Cyberbullying in Higher Education: Parental Practices and Moral Disengagement

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Abstract

Cyberbullying is a highly immoral behaviour. Extant research suggests that moral functioning, which is key in the understanding of cyberbullying perpetration, can be socialized through parental practices. Although parental socialization and cyberbullying research have primarily focused on children and adolescents, this area of research remains lacking among emerging adult samples. As emerging adulthood is a volatile period whereby individuals have increased vulnerability to moral and identity changes, there is a need for further understanding of what role parental figures play and the moral implications of parental practices during this developmental stage. This study examined the potential mediating role of shame- and guilt-proneness in the association between perceived parental practices (autonomy support, psychological control) and moral disengagement, and subsequently, the associations with cyberbullying behaviour. Participants included postsecondary school students in Canada (N = 449; ages 19-25). Results from structural equation modelling revealed guilt-proneness, but not shame-proneness, as a significant partial mediator between perceived psychological control and moral disengagement, which, in turn, was associated with cyberbullying perpetration. Additionally, guilt-proneness and shame-proneness did not significantly mediate the association between perceived autonomy support and moral disengagement. Findings reveal the need for cyberbullying prevention and intervention programs to emphasize positive parenting and moral reasoning strategies to prevent further incidences of aggression between students. Overall, this study highlights the implications of social-emotional contexts beyond childhood and adolescence, especially in shaping moral development among emerging adults.

Keywords: cyberbullying, emerging adulthood, parental practices, moral emotions, moral disengagement

Résumé

La cyberintimidation est un comportement gravement immoral. Les recherches existantes suggèrent que le fonctionnement moral, qui est essentiel pour comprendre la perpétration de cyberintimidation, peut être socialisé par les pratiques parentales. Bien que les recherches sur la socialisation parentale et la cyberintimidation se soient principalement concentrées sur les enfants et les adolescents, il y a un manque de recherche dans ce domaine parmi les échantillons d'adultes émergents. Comme l'émergence de l'âge adulte est une période volatile où les individus sont plus vulnérables aux changements moraux et identitaires, il est nécessaire de mieux comprendre le rôle des figures parentales et les implications morales des pratiques parentales au cours de cette phase de développement. Cette étude a examiné le rôle médiateur potentiel de la honte et de la culpabilité dans l'association entre les pratiques parentales perçues (soutien à l'autonomie, contrôle psychologique) et le désengagement moral, et par la suite, les associations avec le comportement de cyberintimidation. Les participants comprenaient des étudiants de niveau postsecondaire au Canada (N = 449; âgés de 19 à 25 ans). Les résultats de la modélisation par équations structurelles ont révélé que le sentiment de culpabilité, mais pas le sentiment de honte, était un médiateur partiel significatif entre le contrôle psychologique perçu et le désengagement moral, qui, à son tour, était positivement associé à la perpétration de cyberintimidation. De plus, le sentiment de culpabilité et le sentiment de honte n'ont pas eu d'effet médiateur significatif sur l'association entre le soutien à l'autonomie perçu et le désengagement moral. Les résultats révèlent que les programmes de prévention et d'intervention en matière de cyberintimidation doivent mettre l'accent sur les practiques parentales positives et le raisonnement moral afin de prévenir de nouvelles incidences d'agression entre les élèves. En somme, cette étude souligne les implications des contextes socio-affectifs au-delà de l'enfance et de l'adolescence, notamment dans le façonnement du développement moral chez les adultes émergents.

Mots clés: cyberintimidation, âge adulte émergent, pratiques parentales, émotions morales, désengagement moral

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Cyberbullying in Higher Education: Parental Practices and Moral Disengagement

In recent years, cyberbullying has emerged as a new form of bullying, and rapidly grew to become a concern among youths (Hutson et al., 2018). Extant research has argued for the consideration of morality in regards to bullying and cyberbullying behaviour (Hymel et al., 2010; Perren & Gutzwiller-Helfenfinger, 2012). In particular, the aspect of morality in understanding cyberbullying is suggested to be even more salient than in the traditional bullying context, due to the development of information and communication technologies (ICTs; Munõz-Miralles et al., 2016) that have enabled cyberbullying to occur anywhere, at any time, and by anyone (Olweus & Limber, 2018).

The development of a moral self involves adopting standards that distinguishes between right and wrong behaviour (Bandura, 2002). Cyberbullying is an immoral behaviour, characterized by the intent to inflict harm on others, and is a behaviour that is associated with detrimental consequences for the perpetrator and the victim (Hymel & Swearer, 2015). Previous research has shown that the concept of morality is key in explaining deviant acts, such as cyberbullying (Wikström, 2012). In particular, moral disengagement is a common construct studied in research examining the role of morality on aggression (Bussey et al., 2015; Kowalski et al., 2014). When individuals commit offences, moral disengagement mechanisms activate to disengage the self from internal sanctions that arise from violating moral standards (Bandura, 1996). Thus, according to two meta-analysis studies, moral disengagement is a consistent positive predictor of cyberbullying (Gini et al., 2015; Zych et al., 2015). As suggested by Runion and Bak (2015), displays of moral disengagement is heightened in the online space due to the lack of social-emotional cues, anonymity, and the perception of distance between the perpetrator and the victim.

According to the socio-cognitive theory (Bandura, 1999), cognitive (e.g., moral disengagement) and affective (moral emotions) components of morality interact to determine actual

behaviour. Shame and guilt are moral emotions that serve to prevent immoral behaviours, such as aggression (Menesini & Camodeca, 2008). Individuals are less likely to engage in moral transgressions through the anticipation of feeling shameful or guilty about their actions (Bandura, 2002). Furthermore, while shame and guilt are situation-specific, individuals can also have a tendency towards these emotions across various situations, called shame- and guilt-proneness (Tangney et al., 1995). Notable distinctions have been suggested between the two moral emotions. Broadly, shame is focused on the self, while guilt is focused on a specific behaviour (Lewis, 1971). After spilling a drink on someone, an individual prone to guilt would most likely think, "I made a mistake", while a shame-prone individual would think, "I made a mistake because I'm stupid". A shame-prone person is engrossed in their own feelings and is highly concerned about others judging their flaws, facilitating feelings of avoidance and withdrawal (Tangney et al., 2005; Tangney & Dearing, 2002). On the other hand, a guilt-prone person feels contrite about their transgressions, then acknowledges that their behaviour has hurt or negatively impacted someone else, encouraging reparative actions (Howell et al., 2012; Tangney & Dearing, 2002).

Based on these characteristics, researchers argue that to an extent, guilt can be adaptive (Tangney & Dearing, 2002). Accordingly, as guilt fosters responsibility-taking and inhibits immoral behaviour (Bandura, 1999), guilt-proneness is speculated to prevent displays of moral disengagement (Thornberg et al., 2015). As revealed in previous studies, shame- and guilt-proneness predicted moral disengagement in different directions. While shame was a positive predictor of moral disengagement, guilt negatively predicted moral disengagement (Tillman et al., 2018). Furthermore, when comparing the roles of shame- and guilt-proneness on ethical decision making, Johnson and Connelly (2016) found that higher levels of guilt-proneness served as a protective factor against moral disengagement. Meanwhile, greater levels of shame-proneness fostered moral disengagement and unethical decision making.

