothesis, the public context elicited significantly higher levels of characterological self-blame, behavioral self-blame, and peer-blame attributions.

The Relationship between Peer Victimization and Attribution across Contexts

Our hypothesis that the attributions of peer-victimized children would not differ across context was analyzed using a set of repeated-measures t-tests. Participants were grouped using a median split (median= 2.4), as well as a \pm 1SD (\pm 0.725) split. For the participants with perceived peer victimization scores above the median, characterological self-blame (t(78)=2.4, p=.0189) and peer-blame (t(78)=2.46, p=.0159) were significantly higher in the public context. Behavioral self-blame (t(78)=1.93, p=.0572) did not significantly differ across contexts. Participants below the median only significantly differed across context on characterological self-blame (t(82)=3.09, p=.0027). Behavioral self-blame (t(82)=1.13, p=.2636) and peer-blame (t(82)=.55, p=.5863) were not significantly different across contexts. For means and standard deviations, see table 1. Using a median-split, the results partially supported our hypothesis, as highly-victimized children's behavioral self-blame attributions were consistent across contexts, but their characterological and peer-blame attributions did vary contrary to our expectations.

Participants who had peer victimization scores greater than one standard deviation above the mean showed a significant difference across contexts for characterological self-blame (t(29)=2.56, p=.0158). However, the differences across contexts for behavioral self-blame (t(29)=1.01, p=.3231) and peer-blame (t(29)=1.81, p=.08) were not significant. Participants who were categorized as having perceived peer victimization less

than one standard deviation below the mean, however, varied for both characterological self-blame (t(31)= 3.25, p=.0028) and behavioral self-blame (t(31)= 2.59, p=.0145). Peer-blame attributions (t(31)=.85, p=.4007) was not significantly different across context. For means and standard deviations, see table 2. Using the ± 1 SD-split partially supported our hypothesis, as the highly-victimized children's characterological self-blame attributions were elevated in public, while behavioral self-blame and peer-blame attributions did not.

The Relationship between Emotion and Attribution

To test our predicted relationships between emotions and attributions, bivariate correlations were conducted between each causal attribution and each measured emotion (feeling down, feeling helpless, feeling like crying, feeling afraid, feeling mad, feeling furious, and feeling ok. In order to account for the anticipated changes among emotions across context, we assessed the correlations for each context separately. In the public setting, characterological self-blame, behavioral self-blame, and peer-blame were all associated with feeling down, feeling fear, feeling like crying, and feeling helpless (see table 3 for r values). Characterological self-blame was also associated with feeling mad (r=.153, p=.0479). In private, similar results were found. Characterological self-blame, behavioral self-blame, and peer-blame were all associated with feeling down, feeling fear, feeling like crying, and feeling helpless (see table 4 for r values). Notably, feeling mad was not significantly related to characterological self-blame (r=.0578, p=.4649), but was significantly related to peer-blame (r=.227, p=.0037). Feeling furious was related to both behavioral self-blame (r=.204, p=.0092) and peer-blame (r=.268, p=.0006). These results provide partial support for our hypothesis, as increased levels of feeling down,

helpless, and feeling like crying were all significantly related to increased characterological and behavioral self-blame attributions in both contexts. However, those emotions were also significantly related to increased peer-blame attributions. Further, depending on context, feeling mad was associated with elevations in both characterological self-blame and peer-blame. Finally, feeling furious was only significant in the private context, and though it was positively associated with peer-blame as anticipated, it was also significantly related to increased behavioral self-blame.

The Relationship Between Context and Emotion

We used a repeated-measures t-test to assess our hypothesis that public contexts would elicit higher levels of feeling down, feeling like crying, and feeling helpless, while feeling mad, furious, afraid, and okay would be higher in private. Feeling down was higher in public (M= 3.23, SD=1.39) than in private (M=3.04, SD=1.46; t(160)=2.4, p=.0174). Public levels of feeling helpless (M=2.73, SD=1.6) was also higher than in private (M=2.5, SD=1.46; t(158)=2.84, p=.0052). Feeling furious was significantly higher in private (M= 3.94, SD=1.35) than in public (M=2.02, SD=1.32; t(161)=-10.85, p<.0001). Feeling like crying, feeling mad, feeling afraid, and feeling okay were not significantly different across contexts (for all means, standard deviations, and t values, see table 5). These results provided partial support for our hypothesis, as feeling down and helpless were both elevated in the public context, though feeling like wanting to cry did not vary between contexts. Also, although feeling furious was higher in private as expected, feeling mad, afraid, and okay did not vary across contexts.

