Adolescents' emotional distress and attributions for face-to-face and cyber victimization: Longitudinal linkages to later aggression

Michelle F. Wright *

Faculty of Social Studies, Masaryk University, Czech Republic

ARTICLE INFO

ABSTRACT

Two studies examined early adolescents' attributions and emotional distress based on social context (i.e., face-to-face versus cyber), utilizing ambiguous social situations (Study 1; N = 439; 223 girls) and hypothetical unambiguous victimization scenarios (Study 2; N = 414; 212 girls). The relationship of attributions and emotional distress to face-to-face and cyber aggression one year later was also examined. Feelings of sadness and anger as well as hostile, self-blame, and aggressor-blame attributions were more often elicited from face-to-face victimization than cyber victimization. Sadness and anger were linked positively to later face-to-face and cyber aggression. Anger mediated the relationship between attributions (i.e., hostile, aggressor-blame, self-blame) and face-to-face and cyber aggression.

© 2016 Published by Elsevier Inc.

1. Introduction

Decades of research on social information processing has improved our understanding of how children and adolescents respond when faced with social situational cues (e.g., Goldstein, Tisak, Persson, & Boxer, 2006; Nelson & Crick, 1999). The social information processing model provides a theoretical framework for understanding the onset and maintenance of adolescents' aggression as well as the specific processes and mechanisms involved in these behaviors. Social information processing patterns, such as hostile attribution biases, are correlated with face-to-face physical and relational aggression (Crick, Grotpeter, & Bigbee, 2002). Furthermore, feelings of emotional distress influence adolescents' hostile attribution biases and their aggressive behaviors (Crick, 1995; Mathieson et al., 2011).

Information and communication technologies (ICTs; e.g., cell phones, internet, gaming consoles) have transformed human interactions. Adolescents have fully embraced ICTs, with 92% going online daily (Lenhart, 2015). The rapid uptake of ICTs has both positive (e.g., increased social network, better academic performance) and negative (e.g., addiction, predation) psychological and behavioral implications for adolescents (Smahel, Wright, & Cernikova, 2014). Cyber aggression and victimization are negative consequences of adolescents' use of ICTs, resulting in school failure, and increased depression, anxiety, and loneliness (Notar, Padgett & Roden, 2013). Similar to face-to-face victimization, cyber victimization is defined as being targeted with hostile and repetitive behaviors by a known or unknown perpetrator using modern electronic technologies (Wolak, Mitchell, & Finkelhor, 2007).

ICTs may alter adolescents' perceptions of aggression and victimization. However, little attention has been given to how ICTs modulate social interactions. Of these studies, hostile attribution biases, and positive outcome expectancies regarding face-to-face aggression relate to cyber aggression (Pornari & Wood, 2010). Follow-up research should investigate these processes within the face-to-face and cyber environments as adolescents' social information processing may vary based on social context. Furthermore, the cyber context may influence emotions as adolescents in some studies report that they are not usually bothered by aggression via ICTs (Hinduja & Patchin, 2007; Ortega, Elipe, Mora-Merchan, Calmaestra, & Vega, 2009; Patchin & Hinduja, 2006; Slonje, Smith, & Frisen, 2013; Smith et al., 2008). In the current study, the social information processing model was applied to adolescents' negative peer interactions in the cyber context. Next, adolescents' attributions and emotions were compared in both the face-to-face and cyber contexts. The final aim of this research was to examine the relationship of attributions and emotions to later face-to-face and cyber aggression. These aims were investigated utilizing two different methodologies, particularly ambiguous peer conflicts (Study 1) and hypothetical victimization scenarios (Study 2).

1.1. Social information processing model

Several social information processing models have been proposed, among which Dodge's (i.e., Dodge, 1986; Dodge, Pettit, McClaskey, & Brown, 1986) and Crick's addition to Dodge's model (see Crick &

* Faculty of Social Studies, Masaryk University, Brno 60200, Czech Republic.
  E-mail address: michelle.wright@mail.muni.cz.

Dodge, 1994) remain the most influential in developmental psychology. In Crick and Dodge's (1994) revision to Dodge's (1986) earlier model, they incorporated not only the influence of past experiences on children's social behaviors, but also children's goal orientations. This model proposed six steps: 1) encoding of external and internal cues, 2) interpretation and mental representation of cues, 3) clarification and selection of a goal, 4) response access or construction, 5) response decision, and 6) behavioral enactment. Given that the present study will investigate the second step of the social information processing model, this literature review will focus on research regarding this step.

The bulk of research on social information processing has been conducted on the relationship between the interpretation of cues and social behaviors (Step 2; e.g., Burgess, Wojslawowicz, Rubin, Rose-Krasnor, & Booth-LaForce, 2006). In this step, when adolescents encounter a social situation, they first attend to situational and internal cues (Crick & Dodge, 1994). After examining the situation, adolescents interpret the intent of others involved in the social situation by accessing their long-term memory for relevant information, while also engaging in a causal analysis (step 2). During the causal analysis, adolescents decide the intentionality of the person or people involved in the social situation, comparing these inferences to previous experiences in their long-term memory. Adolescents' decisions about the causes of behavior influence not only their thoughts but also their subsequent behaviors.