Thus far, many studies have examined the role of morality on aggressive behaviour. In particular, a large number of studies focused on the cognitive (moral disengagement) and affective (moral emotions) components of moral functioning that promote or prevent moral violations (e.g., Gini et al., 2015; Perren & Gutzwiller-Helfenfinger, 2012; Thornberg et al., 2015). However, less have studied the antecedents of moral emotions and moral disengagement outcomes, such as the role of parental socialization (Zych et al., 2019). This study contributes to the understanding of the role parental practices play on individuals' moral emotions and moral disengagement in the cyberbullying context.

The affect-cognition model (Malti & Keller, 2010) suggests that cognitive skills and moral emotions are increasingly integrated throughout development. Malti and Keller (2010) noted that children participate in social interactions to understand others cognitively, by integrating their own perspective with those of others, and affectively, by emphasizing with others and realizing that their actions can be accompanied by negative consequences for other people. In this context, parental figures are significant facilitators of children's moral functioning, by guiding their behaviour and explicating appropriate moral conduct (Bandura, 1991).

Specific parental practices influence children's tendencies to feel shameful or guilty across various contexts (Lee & Bowen, 2006; Walter & Burnaford, 2006). For example, findings across multiple studies revealed that children and adolescents who perceived negative parenting reported higher levels of shame-proneness and a greater likelihood to morally disengage, while a perception of positive parenting was associated with more guilt-tendencies and less propensity for moral disengagement (Bartolo et al., 2019; Campaert et al., 2018; Hart & Matsuba, 2007; Mintz, 2017; Stuewig & McCloskey, 2005; Tangney & Dearing, 2002; Walter & Burnaford, 2006; Zhang et al., 2021). Furthermore, parenting characterized by angry, criticizing, disapproving or rejecting

behaviour is associated with weaker moral development (Ball et al., 2017) as well as aggression-prone cognitions among adolescents (Simons & Wurtele, 2010).

In line with research conducted in Western contexts, the present study, which was situated in Canada, conceptualized autonomy support and psychological control as positive and negative forms of parenting (e.g., Barber, 1996; Deci & Ryan, 2000; Soenens & Vansteenkiste, 2010). This was done considering that the perception and structure of the concept of psychological control varies in different cultures. For instance, Fung and Lau (2012) found positive associations between parental psychological control and child behavioral problems among European American but not Hong Kong Chinese children.

Based on Deci and Ryan's (2000) concept of volitional functioning, autonomy supportive parenting is operationalized by promoting volition (e.g., facilitating children's self-endorsed interests), taking the perspective of the child (e.g., by displaying empathy), and providing a rationale when limits are imposed (Deci & Ryan, 2000; Grolnick et al., 1997; Ryan & Deci, 2009). Meanwhile, psychologically controlling parents frequently use coercion in the form of guilt induction, anxiety instillation, and love withdrawal (Barber, 1996). Among European and North American samples, psychologically controlling parenting is associated with maladaptive outcomes in adolescents and emerging adults, such as fewer displays of prosocial behaviours and more behavioral problems (Barber & Harmon, 2002; Fung & Lau, 2012; Padilla-Walker et al., 2016), while autonomy supportive parenting is associated with adaptive outcomes among children, adolescents, and emerging adults, such as higher social competence (Matte-Gagné et al., 2015).

Past literature has primarily examined one's perception of parental practices and moral outcomes among children or adolescents (Hart & Matsuba, 2007; Lagattuta & Thompson, 2007), while less is known about moral development and outcomes during emerging adulthood (Mintz et al., 2017; Padilla-Walker, 2016). However, emerging adulthood is a unique transitional period from

adolescence, whereby individuals must navigate unfamiliar and complex paths in order to explore their identities, develop personal values, and engage in intimate relationships (Arnett, 2000; Padilla-Walker & Nelson, 2017). As this life period is reflected by immense behavioural and social-emotional changes, it is critical to examine how parents can support or hinder positive moral development among emerging adults.

As moral functioning is key in the understanding of cyberbullying perpetration, it is necessary to examine this aspect in the emerging adulthood years. For instance, though studies with emerging adult samples have suggested negative consequences of cyberbullying for bullies and victims (Aricak, 2015; Schenk & Fremouw, 2012; Walker et al., 2011; Wensley & Campbell, 2012), much of the extant research on cyberbullying has focused on middle and high school populations (Cassidy et al., 2013), with limited research conducted on cyberbullying in postsecondary school settings (Kowalski et al., 2019; Myburgh, 2018; Zalaquett & Chatters, 2014).

Therefore, with the theoretical frameworks of the socio-cognitive theory (Bandura, 1999) and the affect-cognition model (Malti & Keller, 2010), the present study sought to fill the gap in the literature, by examining whether and the extent to which perceived parental practices continue to impact moral functioning beyond childhood and adolescence. Specifically, this study considered the potential contributions of parental practices on emerging adult's proneness to experiencing shame or guilt and their subsequent likelihood of using moral disengagement. Finally, the mediating role of moral emotions in the association between parental practices and moral disengagement, and the subsequent association with cyberbullying perpetration were explored.

Literature Review

The following literature review provides an overview of important social-emotional and moral factors associated with the cyberbullying phenomenon. Firstly, this literature review discusses the major components of cyberbullying and how it has been examined and defined in previous literature,

including its definition, characteristics, consequences, and prevalence rates. To explain cyberbullying behaviour, the prevalence and consequences of cyberbullying are primarily discussed among children and adolescents, as the majority of research is situated within these populations.

Secondly, the role of morality, including moral emotions (shame and guilt) and moral attitudes (moral disengagement) on cyberbullying perpetration are presented. This is followed by the association between the perception of positive and negative forms of parental practices and moral outcomes. Then, characteristics of emerging adulthood as well as studies examining cyberbullying among this age group is presented. Lastly, the gap in the current literature is identified and discussed.

Although the population of interest for the present study is emerging adults, current research on parental practices, morality, and cyberbullying among this population remains limited. Therefore, while an objective of the current study is to further understand cyberbullying behaviour among emerging adults, some research contains children or adolescent samples.

Cyberbullying and Its Correlates and Consequences

Coined as a 'millennial' online phenomenon (Paciello et al., 2020), cyberbullying is a mounting problem, especially for the younger population (Meter & Bauman, 2018; Wade & Beren, 2011). Cyberbullying is the repetitive exposure, over time, to negative actions from one or more other individuals, and is when someone intentionally inflicts, or attempts to inflict, harm or discomfort upon another through the use of information and communication technologies (ICTs) (Faucher et al., 2014; Kiriakidis & Kavoura, 2010; Olweus & Limber, 2018). Despite the primary use of the Internet to establish and maintain relationships, a particular point of concern is using the Internet as an apparatus for aggression (Bartolo et al., 2019).