Emotion as a Mediator between Peer Victimization and Causal Attribution

Characterological Self-Blame. A preliminary analysis of the bivariate correlations between peer victimization, emotions, and characterological self-blame attributions (Table 3 for public, Table 4 for private) yielded one mediational model in need of further assessment. Peer victimization was associated with feeling like crying in public (r= .15, p= .0467) and private (r= .20, p= .0104), as well as characterological self-blame in public (r= .22, p= .0037) and private (r= .21, p= .0072). The proposed mediator, feeling like crying, was also associated with characterological self-blame in both public (r= .34, p<.0001) and private (r= .50, p<.0001).

Using the method laid out by Baron & Kenny, (1986) a series of regression analyses were conducted to test this mediational model in both contexts. For the public model, peer victimization was first regressed onto characterological self-blame (r^2 = .049, F(1, 166)= 8.68, p= .0036). Peer victimization was a significant predictor in this initial model (β = .304, p= .0037). A second and third regression analysis were used to demonstrate a relationship between peer victimization and feeling like crying (r^2 = .024, F(1, 165)= 4.01, p= .0467) and a relationship between feeling like crying and characterological self-blame (r^2 = .116, F(1, 165)= 21.71, p<.0001). A final regression tested the combined effect of peer victimization and feeling like crying on characterological self-blame (r^2 =.144, F(2, 164)= 13.76, p<.0001). In the mediational model, peer victimization was significant (β = .229, p= .0233). For β coefficients, standard errors, and their associated p-values, see table 6. The β -coefficient for peer victimization was reduced, though still significant, meeting the criteria for partial mediation; therefore, we conducted a Sobel test to compare the effect of peer

victimization to the effect of the mediated model on characterological self-blame. The results of the Sobel test were not significant (z=1.81, p=.0703), indicating that crying does not provide a substantial mediating effect in the public model.

Following the same procedure, we tested a mediational model in the private context. Our initial regression analysis demonstrated an effect of peer-victimization on characterological self-blame ($r^2 = .044$, F(1, 160)= 7.42, p = .0072). Peer victimization was a significant contributor to the model (β = .323, p= .0072). The subsequent analyses showed a relationship between peer victimization and feeling like crying ($r^2 = .041$, F(1, 157)= 6.72, p= .0104), as well as between feeling like crying and characterological selfblame attributions (r^2 = .25, F(1, 157)= 53.21, p<.0001). We conducted a final regression analysis to test the mediated model (r^2 = .26, F(1, 156)= 27.77, p<.0001). In the mediational model, peer victimization was no longer significant (β = .152, p= .16), providing support for a fully-mediated model. For β coefficients, standard errors, and their associated p-values, see table 7. To determine the significance of the mediation effect, we conducted a Sobel test (z=2.42, p=.0155). The results of the Sobel test indicate that the effect of peer victimization was significantly reduced in the fullmediated model, which suggests that a higher degree of peer victimization will lead to increased feelings of wanting to cry during a private incident of peer victimization, which in turn explains the elevated level of characterological self-blame experienced during the private victimization scenario.

Behavioral Self-Blame. To examine potential mediation between peer victimization and behavioral self-blame, we conducted a preliminary analysis of bivariate correlations, which revealed one potential mediational model for both contexts. Peer

victimization was associated with behavioral self-blame in public (r= .16, p= .0348) and in private (r= .17, p=.0355). Feeling like crying was linked to peer victimization both public (r= .15, p= .0467) and private (r=.20, p=.0104), as well as behavioral self-blame in public (r=.24, p=.0015) and private (r= .42, p<.0001).

Our first regression, peer victimization regressed on behavioral self-blame, was significant (r^2 = .027, F(1, 166)= 4.53, p= .0348). Peer victimization was a significant predictor in this model (β = .235, p= .0348). We then analyzed the relationship between peer victimization and feeling like crying (r^2 = .023, F(1, 165)= 4.01, p= .0467) and the relationship between feeling like crying and behavioral self-blame attributions (r^2 = .059, F(1, 165)= 10.37, p= .0015). The full mediational model was significant (R^2 = .075, F(1, 164)= 6.67, p= .0016), as well. Peer victimization was no longer significant in this model (β =.186, p= .0931); therefore, this model meets the criteria for full mediation. For β coefficients, standard errors, and their associated p-values, see table 8. A Sobel test was conducted to assess the significance of the mediation effect, the results of which were insignificant (z=1.64, p= .101), indicating that feeling like crying does not provide a substantial mediational effect in the public model. For