Ample attention has been given to adolescents' social information processing deficits. In this research, overtly (e.g., openly displayed behaviors, such as destroying someone's property) and relationally-aggressive (e.g., harm to someone's relationships, such as spreading rumors about someone) adolescents assign hostile attributions (i.e., tendency to interpret the behaviors of others as threatening and/or aggressive) to ambiguous peer provocations, make decisions about intent impulsively, and use biased social information to make decisions about intentionality, subsequently leading to increases in aggressive behaviors (Crick et al., 2002). Victims also exhibit attributional biases, utilizing both hostile and self-blame attributions (Graham & Juvonen, 1998; Mathieson et al., 2011). However, self-blame attributions are unrelated to later aggression, whereas victims' usage of hostile attributions is related positively to such behaviors (Yeh, 2011).

Nonaggressive and nonvicitmized-adolescents also demonstrate specific attributional patterns regarding face-to-face aggression. Coie and Pennington (1976) examined children's attributions pertaining to their peers' aggressive behaviors. Their findings revealed that children attributed aggressive acts to aggressors' psychological characteristics (i.e., aggressor-blame attributions). Such results were replicated by Boxer and Tisak (2003) with samples of adolescents and young adults. Aggressor-blame attributions are expected to offset the psychological consequences of self-blaming by victims, but these attributions may have the potential to victims' increase aggression (Yeager, Miu, Powers, & Dweck, 2012). However, little attention has been given to whether aggressor-blame attributions predict victims' later engagement in aggression.

Emotional distress may influence interpretations of social situations and subsequent aggressive behaviors (Crick & Dodge, 1994; Lemerise & Arsenio, 2000). In this literature, physically-aggressive children report greater emotional distress in response to instrumental provocation situations (e.g., goal-directed), whereas relationally-aggressive children exhibit similar levels of distress but for relationally provocative situations (Crick, 1995; Crick et al., 2002). Furthermore, emotional distress following physical and relational provocation is positively associated with the hostile attribution bias and aggression (Crick et al., 2002; Peled & Moretti, 2010; Reijntjes et al., 2011). Less attention has been given to the mediating role of emotional distress in aggressive behaviors, but the available research suggests that hostile attribution biases are associated with greater aggression especially when emotional distress is high (Reijntjes et al., 2011). Other research focuses on specific forms of emotions, and their associations with aggressive behaviors. The expression of anger and angry emotional arousal relate to

aggression, hostile attributions, and aggressor-blame attributions (Arsenio, Cooperman, & Lover, 2000; Russell, Hart, Robinson, & Olsen, 2003). Research also indicates that sadness, particularly sadness rumination is related to overt and relational aggression (Peled & Moretti, 2010). The association of sadness to attributions is less clear, but available research does indicate that sadness is related to self-blame attributions (Berenbaum, Fujita, & Pfennig, 1995; Scott, Ingram, & Shadel, 2003). However, these relationships are not as strong as they are for fear or anger.

It is possible that similar mechanisms involved in the interpretation of causality for the face-to-face context are used for social situations occurring through ICTs. Therefore, Runions, Shapka, Dooley, and Modecki (2013) argue that the basic social information processing model can be utilized to examine how adolescents process information in the cyber context. They acknowledge that there are unique features of the cyber context (e.g., lack of intentional cues) which may influence adolescents' encoding, causal analyses, social goals, and response decision and evaluation.

Little attention has been given to gender differences in social information processing. In one of the few studies to examine gender differences in hostile attribution biases for relational aggression, Mathieson et al. (2011) found that adolescent girls made more of these attributions for relational aggression. Such a finding may be expected as adolescent girls are more likely to perpetrate and experience relational aggression, potentially making them more responsive to these behaviors (Archer, 2004). Providing additional support for these findings, there is evidence that girls report greater emotional distress following relational aggression in comparison to boys (Crick, 1995; Crick et al., 2002). Consequently, gender is an important variable to consider when examining social information processing and aggressive behaviors.

1.2. Social information processing in the cyber context

Few studies (e.g., Ang and Goh, 2010; Pornari & Wood, 2010) have linked social information processing to cyber aggression and victimization. Among these studies, researchers have applied hostile attribution biases, self-blame attributions, and outcome expectancies (i.e., a person's estimate that a given behavior will lean to certain outcomes) regarding face-to-face aggression to cyber aggression. Although findings indicated linkages between these processes and cyber aggression, follow-up research should consider that there might be similar processes which operate in the cyber context. The unique features of communication via ICTs make such a proposal important to investigate.

Face-to-face victimization includes many social cues (e.g., facial expressions), which may make intentionality easier to identify, whereas ICTs lack nonverbal and intentional cues typically present in face-to-face communications (Tokunaga, 2010). Therefore, cyber victimization may be perceived as less hostile than victimization in the face-to-face context (Smith et al., 2008). There is some literature corroborating this proposal. In one study, Shapka (2012) found that 95% of surveyed adolescents reported that what happened to someone else online was a joke. Furthermore, many victims and perpetrators of cyber aggression reported not being affected by aggressive acts through ICTs because they interpreted such behaviors as not serious but as someone joking around (Balaji & Chakrabarti, 2010; Hinduja & Patchin, 2012). However, some victims are hurt by aggressive acts online, though it is not clear what contributes to these differences among victims of cyber aggression. Considering these findings, it appears that some adolescents, even many victims and aggressors, believe that cyber aggression through the internet is perpetuated as a joke and not serious, malicious behavior. These perceptions may influence adolescents' emotional distress after experiencing cyber aggression. This idea is supported by research indicating that many victims of cyber aggression are not emotionally upset or angered by such behaviors (Ortega et al., 2009; Smith et al., 2008).