Cyberbullying is a pervasive and persistent act, as it is difficult to retrieve or eliminate messages or contents once it is on the Internet (Bonanno & Hymel, 2013; UNESCO, 2019). Noted

by Smith and Slonje (2010), victims are more likely to feel that there is “no place to hide”, as contents are accessible and disseminated to an infinite number of potential audiences. Extending further, through popular social media platforms, cyberbullying perpetration can be engaged in or be witnessed by thousands of users simultaneously (Bartolo et al., 2019). As a result, Smith (2012) found that even when cyberbullies stopped their detrimental acts, others may continue spreading the damaging contents.

Numerous studies over the past decade have examined the association between cyberbullying involvement (as a bully or victim) and maladjustment outcomes (Giumetti & Kowalski, 2016; Van Geel et al., 2014). In general, cyberbullying victimization was found to be associated with depression and anxiety symptoms, as well as lowered self-esteem and social difficulties (Campbell et al., 2012; Kowalski & Limber, 2013; Giumetti & Kowalski, 2016). Other researchers also found that compared to non-victimized students, cyberbullied victims reported higher levels of suicidal ideation and more suicide attempts (Klomek et al., 2008; van Geel et al., 2014). As seen from longitudinal studies, negative consequences of cybervictimization remains a long-lasting concern, such as an increased risk for depression, anxiety, loneliness, lower academic performance, as well as a weakened perception of school belongingness over time (Busch et al., 2014; Wright & Wachs, 2019).

Similarly, cyberbullies experience a higher risk for emotional distress, depression symptoms, substance use, suicidal ideation, and aggression (Calvete et al., 2010; Holt et al., 2015; Kowalski et al., 2014). Furthermore, consistent across meta-analyses of longitudinal studies, long-term negative effects have been observed for cyberbullies as well (Zych et al., 2017). For example, Kowalski and colleagues (2014) discovered that in comparison to non-cyberbullies, those who cyberbullied were more likely to engage in substance use years later.

The pervasive, negative consequences of cyberbullying are evident and well-documented in the current literature. However, there remains a need to further understand cyberbullying as an issue of morality.

Moral Disengagement and Cyberbullying

In the current literature, moral disengagement is consistently identified as a central construct in understanding the role of morality on aggressive behaviours, including traditional bullying (Bandura, 1990; Hymel et al., 2005; Kowalski et al., 2014) and cyberbullying (Bussey et al., 2015; Kowalski et al., 2014). In fact, a number of cross-sectional, longitudinal, systematic review and meta-analysis studies have found that moral disengagement is a positive predictor of cyberbullying perpetration (Bussey et al., 2015; Kowalski et al., 2014; Lo Cricchio et al., 2020; Marín-Lopez et al., 2020; Meter & Bauman, 2018; Orue & Calvete, 2016; Perren & Sticca, 2011; Pornari & Wood, 2010; Renati et al., 2012; Robson & Witenburg, 2013; Runions & Bak, 2015; Wang et al., 2016; Wang et al., 2019; Zhang et al., 2021), such that individuals with higher levels of moral disengagement were more likely to report cyberbullying others.

Definition of Moral Disengagement

Moral disengagement is the process of justifying behaviour that contrasts with one's internalized moral standards (Bandura, 1986; Caravita et al., 2019). For instance, perpetrators may be aware that bullying is a violation of moral standards (Gasser & Keller, 2009). By committing moral transgressions (e.g., cyberbullying), one would not only face the disapproval of others, but also internal criticism, like shame or guilt (Doramajian & Bukowski, 2015; Shulman et al., 2011). Thus, in order to avoid these negative emotions, individuals rationalize misconduct by moral disengagement (Bandura et al., 1996). Doing so, self-censure is prevented as individuals distance their emotions from the consequences of their wrongdoings (Doramajian & Bukowski, 2015).

Moral Disengagement in the Cyberbullying Context

Moral disengagement is argued to be significantly associated with cyberbullying due to various reasons. Firstly, the lack of social-emotional cues in the online context facilitates the perception of distance between the aggressive behaviour and negative consequences (Bandura, 2002; Runions & Bak, 2015). Subsequently, due to the absence of social cues, cyberbullies create their own interpretation of how might their actions affect the victim, thereby distorting or minimizing the consequences. Finally, the lack of face-to-face interactions may allow the perpetrator to dehumanize the victim, by ignoring the victim's humanistic qualities. Put together, these reasons suggest that cyberbullies commonly use moral disengagement mechanisms to shed responsibility from the inflicted harm on the victim, by either distorting the unseen consequences or disregarding how the victim may feel or react.

Characteristics of the Internet

The virtual space, characterized by the anonymity, lack of boundary and time constraints, as well as the absence of face-to-face interactions (Cross et al., 2015; Runions & Bak, 2015) may result in less pressure to adhere to strict moral principles (Naquin et al., 2010). This is supported by findings from a study by Halpern and Gibbs (2013), who demonstrated that in comparing comments on the Youtube and Facebook platforms, comments on Youtube were generally less polite, as users are given the option to hide their identities. Going further, recent studies examining other online transgressions, such as online racism (D'Errico & Paciello, 2018; Faulkner & Bliuc, 2016) and violent ideological group websites (Connelly et al., 2015) provide evidence that the Internet facilitate behaviours that would otherwise violate moral standards in real life.

Mechanisms of Moral Disengagement

Moral disengagement consists of eight cognitive mechanisms clustered into four sets: (1) reconstruing detrimental conduct, (2) obscuring personal agency, (3) disregarding or distorting

harmful consequences, and (4) blaming or dehumanizing the victim (Bandura, 1986, 1996, 1999, 2002, 2016) (see Figure 1).

Reconstruing Detrimental Conduct. The first set of moral disengagement mechanisms *reconstrues detrimental conduct*, by moral justification, euphemistic labeling, and advantageous comparison. Moral justification reconstrues the misconduct by portraying it as serving a greater moral purpose, therefore rendering it personally and socially acceptable (Bandura, 1990). In the cyberbullying context, if the cyberbully perceives the victim to be an offensive person to others, they may send insulting messages to the victim and justify their actions as standing up for their peers.

Euphemistic labeling reduces the perceived harmfulness of misconduct by sanitizing the label of it. For instance, cyberbullies may label their aggression as 'just a joke' to convince themselves and others that they are teasing the victim for fun (Billig, 2005).

Finally, advantageous comparison is comparing the misconduct with something more severe. For example, a cyberbully may believe sending a hurtful message is less detrimental than physically hurting someone (Runions & Bak, 2015).