In the private setting, the initial model of peer victimization predicting behavioral self-blame was significant (r^2 = .027, F(1, 160)= 4.5, p= .0355), and peer victimization was a significant predictor (β =.265, p=.0355). The subsequent analyses demonstrated a relationship between peer victimization and feeling like crying (r^2 = .041, F(1, 157)= 6.72, p= .0104), as well as between feeling like crying and behavioral self-blame (r^2 = .183, F(1, 157)= 35.12, p<.0001). The full model analysis was significant (R^2 = .194, F(1, 156)= 18.75, p<.0001); however, peer victimization was no longer a significant predictor

(β=.171, p=.1458), which is indicative of full mediation. For β coefficients, standard errors, and their associated p-values, see table 9. The Sobel test conducted to assess this effect was significant (t= 2.35, p= .0192), indicating that feeling like crying fully mediates the relationship between peer victimization and behavioral self-blame in the private setting.

Discussion

This study was designed to assess the impact of context, peer victimization history, and emotions on causal attributions children make during discreet episodes of bullying. Findings revealed that the causal attributions children make are impacted by the social context in which the event occurs. High and low levels of peer victimization exhibited differences in causal attributions across context, as well.

The Relationship between Context and Causal Attributions

We hypothesized that all three causal attributions would be higher in the public setting, indicating that context plays an important role in determining the attributions people make about situations in which they are victimized, and our findings support this. This novel finding has several implications for future SIP research, especially as it related to the study of peer victimization. Broadly, studies based on the SIP model should consider adding alternative contexts to their methodologies where appropriate.

For future studies examining peer victimization through the SIP model should continue to explore various contexts and contextual factors. In particular, there may be difference between face-to-face bullying and cyberbullying in terms of the attributions made due to the starkly different contexts; while cyberbullying can be public (e.g., open

harassment on social media) or private (e.g., private messages), cyberbullying allows the bully to reach the victim anywhere and at any time. This difference could lead to an entirely different attributional experience for the victim.

This study was limited by the fact that it only examined physical aggression across contexts. Future studies should also seek to examine what effect context has on the causal attributions made about verbal and relational aggression. Also, this study used the two contexts of public and private social situations, but these two contexts were presented in their extremes- the public context consisted of a crowded school hallway, and the private context consisted of the victim and two bullies isolated in a locker room. While this artificial dichotomy provided maximum distinction between the conditions presented, future studies could benefit by adding an additional context that lies somewhere between a crowd and total isolation. Several studies have demonstrated that the size of a group can impact the behavior of those in the group (Latane & Darley, 1968; Asch, 1956), and SIP theory includes attributions as a part of the decision-making process behind social behavior (Crick & Dodge, 1994; Lemerise & Arsenio, 2000).

The Relationship between Peer Victimization and Attribution Across Contexts

We hypothesized that children who had a history of perceived victimization would make similar attributions in public and in private, while the attributions of their less-victimized peers would vary across context. Our findings provided mixed support for this hypothesis. When the participants were split modestly, more victimized children were consistent only in their behavioral self-blame attributions, while both peer blame and behavioral self-blame attributions were consistent for less victimized children. Using a more extreme grouping technique, the most victimized children were consistent in their

behavioral self-blame and peer blame attributions, and the least victimized children only made peer blame attributions consistently across contexts. All other attributions for all groups were higher in public, which is consistent with our general findings across contexts.

Our hypothesis that victimized children would make consistent attributions across context was influenced by the large body of work showing that prior peer victimization is consistently related to making characterological self-blame attributions (Graham & Juvonen, 1998; Harper, 2012; Vanhalst et al., 2015). Though the findings of our fifth hypothesis did revealed a relationship between peer victimization and characterological self-blame in both context, our findings indicate that the number of causal attributions made by victimized children can vary by context. Using both grouping methods, the children with higher perceived victimization scores made more characterological self-blame attributions in the public context, which directly contradicts our anticipated findings.

As an explanation for these contradictory findings, we propose that children who perceive higher levels of peer victimization are more heavily influenced by the spotlight effect, which is the tendency for "people [to] overestimate the extent to which their actions and appearance are noted by others" (Gilovich, Medvec, & Savitsky, 2000). If children who perceive more victimization are more susceptible to this effect, it would explain the context-dependent relationship between perceived victimization and characterological self-blame, as they would be more likely to feel that any observers to a bullying incident are acutely aware of them. An increase in perceived awareness of others could cause the victim to more seriously question the inactivity of the observers, which

would then lead the individual to make more characterological self-blame attributions in public relating to the cause of the inactivity of the observers. In the less observer-dense private context, the victim would not have their characterological self-blame attributions enhanced by the spotlight effect, which would limit their causal attributions to those consistent with their prior experiences. Therefore, we believe future studies should seek to explore the spotlight effect as a mechanistic link between peer victimization and characterological self-blame attributions in the public context.