Obscuring Personal Agency. The second set of moral disengagement mechanisms, which includes displacement of responsibility and diffusion of responsibility, *obscures personal agency* to feel less personal responsibility for misconduct (Bandura, 1990). Displacement of responsibility is employed when a person views someone else to be responsible for their behaviour. For instance, a student who uploads an embarrassing photo of their classmate online may believe their actions are warranted given that a friend had asked for the photo to be uploaded.

Next, the diffusion of responsibility is when the responsibility of the misbehaviour is spread out across a group of people. A cyberbully who constantly taunts their victim may perceive minimal consequences as they believe everyone else does the same. In other words, when responsibility is diffused, 'everyone is responsible' but 'no one is really responsible' (Bandura, 1990).

Disregarding or Distorting Harmful Consequences. A third way to disengage from moral transgressions is by *disregarding or distorting harmful consequences* (Bandura, 1990). Distorting consequences is to disregard, distort, or minimize the effects of the misconduct, such as when the cyberbully believes that their offensive actions won't cause negative emotions for the victim, therefore their behaviour is acceptable.

Blaming or Dehumanizing the Victim. Finally, the fourth set of mechanisms *dehumanizes or blames the victim* (Bandura, 1990). The dehumanization mechanism strips the victim of all elements that make up a human being, such as emotions and opinions. For example, a person may think it is acceptable to post hurtful content about their classmate, as they believe their classmate is a terrible person and deserves no respect.

Finally, the last mechanism is the attribution of blame, which is when one blames the victim for the maltreatment inflicted upon them. To corroborate, a cyberbully may argue that the victim "deserved" to be treated badly (Sternberg, 2016).

Taken together, an overarching theme across all eight mechanisms is the removal of personal responsibility. This is demonstrated by the perpetrator justifying or minimizing the negative consequences of their actions, diffusing responsibility to others, and putting blame on the victim. By doing so, perpetrators create the false belief that their behaviour is morally acceptable and thus, continue to engage in detrimental acts.

Moral Disengagement and Moral Emotions

According to the socio-cognitive theory (Bandura, 1999), moral conduct is determined through the interaction of affective and cognitive components of morality. Moral emotions influence decision-making and serve as a protection against moral violations (Bandura, 1999). These emotions, such as shame and guilt can either enable the anticipation of negative consequences from moral violations and prevent people from morally transgressing (Bandura, 2002), or be experienced

after a moral violation (Bandura et al., 1996; Doramajian & Bukowski, 2015; Tangney et al., 2007). Further, shame and guilt play a role in the display of moral disengagement, by preventing one from morally disengaging before a transgression (Bandura et al., 1996; Doramajian & Bukowski, 2015). According to this perspective, shame and guilt are central in the moral disengagement process. Furthermore, this suggests that the concurrence of moral emotions and moral disengagement are important in understanding aggression, such as cyberbullying behaviour.

Shame and Guilt

Shame and guilt are moral emotions in that they react to moral violations and motivate behaviour that go beyond the direct interests of the self (Haidt, 2003). Unlike instinctive emotions, such as happiness or fear, shame and guilt require advanced cognitive processes, including self-reflection and perspective-taking skills (Malti & Ongley, 2014; Tangney, 2003). While it is common to see the terms "shame" and "guilt" being used interchangeably (Tangney et al., 2007), these two emotions have significantly different implications for interpersonal relationships. The most prevailing distinction between the two is that shame is characterized by a negative appraisal of the entire self, while guilt is characterized by a negative appraisal of a specific behaviour (Lewis, 1971). For example, the experience of shame is often accompanied by the feeling of personal failure (Lewis, 1971). It is a painful emotion, as the individual focuses on their core self, and not on their behaviour (Tangney & Dearing, 2002). Inevitably, this individual believes their behaviour is uncontrollable (Tracy & Robins, 2006) and is due to a flaw within themselves (e.g., "Why am I like this?").

In comparison, guilt is generally less hurtful, as the criticism is focused on the behaviour. As the specific behaviour is under the spotlight, a guilty individual tends to reflect upon their actions and its consequences (e.g., "Why did I do this?"). Thus, shame and guilt promote different outcomes; shame evokes the feeling of a 'bad' self, resulting in the desire to avoid or withdraw from

the situation, whereas guilt focuses on a 'bad' behaviour, eliciting the want to take responsibility and repair a specific mistake (Lewis, 1971; Tangney & Dearing, 2002; Tracy & Robins, 2004, 2006).

Furthermore, while shame and guilt are situation-specific emotions and are relatively temporary, shame-proneness and guilt-proneness are tendencies to experience shame and guilt across various situations (Tangney et al., 1995). These tendencies reflect individual differences in the cognitive and affective responses to immoral behaviour (Tangney & Dearing, 2002). Across various situations, including ones that do not normally evoke shameful or guilty feelings, shame-prone individuals are more likely to respond with shame, while guilt-prone individuals respond with guilt (Tangney et al., 1995). Studies have found that guilt-proneness can be adaptive and promote prosocial behaviour, due to the reparative nature and concern for others' well-being (Roos et al., 2014; Torstveit et al., 2016; Tangney & Dearing, 2002). Therefore, negative associations were found between guilt-prone individuals and delinquent, impulsive, or destructive behaviour (Roos et al., 2014; Tangney & Dearing, 2002), and positive associations with perspective-taking and the willingness to apologize (Howell et al., 2012). In contrast, shame-proneness is maladaptive as it invokes feelings of inadequacy and heightened fear of the disapproval from others (Roos et al., 2014; Tangney & Dearing, 2002). Therefore, shame-prone individuals are found to resort to defensive strategies, such as withdrawal, avoidance, hostility, blaming others, and aggression, which elicits less prosocial behaviour (Kaufman, 2004; Rangganadhan & Todorov, 2010; Roos et al., 2014; Tangney et al., 2007).

While the characteristics of shame- and guilt-proneness distinguishes the two emotions from one another, they can also be used to provide a framework to understand the association between moral emotions and moral disengagement. It is argued that feelings of guilt prevent moral disengagement from exerting influence on actual behaviour (Thornberg et al., 2015). To corroborate, guilt-proneness was found to protect against moral disengagement because of its prosocial and

reparative nature (Johnson & Connelly, 2016; Moore et al., 2012; Thornberg et al., 2015; Tillman et al., 2018). Contrastingly, due to the avoidant and self-defeating nature of shame, shame-prone individuals display less prosocial behaviour and more aggression, and were found to report greater levels of moral disengagement (Johnson & Connelly, 2016; Roos et al., 2014; Tillman et al., 2018).