One potential limitation in the generalizability of this study is the use of self-report peer victimization scores. Several studies have shown that there is only a modest correlation between self-report and peer nomination measures of bullying, and self-reported victimization tends to be higher (Baly & Cornell, 2011; Branson & Cornell, 2009; Cornell & Mehta, 2011; as cited in Phillips & Cornell, 2012). Therefore, our results may not generalize to bullying victims identified through peer nomination. However, we contend that when examining the cognitive processes of victimized children, it may be more pertinent to examine the children who perceive more victimization. The first two stages in the SIP model, encoding of cues and interpretation of cues, are exclusively concerned with how the individual perceives the world around them. For example, with the hostile attribution bias, the individual's perception is different from that of their peers, and that difference of perception results in the problematic behavior that often follows the hostile attributions (Crick & Dodge, 1996; Dodge & Frame, 1982; Dodge & Somberg, 1987).

The Relationship Between Emotion and Attribution

We hypothesized that feeling down, helpless and wanting to cry would be associated with characterological and behavioral self-blame, while feeling afraid, mad, and furious would be associated with peer blame. As expected, all three causal attributions are related to feeling down, helpless, and wanting to cry in both contexts; feeling afraid was associated with all three causal attributions, as well. Interestingly, feeling mad was associated with characterological self-blame in public, but it was associated with peer blame in private. Feeling furious was not significantly related to any causal attributions in public, but was related to both behavioral self-blame and peer blame in private.

The strong relationship between all three causal attributions and feeling afraid, down, helpless, and wanting to cry seems to indicate that those emotions may be universal to the experience of being bullied. We believe that the universality of these emotions is displayed in the fact that they were associated with all three attributions instead of one or two specific attributions, suggesting that, for those emotions, other individual differences dictate which attribution they may lead to. Future studies should seek to examine possible mediating factors between emotions and the subsequent attributions, as well as to test the universality of those emotions during episodes of peer victimization.

The findings for feeling mad and feeling furious were of particular interest, as their relationship with attributions was context-specific. We believe this is a result of the nature of anger as a blame-based emotion (Averill, 1982; Averill, 1983; Weiner, 1980a, 1980b; Weiner, Graham, & Chandler, 1982; as cited in Weiner, 1985). In the private

context, the source of the victim's suffering is readily apparent in the form of the bullies; in turn, the victim's anger has a clearly defined target, and directing their anger at an external target leads to the logical result of the victim making peer-blame attributions. This reasoning applies to the peer blame attributions associated with feeling furious, as well. Additionally, we propose that the behavioral self-blame related to feeling furious in private is due to the higher intensity of feeling furious compared to feeling mad, which may cause the anger to also be attributed inwards.

In public, the increased number of people involved in the social situation may make it more difficult for the victim to identify the target of their anger. If the victim believes everyone in the public context is complicit with the bullying, they may reach the conclusion that the person to blame for their suffering is indeed themselves. Thus, the resultant attribution is self-blaming in nature. It is unclear, however, what causes the self-blaming attribution to be characterological instead of behavioral. Future studies should seek to explore the relationship between anger, peer victimization, and causal attributions more closely in an effort to identify what contributes to the contextual nature of anger.

The Relationship Between Context and Emotion

We hypothesized that feeling down, helpless, and wanting to cry would be higher in public, and feeling mad, furious, afraid, and okay would be higher in private. Our findings partially supported this, though wanting to cry, feeling mad, afraid, and okay were the same across contexts. Initially, we believed that feeling mad and afraid would be higher in private due to the isolation and easily-identified aggressor, and we suggested that wanting to cry would be higher in public as a result of the added social pressures. These factors do not appear to cause any variation in how strongly children predict

feeling the emotions. In the absence of the context-specific changes we predicted, it appears that feeling mad, afraid, and wanting to cry are universal across contexts of peer victimization; that is, a child who expects to feel moderately afraid in public will also expect to feel moderately afraid in private. Future studies should seek to identify the individual differences involved in emotion perception as it relates to peer victimization. Additionally, other forms of bullying (i.e., verbal and relational) should be examined with regard to the emotions they elicit. Using other forms of aggression may reveal contextual variability for emotions that we did not find in the present study.

Emotion as a Mediator between Peer Victimization and Causal Attribution

After examining the correlations between peer victimization, emotions, and causal attributions, only feeling like crying stood out as a potential mediator. In the hypothesized model, children who had a history of victimization would expect to feel more like crying, which then led to their making more characterological or behavioral self-blame attributions. We tested this model for both characterological and behavioral self-blame across both contexts. For both attributions, feeling like crying fully mediated the relationship between peer victimization history and the attributions the participants made. Prior research has linked peer victimization history to characterological self-blame attributions using public scenarios, but our study demonstrates that the relationship between peer victimization and attributions is more complex and context-specific.

Further investigation into the relationship between having a history of being victimized, feeling like crying, and causal attributions is necessary. We believe the relationship between self-blame attributions, feeling like crying, and context may be explained by the inefficacy of crying as a coping mechanism. Our study asked

participants how much they would feel like crying after these bullying scenarios, but we did not inquire about whether or not they would actually cry. Expecting to feel like crying is certainly indicative that the child anticipated being under duress during the victimization, but we believe that the individual is more likely to succumb to those feelings in the private context. In public, there is tremendous social pressure on the child to avoid crying in order to avoid further scrutiny from their peers. In private, however, the child is left alone after the victimization scenario. With the lack of social pressure, the child may be more likely to allow themself to cry as a coping mechanism. However, previous research has shown that crying can actually have negative effects as a coping mechanism, especially if it does not lead to empathy from others (for review, see Miceli & Castelfranchi, 2003; also see Hendriks & Vingerhoets, 2002). In a private setting, the social isolation of the event would prevent crying from eliciting empathetic responses, thus causing the victim to feel worse. We believe this worsened emotional state would lead to self-blame attributions. Future studies should seek to examine the potential for crying to occur during peer victimization and the role that may play in the victim's causal attributions.

Limitations and Future Directions

The present study had limitations that may impact the generalizability of our findings. In previous sections, it was discussed that the use of self-report to measure peer victimization history may prevent our results from generalizing to peer-reported victims. Additionally, it was this study focused exclusively on physical aggression, and the resultant relationships may not generalize to other forms of victimization, such as verbal or relational aggression.

A third limitation is our use of anticipated emotions. In recent years, extensive research has been dedicated to the efficacy of affective forecasting, and the sum of the findings seems to indicate that people over-estimate their emotional responses to future situations (see Ayton, Pott, & Elwakili, 2007 for review). As a result, the levels of anticipated emotion in our study should be considered with caution until replicated with more robust measures of emotion. Future studies should seek to validate these findings by using a reflective assessment of emotions that children experienced during a prior episode of bullying. Further, to experimentally assess the causal relationship between emotions and attributions in a peer victimization scenario, researchers should seek to use an effective mood-induction procedure, such as those examined by Westermann, Spies, Stahl, & Hesse, (1996).

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Tables

Table 1.

Repeated-Measures t-test Between Public and Private Causal Attributions (Median-Split)

		Pu	blic	Pri	vate	
		M	SD	M	SD	t-test
Lower Median	CSB	2.74	0.93	2.49	1.05	3.09**
	BSB	2.66	0.97	2.56	1.04	1.13
	PB	3.50	0.80	3.47	0.83	-0.71
Upper Median	CSB	3.06	1.02	2.82	1.17	2.4*
	BSB	3.10	1.06	2.85	1.27	1.93
	PB	3.65	0.87	3.40	1.10	2.46*

Note: CSB=Characterological Self-Blame, BSB= Behavioral Self-Blame, PB= Peer-Blame

Table 2.

Repeated-Measures t-test Between Public and Private Causal Attributions (± ISD-Split)

		Pul	blic	Pri	vate	
		M	SD	M	SD	t-test
1SD Below	CSB	2.57	0.92	2.15	0.97	3.25**
	BSB	2.71	0.97	2.29	1.06	2.59*
	PB	3.47	0.74	3.38	0.87	0.85
1SD Above	CSB	3.22	1.15	2.73	1.18	2.56*
	BSB	3.01	1.12	2.76	1.31	1.01
	PB	3.75	0.93	3.44	1.12	1.81

Note: CSB=Characterological Self-Blame, BSB= Behavioral Self-Blame, PB= Peer-Blame