Parental Influences on Moral Emotions and Moral Disengagement

As suggested by the affect-cognition model (Malti & Keller, 2010), the antecedents to moral emotions and moral disengagement are results of the reciprocal influences between individuals and their environments. Shame- and guilt-proneness develop over time, starting from our earliest social interactions (e.g., parent-child interactions). In corroboration, as moral disengagement is a malleable construct, it can be influenced by external social factors such as reciprocal parent-child interactions (Wang et al., 2019; Wang et al., 2020). The family environment provides a context for children to be exposed to and learn social norms and moral standards (Hinde, 2002). Parental practices are thus critical for positive social-emotional and moral development, as parental figures facilitate moral functioning in their children by guiding their behaviour and providing explanations for appropriate moral conduct (Bandura, 1991). For instance, in a study examining parent evaluative behaviour and children's emotional responses, it was discovered that when parents used global evaluations during a problem-solving task, such as, "*you're not very talented*", children were more likely to express shame (Alessandri & Lewis, 1993). On the other hand, when parents evaluated the specific behaviour, such as, "*you're doing it the wrong way*" guilt was more frequently expressed. Likewise, studies have revealed that children with negative, inconsistent, rejecting or criticizing parents who focuses on criticizing the child's global self were more likely to report greater shame-tendencies and more moral disengagement, whereas children with positive and warm parents who focuses on evaluating their child's behaviour were more likely to display more empathy and higher guilt-proneness, and less moral disengagement (Bartolo et al., 2019; Campaert et al., 2018; dos Santos et

al., 2020; Hart & Matsuba, 2007; Mintz, 2017; Pelton et al., 2004; Qi, 2019; Sheikh & Janoff-Bulman, 2010; Stuewig & McCloskey, 2005; Tangney & Dearing, 2002; Walter & Burnaford, 2006; Zhang et al., 2021).

These associations have significant implications on interpersonal relationships. According to Campaert and colleagues (2018), experiences with negative and aggressive parental discipline may lead children to: (1) internalize aggressive behaviour as acceptable if it is for a greater purpose (e.g., better academic performance) and (2) learn that the responsibility of the aggressive behaviour can be shared among others, as one parent may agree with the other. This internalized aggression contributes to moral disengagement thought processes, such as moral justification and diffusion of responsibility. Therefore, greater aggression-prone cognitions are observed among children who report experiences of negative parenting (Simons and Wurtele, 2010). Meanwhile, children and adolescents who perceive positive parenting report more prosocial behaviour (Gagné, 2003) and less aggression, including cyberbullying perpetration (Cappadocia et al., 2013; Elsaesser et al., 2017; Fousiani et al., 2016; Kawabata et al., 2011; Kowalski et al., 2014; Legate et al., 2019).

Parental Practices

The present study examined two forms of parental practices, autonomy support and psychological control (Mageau et al., 2015). Previous studies with Western samples have commonly characterized the two as positive (autonomy support) and negative (psychological control) forms of parenting (e.g., Barber, 1996; Costa et al., 2016; Deci & Ryan, 2000; Soenens & Vansteenkiste, 2010). However, research among different cultural groups have revealed subjective perceptions of ‘positive’ and ‘negative’ forms of parental practices (Fung & Lau, 2012). For instance, studies conducted in individualistic cultures (e.g., North American and European contexts) report autonomy support being positively perceived, while psychological control is negatively perceived (Barber et al., 1996; Costa et al., 2016; Soenens & Vansteeinkiste, 2010). Contrastingly, in collectivistic

cultures that value interdependence and family harmony (Yu et al., 2018), psychological control could be conveyed as a normative form of endearment (Fung & Lau, 2012; Fung et al., 2017; Yu et al., 2018). Thus, given that the present study was conducted with a North American sample, autonomy support and psychological control were operationalized as positive and negative parental practices respectively.

Autonomy Support

Deci and Ryan (2000) defined the concept of autonomy as volitional functioning, wherein people strive to act in their own interests, goals, and values. These individuals perceive their actions to be authentic and self-endorsed (Soenens et al., 2009). In congruence with the definition of volitional functioning (Deci & Ryan, 2000), autonomy supportive parenting is operationalized by promoting volition (e.g., facilitating children's self-endorsed interests), taking the perspective of the child (e.g., by displaying empathy), and providing rational reasoning when limits are imposed (Grolnick et al., 1997; Ryan & Deci, 2009). According to Deci and Ryan, two basic psychological needs are autonomy and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2009), where the need for autonomy is the desire to feel one's actions are freely chosen and in line with the sense of self, while relatedness refers to the need to feel connected to and supported by others (Deci & Ryan, 2000). In this realm of thought, given that individuals who perceive high levels of parental autonomy support report satisfied autonomy and relatedness needs (Costa et al., 2016), autonomy support may promote long-term positive and healthy development among children, adolescents, and emerging adults (Deci & Ryan, 2000; Ryan & Deci, 2009; Van der Giessen et al., 2014).

Psychological Control

Psychologically controlling parents emphasize their role in the parent-child relationship, and orient towards their own needs (Barber et al., 2002). In contrast to autonomy supportive parents who focus on children's needs, interests, and independence, psychologically controlling parents are more

inclined to attend to their own goals (Grolnick, 2002). This type of parental practice is defined as negative, controlling behaviour where parents endorse in coercing tactics such as inducing guilt, instilling anxiety, and withdrawing their love (Barber, 1996). Unlike external parental pressures (e.g., threats of or engaging in physical punishment, and controlling or removing privileges), psychological control is considered an internal form of pressure (Grolnick, 2002). This internal pressure is manifested through parents' manipulation of their child's emotions by inducing shame or guilt, thus controlling how they think, feel, and behave (Soenens & Vansteenkiste, 2010; Soenens et al., 2009). For example, psychologically controlling parents display fluctuating affection for their child, by withdrawing affection when their child does not act in accordance to their agenda (Soenens et al., 2009). This creates inner conflict within the child, as parental love is perceived to be contingent on acting 'the right way' (Assor et al., 2004).

Emerging Adulthood, Parental Practices and Cyberbullying

Parents continue to assert their influence beyond adolescence (Padilla-Walker & Nelson, 2017; Smokowski et al., 2015), and remain a strong source of emotional support for emerging adults (Guan & Fuligni, 2016). Given these significant implications, it is necessary to examine how positive and negative forms of parental practices are associated with moral outcomes among this age group.

Emerging Adulthood

Among industrialized societies, emerging adulthood is characterized by individuals between the ages of 18 to 25, and is a distinct developmental period where individuals have increased independence and life possibilities (Arnett, 2000). Emerging adulthood is the longest process of development, and is when people are typically expected to find occupation, attend university or college, or train to improve their skills (Arnett, 2000). It is a significant transitional period which encompasses growth in self-identity and self-understanding (Lapsley & Hardy, 2017), as individuals

explore work opportunities, intimate relationships, and personal values (Arnett, 2000, 2007; 2015). Thus, this transition to adulthood can cause individuals to feel a constant struggle with: (1) their identity, (2) feeling in-between, as many lacks financial or general independence from their parents, (3) self-focus, (4) possibility, and (5) instability (Arnett, 2000).