^{*=} P<.05

^{**=} P < .01

^{*=} P<.05

^{**=} P<.01

Table 3.											
Bivariate Co	rrelations B	etween Caus	al Attributio	ns and Antici	pated Emotic	Bivariate Correlations Between Causal Attributions and Anticipated Emotions (Public Context)	ntext)				
	PV	CSB	BSB	РВ	MAD	DOWN	FEAR	CRY	HELPLES	OKAY	HELPLESOKAY FURIOUS
PV	1	-	-	-	_	-	-	-	-	_	ı
CSB	.22**	1	ı	1	ı	ı	ı	ı	ı	ı	1
BSB	.16*	.56****		1	ı	ı	1	ı	ı	ı	1
РВ	.13	.57***	.50***		ı	ı	1	ı	ı	ı	ı
MAD	.05	.15*	.07	.04		1	1	ı	ı	ı	ı
DOWN	.06	.45****	.32***	.33****	0.14	1	ı	1	ı	1	1
FEAR	.08	.44***	.44***	.27***	.07	.52****	1	1	ı	1	1
CRY	.15*	.34***	.24**	.23**	.14	.44***	.60***	1	ı	ı	1
HELPLESS	.06	.37***	.31***	.29***	.06	.51****	.57***	.56****	1	1	1
OKAY	01	08	.00	11	21**	20**	26***	30****	24**	1	1
FURIOUS	09	11	09	05	43***	04	13	21**	18*	.18*	_
Note: PV= Pee	r Victimizatio	n CSB=Charac	terological Sel	f-Blame, BSB=	Behavioral Sel	Note: PV = Peer Victimization CSB=Characterological Self-Blame, BSB= Behavioral Self-Blame, PB= Peer-Blame	r-Blame				
*=P<.05											
**= P<.01											
***=P<.001											
***= P<.0001											

Bivariate Co	rrelations E	Between Caus	al Attribution	s and Anticit	ated Emotic	Bivariate Correlations Between Causal Attributions and Anticipated Emotions (Private Context)	ontext)				
	PV	CSB	BSB	PB	MAD	DOWN	FEAR	CRY	HELPLESS OKAY FURIOUS	OKAY	FURIOUS
PV	1	1	1		1	1	1	1	1	1	1
CSB	.21**	1	•	ı	ı	ı	1	ı		ı	1
BSB	.17*	.72***	1	ı	ı	1	1	1	ı	ı	1
PB	.04	.56***	.56	1	ı		1	1	1	ı	1
MAD	.04	.06	.12	.23**	1	1	1	1	1	ı	1
DOWN	.15	.53****	.43***	.41***	.12	1	1	1	1	ı	1
FEAR	.15	.53***	.55****	.33****	.02	.62****	1	1	1	ı	1
CRY	.20*	.50***	.43***	.31***	.07	.51***	.67***	1	ı	ı	1
HELPLESS	.06	.54***	.46***	.34***	.03	.62****	.64***	.57***	1	ı	1
OKAY	.12	.00	.04	.10	05	07	11	12	02		1
FURIOUS	.11	.10	0.20**	.27***	.55****	.05	.03	.09	.02	14	1
Note: PV= Pee	r Victimizatio	n CSB=Charac	terological Selj	EBlame, BSB= I	Behavioral Selj	Note: PV = Peer Victimization CSB = Characterological Self-Blame, BSB = Behavioral Self-Blame, PB = Peer-Blame, PB = Peer-Blame, PV = Peer-Blame, P	r-Blame				
*= P<.05											
**= P<.01											
***= P<.001											
****= P<.0001											

Table 5.

Repeated-Measures t-test Between Public and Private Anticipated Emotions

	Pu	blic	Pri	vate	
	M	SD	M	SD	t-test
Mad	4.29	1.10	4.34	1.06	-0.25
Down	3.23	1.39	3.04	1.46	2.4*
Fear	2.44	1.50	2.29	1.44	1.54
Cry	2.59	1.60	2.50	1.57	0.97
Helpless	2.73	1.60	2.50	1.46	2.84**
Okay	2.66	1.48	2.39	1.49	1.95
Furious	2.02	1.32	3.94	1.35	-10.85***

^{*=} P < .05

Table 6.

Mediational Analysis for Characterological Self-Blame in Public

1 110110				
		β	SE	P
Model 1	Peer Victimization	0.304	0.103	0.0037
Model 2	Peer Victimization	0.342	0.176	0.0467
Model 3	Feeling Like Crying	0.210	0.045	<.0001
Model 4				
	Peer Victimization	0.229	0.100	0.0233
	Feeling Like Crying	0.194	0.045	<.0001

Note: CSB=Characterological Self-Blame;

Model 1= CSB; Model 2= Feeling Like Crying; Model 3= CSB; Model

4 = CSB

^{**=} P<.01

^{***=} P<.0001

Table 7. Mediational Analysis for Characterological Self-Blame in Private

		β	SE	P
Model 1	Peer Victimization	0.323	0.117	0.0072
Model 2	Peer Victimization	0.438	0.169	0.0104
Model 3	Feeling Like Crying	0.357	0.049	<.0001
Model 4				
	Peer Victimization	0.152	0.108	0.16
	Feeling Like Crying	0.343	0.050	<.0001

Note: CSB=Characterological Self-Blame;

Model 1= CSB; Model 2= Feeling Like Crying; Model 3= CSB; Model

4 = CSB

Table 8.

Mediational Analysis for Behavioral Self-Blame in Public

		β	SE	P
Model 1	Peer Victimization	0.235	0.110	0.0348
Model 2	Peer Victimization	0.342	0.176	0.0467
Model 3	Feeling Like Crying	0.159	0.049	0.0015
Model 4	Peer Victimization Feeling Like Crying	0.186 0.146	0.110 0.050	0.0931 0.0038

Note: BSB= Behavioral Self-Blame;

Model 1= BSB; Model 2= Feeling Like Crying; Model 3= BSB; Model

4 = BSB

Table 9.

Mediational Analysis for Behavioral Self-Blame in Private

		β	SE	P
Model 1	Peer Victimization	0.265	0.125	0.0355
Model 2	Peer Victimization	0.438	0.169	0.0104
Model 3	Feeling Like Crying	0.316	0.053	<.0001
Model 4				
	Peer Victimization	0.171	0.117	0.1458
	Feeling Like Crying	0.300	0.054	<.0001

Note: BSB= Behavioral Self-Blame;

Model 1= BSB; Model 2= Feeling Like Crying; Model 3= BSB; Model

4 = BSB

Appendix A

Imagine that...

Imagine that you set your backpack down on the floor while you open your locker in between classes. Everyone is in the hallway on the way to their next class. Just then, a student comes up to you and slams your locker shut. Another student grabs your backpack. The two students play keep away with your backpack, tossing it back and forth. You try to get it from them, but they just laugh and call you bad names in front of everyone. Now everyone is laughing and pointing at you. When the bell rings, they rush down the hall. On their way to class, they throw your backpack into a trash can that was filled up with all the garbage from lunch.

Below are some things other kids say they would think in these types of situations.

If everyone saw this happen, would you think this...

Treveryone saw ems nappen, we					
	Definitely would	Probably would	Not sure	Probably would	Definitely would
	think	think		NOT think	NOT think
1. "This is my fault, I shouldn't have been in the hallway without a friend."					
2. "Why do I always get into these situations?"					
3. "I was at the wrong place at the wrong time."					
4. "I know this will happen to me again."					
5. "This kid does this to me because other kids also treat me this way."					
6. "Kids do this to me because they know I won't cause trouble."					
7. "I should have been more careful!"					
8. "There are too many kids who wanna be tough."					
9. "How can I keep this from happening to me again?"					
10. "This kid picks on everybody."					

11. "Kids do this to me because they know that I won't get back at them."			
12. "This sort of thing is more likely to happen to me than to other kids."			
13. "If I were a cooler kid, I wouldn't get picked on."			
14. "I shouldn't have been here at this time."			
15. "This is a rough school!"			
16. "I need to figure out how to deal with this kind of situation."			

Below are some things other kids say they would feel in this situation.

If everyone saw this happen, would you feel this way...

		D C 1/1	D 1 11	NT /	D 1 11	D C 1. 1
		Definitely	Probably	Not sure	Probably	Definitely
		would feel	would feel		would	would
		***************************************	,, out a 1001			
					NOT feel	NOT feel
1. I would be mad at the kid.						
2. I would feel put down.						
-						
3. I would be scared.						
3. I would be scared.						
4. I would feel like crying.						
5 T 110 11 11						
5. I would feel helpless.						
6. I would feel ok (like it's no big of	deal).					
· ·	*					
7. I would be furious.						
7. I would be faileds.						

Now imagine this...

Imagine that you have just finished changing clothes after P.E. and you are the last kid in the locker room. You are completely alone and you have your new jacket wrapped over your arm. Another student comes in the locker room and tells you, "Wow that is a really nice jacket!" All of the sudden, the student takes the jacket from your arms and runs over to a trash can. Then the student throws your new jacket into the trash can. The student laughs and runs out of the locker room and you are completely alone again. No one saw what happened. You walk over to the trash can to get your jacket and when you pick it up, it is completely covered with trash. It will need to be washed for you to wear it again.