Extending further, morality is particularly salient at this stage, as it has been suggested to be an integral part of self-identity, above and beyond personality traits, previous experiences or desires (Strohminger & Nichols, 2014). In fact, researchers have suggested that moral character (e.g., integrity, commitment, prosocial behaviour) defines one's identity and is what one finds most important in others (Goodwin et al., 2014; Lapsley & Hardy, 2017). Put together, emerging adulthood is a volatile period in which individuals are susceptible to moral and identity changes, with these changes often becoming consolidated in later adulthood (Lapsley & Hardy, 2017). As the life choices made during this period often set the foundation for later adulthood (Arnett, 2019), many consider some of the most important life events having occurred in their emerging adulthood years. Therefore, there is a need for further understanding of moral development during the emerging adulthood years, with a closer examination of the potential role parental figures play at this developmental stage.

Autonomy Support and Outcomes in Emerging Adulthood

Parenting research have consistently found that emerging adults with a high perception of parental autonomy support had better adjustment outcomes, such as less social anxiety and greater life satisfaction (Kouros et al., 2017), and higher social competence (Matte-Gagné et al., 2015). In corroboration, other studies found that emerging adults who felt more autonomy and relatedness from their parents reported fewer negative psychological symptoms (e.g., depression and anxiety) and physical symptoms (e.g., headaches, stomach aches, and other physical illnesses) (Lamborn & Groh, 2009), as well as less loneliness and stress (Inguglia et al., 2015).

Psychological Control and Outcomes in Emerging Adulthood

Consistently, research has found psychological control to be associated with maladaptive outcomes in adolescents and emerging adults, such as fewer displays of prosocial behaviours (Barber & Harmon, 2002; Padilla-Walker et al., 2016). Furthermore, emerging adults who perceive more psychological control from their parents also report greater maladjustment in academic and occupational settings (Desjardins & Leadbeater, 2017), as well as depression symptoms (Reed et al., 2015). Additionally, difficulties in coping with interpersonal stress (Zimmer-Gembeck et al., 2011) are observed.

Cyberbullying in Emerging Adulthood

There is growing evidence to suggest that emerging adults spend a substantial amount of time online (Coyne et al., 2013), with 45% reporting being online constantly (Anderson & Jiang, 2018). As a result of increased time spent on the Internet, this implies a higher likelihood for emerging adults to be exposed to online risks, such as cyberbullying (Yang, 2021).

Less is known about cyberbullying behaviour among emerging adults (Kowalski et al., 2019; Myburgh, 2018; Orel et al., 2015; Zalaquett & Chatters, 2014), though some studies have revealed that cyberbullying continues to have detrimental consequences in postsecondary populations (Kowalski et al., 2012), including in Canada (Cassidy et al., 2017; Faucher et al., 2014). On the other hand, there is ample research examining cyberbullying among middle school students, with some exploring the relationship with elementary and high school students (Kowalski et al., 2019). Though few studies have focused on cyberbullying among emerging adults (Kowalski et al., 2019) the ones that did have found that cyberbullying impacts up to 44% of university students (e.g., Francisco et al., 2015; Kowalski et al., 2012; Na et al., 2015; Schenk & Fremouq, 2012; Selkie et al., 2015, 2016; Walker et al., 2011; Wensley & Campbell, 2012), and is an ongoing issue among Canadian postsecondary institutions (Cassidy et al., 2017; Faucher et al., 2014).

With regards to variations in cyberbullying and its associated severity level, previous studies among emerging adults reveal anonymity and publicity as two key factors in the perceived severity of cyberbullying by the victim (Dooley et al., 2009; Nocentini et al., 2010; Slonje & Smith, 2008; Sticca & Perren, 2013). For instance, anonymity of the perpetrator was perceived to be more threatening for cybervictims as it increased feelings of insecurity and fear of not knowing who was behind the attack (Palladino et al., 2017). Furthermore, when the cyberbullying act was carried out publicly, potential for harm was perceived to be greater by the victim (Smith & Slonje, 2010). This is supported by two previous studies (Dooley et al., 2009; Slonje & Smith, 2008), which found that one of the most severely perceived form of cyberbullying was when perpetrators circulated personal and/or intrusive photos and/or videos of victims publicly. As potential recipients can share the content within a wider social network, causing the content to be irretrievable, victims report suffering from embarrassment, humiliation, and stigma (Slonje & Smith, 2008; Smith & Slonje, 2010). This is especially pertinent among the emerging adulthood population, where high rates of cyber-dating violence occur (Burke et al., 2011), with the distribution of sexually explicit content of the partner a common feature of this form of cyberaggression (Borrajo et al., 2015). Put together, cyberbullying acts that are carried out anonymously and publicly are considered the most severe threats for victims.

The Present Study

This study sought to examine whether and the extent to which perceived parental practices may facilitate or prevent aggressive behaviour, such as cyberbullying, through its influences on moral emotions and moral disengagement among emerging adults. Although perceived parental practices and its implications for children and adolescent moral outcomes in the cyberbullying context have been studied (Fousiani et al., 2016; Legate et al., 2019), this remains relatively unexplored among emerging adults (McKinney et al., 2018; Mintz et al., 2017). Examining these

associations among emerging adults will extend current knowledge about the perceptions of parental practices and moral functioning after childhood and adolescence.

Lastly, to the best of our knowledge, although previous research has suggested that parental socialization contributes to morality (e.g., emotions and attitudes) (e.g., Bandura, 1991; Llorca et al., 2017; Meesters et al., 2017; Zych et al., 2019), such that negative parenting is associated with poor moral attitudes and aggression-prone cognitions among adolescents (Hyde et al., 2010; Simons & Wurtele, 2010), and that morality plays a significant role in cyberbullying (e.g., Perren & Gutzwiller-Helfenfinger, 2012; Runions & Bak, 2015; Tillman et al., 2018), none have investigated the potential mediating role of morality in the association between parental practices and cyberbullying. More specifically, the associations between positive or negative parenting, moral emotions, moral disengagement, and cyberbullying have yet to be examined simultaneously.

Research Objectives and Hypotheses

To address the gap in the current literature, this study explored five specific research objectives and their corresponding hypotheses: (Q1) to investigate how parental practices contribute to tendencies of shame and guilt in emerging adults; it was hypothesized (H1) that parental autonomy support (e.g., displaying empathy, behaviour-focused responses, providing a rationale when limits are imposed) would be positively associated with guilt-proneness and negatively associated with shame-proneness, whereas parental psychological control (e.g., love withdrawal, rejection)would be associated with shame-proneness but negatively associated with guilt-proneness (e.g., dos Santos et al., 2020; Mintz et al., 2017; Tangney & Dearing, 2002; Stuewig & McCloskey, 2005).

The second objective was: (Q2) to examine the associations between parental practices and moral disengagement; (H2) as previous studies have indicated that positive parenting would be negatively associated with moral disengagement, while negative parenting would be positively

associated with moral disengagement (Campaert et al., 2018; Hyde et al., 2010; Pelton et al., 2004; Qi, 2019; Zhang et al., 2021), the present study hypothesized that parental autonomy support would be negatively associated with moral disengagement, while parental psychological control would be positively associated with moral disengagement.

Additionally, the third objective was: (Q3) to examine the associations between shame- and guilt-proneness and moral disengagement; based on prior studies, shame- and guilt-proneness are hypothesized (H2) to be differentially associated with moral disengagement, as previous studies with adolescents and adults found that those reporting greater levels of shame-proneness scored higher on reports of moral disengagement, whereas higher levels of guilt-proneness was in turn associated with less reports of moral disengagement (Johnson & Connelly, 2016; Mazzone et al., 2018; Moore et al., 2012; Tillman et al., 2018).

Furthermore, the fourth objective (Q4) was to explore the association between moral disengagement and cyberbullying; in line with previous studies (e.g., Hood & Duffy, 2018; Paciello et al., 2020), the present study hypothesized (H4) that moral disengagement is positively associated with cyberbullying, due to the absence of social-emotional cues in the online context, the perception of distance between the perpetrator and victim, and the ability to access the internet anytime, anywhere, and by anyone (Bandura, 2002; Olweus & Limber, 2018; Runions & Bak, 2015).

Finally, given that parenting is associated with moral outcomes (e.g., Meester et al., 2017; Zhang et al., 2021; Zych et al., 2019), and morality is a significant predictor of cyberbullying (e.g., Tillman et al., 2018), the last objective (Q5) of the present study was to examine whether shame- and guilt-proneness, would act as mediators between parental practices and moral disengagement, and in turn, moral disengagement would positively predict cyberbullying perpetration. Given that moral emotions arise to anticipate negative consequences and guide moral behaviour, shame- and guilt-proneness were considered necessary prerequisites for variations in the display of moral

disengagement. It was hypothesized (H5) that shame- and guilt-proneness would mediate the association between parental practices and moral disengagement, and moral disengagement would then be positively associated with cyberbullying perpetration (e.g., dos Santos et al., 2020; Johnson & Connelly, 2016; Tillman et al., 2018) (see Figure 1 for the hypothesized model).

Method

Participants

The final dataset for the present study involved 449 participants (*Mage* = 21.85, *SD* = 1.93), which satisfied previous recommendations of a minimum sample size of 200 for structural equation modeling (SEM) analysis (Boomsma, 1982; Hoe, 2008; Sivo et al., 2006). Canadian postsecondary students between the ages of 19 to 25 were selected as the age group of interest, given the relatively small number of studies that have examined the association between emerging adults and cyberbullying behaviours (Kowalski et al., 2019). Data collection took place across Canada. Descriptive statistics of participants' age, gender and level of study are presented in Table 1.

Participants reported their primary ethnicity/cultural background. Thirty-seven percent identified as Caucasian, 21.6% East Asian, 16.3% First Nations, 7.1% African/Caribbean, 6.2% South Asian, 6.0% Southeast Asian, 4.5% Latin American, 4.2% Middle Eastern, .7% Biracial or Multiracial, and .4% North American (e.g., Canadian).

Procedure

This study was approved by the research ethics board at McGill University prior to the recruitment process. Participants were recruited on various social media platforms (e.g., official student association Facebook groups), and through university department-wide email listservs. Individuals who were interested in participating were invited to access the study through a link directing them to the Qualtrics platform (www.qualtrics.com).

Before the start of the study, individuals read and signed a consent form. The consent form detailed the nature of the study as well as any potential risks to the participant. It explained that participants' answers were confidential, their identity would remain anonymous, they were allowed to skip any questions they did not feel comfortable answering, and they were allowed to stop the study at any time. Participants were also made aware of a link to a list of mental health resources at the top of every page of the study. This was available in the case participants felt the need to speak with a mental health professional or wanted access to mental health resources in the community. If individuals agreed to give consent, they would be brought to the demographic questionnaire page.

Subsequently, participants filled out questionnaires asking them about their perceptions of parental practices, moral emotions, moral disengagement, and cyberbullying perpetration. At the end, participants were asked if they were interested in entering a gift card draw. If they selected 'Yes', they were directed to the next page, where they entered their email address. Finally, the last page entailed a debrief of the study.

Measures

Participants responded to questionnaires regarding their demographics, perceived parental practices, moral emotions, moral disengagement, and cyberbullying perpetration.

Demographics

Participants completed a demographics questionnaire regarding their age, level of study, gender, sexual orientation, and ethnic/cultural background.

Perceptions of Parental Practices

To measure perceptions of parental autonomy support and psychological control, the Perceived Parental Autonomy Support Scale (P-PASS; Mageau et al., 2015) was used. The P-PASS consists of 2 subscales with a total of 48 items measuring autonomy support and psychological control. Each scale has 24 items (12 items each for significant maternal and paternal figures), such

as “My parents encouraged me to be myself” for autonomy support, and “My parents insisted that I always be better than others” for psychological control. Participants responded to the scale using a 7-point Likert scale with 1 being “Do not agree at all” to 7 being “Very strongly agree”.

A maximum likelihood factor analysis with direct oblimin rotation was performed to determine the factor structure of the P-PASS separately for autonomy support and psychological control in the current sample. Results support a one-factor structure for both. Results were interpreted by eigenvalues greater than 1 (Nunnally, 1978) and a scree test which graphically depicts the eigenvalues (Cattell, 1966). For the autonomy support subscale, 4 factors had eigenvalues above 1. The proportion of the variance accounted for by the first predominant factor was 49.10%. The proportion of variance explained by the other possible factors were 9.10%, 6.83%, and 5.41%. In regards to factor loadings, this study used the recommended factor loading cut-off of .30 and above as acceptable factor loading values (Hair et al., 1998). All 24 items had loadings between .63 to .75 and were therefore retained for analysis. Meanwhile, for the psychological control subscale, out of the 5 factors with eigenvalues greater than 1, the predominant factor explained 42.23% of the proportion of the variance, while the proportion of variance accounted for by other possible factors were 12.13%, 8.11%, 7.43%, and 5.23%. All 24 items had loadings in the range between .41 to .80 and were included for analysis.

The scale shows good internal consistencies in previous research ($\alpha = .92$ for the autonomy support subscale and $\alpha = .89$ for the psychological control subscale) (Mageau et al., 2015). In the present study, the two subscales demonstrated excellent reliability (autonomy support: $\alpha = .95$; psychological control: $\alpha = .94$). The scale has been successfully used and validated with the emerging adulthood population (Costa et al., 2016, 2018; Mageau et al., 2015).