Below are some things other kids say they would think in these types of situations.

If no one saw what happened, would you think this...

Tino one saw what happened, w	Definitely would think	Probably would think	Not sure	Probably would NOT think	Definitely would NOT think
1. "This is my fault, I shouldn't have been in the locker room alone."					
2. "Why do I always get into these situations?"					
3. "I was at the wrong place at the wrong time."					
4. "I know this will happen to me again."					
5. "This kid does this to me because other kids also treat me this way."					
6. "Kids do this to me because they know I won't cause trouble."					
7. "I should have been more careful!"					
8. "There are too many kids who wanna be tough."					
9. "How can I keep this from happening to me again?"					
10. "This kid picks on everybody."					
11. "Kids do this to me because they know that I won't get back at them."					
12. "This sort of thing is more likely to happen to me than to other kids."					
13. "If I were a cooler kid, I wouldn't get picked on."					
14. "I shouldn't have been here at this time."					
15. "This is a rough school!"					
16. "I need to figure out how to deal with this kind of situation."					

Below are some things other kids say they would feel in this situation.

If no one saw what happened, would you feel this way...

,	Definitely would feel	Probably would feel	Not sure	Probably would NOT feel	Definitely would NOT feel
1. I would be mad at the kid.				11011001	110111001
2. I would feel put down.					
3. I would be scared.					
4. I would feel like crying.					
5. I would feel helpless.					
6. I would feel ok (like it's no big deal).					
7. I would be furious.					

Appendix B

Things that Happen to Me

DIRECTIONS

Below are some things that sometimes happen to kids your age at school. Of the two kids, which kid is most like you? When you decide which kid is most like you, check whether the statement is "really true for me" or "sort of true for me".

QUESTIONS

1.	Really true	Sort of true				Sort of true	Really true
			Some kids often have something nice said to them.	B U T	Often other kids do not have something nice said to them.		
2.	Really true	Sort of true				Sort of true	Really true
			Some kids often are left out on purpose when it is time to play or do an activity.	B U T	Other kids are often not left out on purpose when it is time to play or do an activity.		
3.	Really true	Sort of true				Sort of true	Really true
			Some kids are often hit by another kid at school.	B U T	Other kids are often not hit by another kid at school.		
4.	Really true	Sort of true				Sort of true	Really true
			Some kids are often given help when they need it.	B U T	Other kids are often not given help when they need it.		
5.	Really true	Sort of true				Sort of true	Really true
			Some kids are often yelled at or called mean names.	B U T	Other kids are often not yelled at or called mean names.		
6.	Really true	Sort of true				Sort of true	Really true

			Some kids are often left out of a group when another kid is mad at them.	B U T	Other kids are often not left out of a group when another kid is mad at them.		
7.	Really true	Sort of true				Sort of true	Really true
			Some kids are often pushed or shoved by another kid at school.	B U T	Other kids are often not pushed or shoved by another kid at school.		
8.	Really true	Sort of true				Sort of true	Really true
			Some kids are often made to feel happy by another kid.	B U T	Other kids are often not made to feel happy by another kid.		
9.	Really true	Sort of true for me				Sort of true	Really true
			Some kids often have lies told about them to make other kids not like them anymore.	B U T	Often other kids do not have lies told about them to make other kids not like them anymore.		
10.	Really true	Sort of true				Sort of true	Really true
			Some kids often are kicked or have their hair pulled by another kid.	B U T	Other kids are often not kicked or have their hair pulled by another kid.		
11.	Really true	Sort of true				Sort of true	Really true
			Some kids often have another kid say they won't like them unless the kid does what they want.	B U T	Often other kids do not have another kid say they won't like them unless the kid does what they want.		
12.	Really true	Sort of true				Sort of true	Really true
			Some kids often have other kids try to keep others from not liking them by saying mean things about them.	B U T	Often some kids do not have other kids try to keep others from not liking them by saying means things about them.		

13.	Really true	Sort of true				Sort of true	Really true
			Some kids often have another kid try to cheer them up when they feel sad or upset.	B U T	Often some kids do not have another kid try to cheer them up when they feel sad or upset.		
14.	Really true	Sort of true				Sort of true	Really true
			Some kids often have another kid say they will beat them up if they do not do what they want them to do.	B U T	Often some kids do not have another kids say they will beat them up if they do not do what they want them to do.		
15	Really true	Sort of true				Sort of true	Really true
			Some kids often have another kid let them know they care about them.	B U T	Often some kids do not have another kid let them know they care about them.		