Shame and Guilt

The Test of Self-Conscious Affect—3 (TOSCA-3; Tangney et al., 2000) was used to measure shame- and guilt-tendencies. The TOSCA-3 includes 16 scenario vignettes, with 11 negative ones and 5 positive ones. Each scenario is followed by responses to assess shame, guilt, detachment, externalization, and pride. For the purpose of the current study, only the response items under the two subscales, shame and guilt, were used to assess shame- and guilt-tendencies. An example of a scenario is: "While out with a group of friends, you make fun of a friend who's not there". The shame-prone response would be: "You would feel small…like a rat", while the guilt-prone response would be: "You would apologize and talk about that person's good points". Participants rated the likelihood they would respond to these items on a 5-point Likert scale, with 1 being "Not likely" to 5 being "Very likely".

A maximum likelihood factor analysis with direct oblimin rotation was performed to determine the factor structure of the guilt and shame subscales within the present study sample. The results revealed support for a one-factor structure for both subscales. In regards to the shame subscale, the principal factor accounted for 32.58% of the proportion of variance, while the other potential factor explained 11.47%. With the exception of Item 2, Item 3, Item 5, and Item 11, which had poor factor loadings between the range of .11 to .28, all other items loaded onto the factor with acceptable loadings between .30 to .72. For the guilt subscale, the predominant factor explained 37.13% of the proportion of variance, while the other potential factor explained 8.60%. Item 4, Item 6, Item 11, and Item 14 revealed low factor loadings between .14 to .29 and were omitted. The other 12 items had factor loadings ranging from .35 to .70 and were retained for analysis.

In the validation study of the TOSCA-3, Cronbach's alpha for the guilt and shame subscales ranged from $\alpha = .76$ to .88 for shame and $\alpha = .70$ to .83 for guilt, and test-retest reliability for these two subscales were $\alpha = .85$ (shame) and $\alpha = .74$ (guilt) (Tangney & Dearing, 2002). In the present study, the two subscales showed satisfactory reliability (shame: $\alpha = .80$; guilt: $\alpha = .83$). The measure

has been previously validated with university students (Gao et al., 2013; Hasui et al., 2009; Tangney & Dearing, 2002).

Moral Disengagement

Moral disengagement was measured using the Civic Moral Disengagement Scale (CMDS; Caprara et al., 2009). The scale consists of 32 items, with 4 items measuring each of the 8 moral disengagement mechanisms: (1) moral justification, (2) advantageous comparison, (3) displacement of responsibility, (4) euphemistic language, (5) diffusion of responsibility, (6) distorting consequences, (7) attribution of blame, and (8) dehumanization. An example of an item is, "There is no sense in blaming individuals who evade a rule when everybody does the same thing". Items are rated on a 5-point scale, with 1 being "Strongly disagree" to 5 being "Strongly agree".

To examine the factor structure of the CMDS, a maximum likelihood factor analysis with direct oblimin rotation was conducted. The results revealed support for a one-factor structure, whereby out of the 6 factors with eigenvalues greater than 1, the principal factor accounted for 28.92% of the proportion of variance, while the other potential factors explained 6.97%, 5.49%, 4.55%, 3.98%, and 3.71%. All items showed adequate factor loadings between .31 to .69, except for Item 2, Item 4, Item 5, Item 8, and Item 12, which had factor loadings between .19 to .28 (Hair et al., 1998). Thus, these five items were omitted from further data analysis.

The CMDS has been used and validated with university students (Fang et al., 2020; Wang et al., 2017), and shows good reliability in previous studies (α = .90 to .95; Caprara et al., 2009; Wang et al., 2017). In this study, the CMDS also demonstrated good reliability (α = .89).

Cyberbullying Perpetration

The Cyberbullying Perpetration Scale (CBP; Lee et al., 2017) measured cyberbullying perpetration among emerging adults. The CBP consists of 20 items with 3 subscales, Verbal/Written Perpetration (e.g., "I have sent someone mean text messages on the mobile phone to embarrass the

person"), Visual/Sexual Perpetration (e.g., "I have made sexual jokes about someone online to embarrass the person"), and Social Exclusion (e.g., "I have blocked someone in a chat room to harm the person"). All items are rated on a 5-point scale, from 1 as "Not at all" to 5 as "Very often".

The results from a maximum likelihood factor analysis with direct oblimin rotation was conducted for the CBP, and a one-factor structure was supported. Specifically, of the three factors observed with eigenvalues above 1, the predominant factor explained 52.89% of the proportion of variance, whereas the other two potential factors explained 7.68% and 6.02%. All three reverse-scored items on the CBP revealed poor factor loadings between -.003 to .13 and were removed. The remaining 17 items showed factor loadings between the range of .49 to .82 (Hair et al., 1998).

The developers of the CBP scale found good reliability ($\alpha = .93$) and strong convergent validity when the scale was used with a university sample (Lee et al., 2017). In this study, the CBP showed good reliability ($\alpha = .94$).

Analytical Plan

The dataset was first screened and cleaned. Subsequently, factor structure and reliability for all measures were assessed using maximum likelihood factor analysis and Cronbach's alpha respectively. Then, assumptions of normal distribution were checked by examining normality, univariate and multivariate outliers, linearity, multicollinearity, and homoscedasticity. To show the relationships between all study variables, Pearson correlations and linear regression analyses were conducted. All procedures were conducted using SPSS (Version 26; IBM Corp., 2020).

In order to test the research hypotheses, structural equation modeling (SEM) was conducted in Mplus (Version 8; Muthén & Muthén, 2010). Recommendations by Bentler & Bonett (1980) and Browne & Cudeck (1992) were followed to evaluate model fit: Comparative Fit Index (CFI) > .90 and Root Mean Square Error of Approximation (RMSEA) < .08 are commonly considered to indicate a good model fit.

Results

The following results section first described the preliminary analyses, including data screening and cleaning, descriptive statistics, and correlations of all the present study's variables. Subsequently, results from SEM was described to answer the five research questions. Specifically, the associations: (1) between perceived parental practices and moral emotions (shame and guilt), (2) perceived parental practices and moral disengagement, (3) moral emotions and moral disengagement, (4) moral disengagement and cyberbullying perpetration, and (5) the mediation effects of moral emotions in the relationship between perceived parental practices and moral disengagement, were described.

Preliminary Analyses

The initial dataset included 970 respondents. Data were screened and cleaned using three criteria: (1) participant age must be between 19 to 25; (2) study completion time should be a minimum of 10 minutes or above; (3) 3 out of 4 attention check questions should be answered correctly. Attention check questions (e.g., "Please select 'Do not agree' for this item") were included to ensure scale validity, by confirming that participants were paying attention while completing the study (Bowling et al., 2016). Based on these three criteria, 519 out of 970 responses were removed, resulting in 451 participants. A further two participants were removed after assessing their responses (e.g., all items in the survey were left blank). Therefore, 449 responses were retained in the final dataset.

Assumption Tests

Before conducting a SEM test, five major assumptions of SEM were checked, including multivariate normality, univariate and multivariate outliers, linearity, multicollinearity, and homoscedasticity.

Normality. To determine multivariate normality, each variable's distribution for skewness and kurtosis was examined. A skew value greater than 2 or less than -2, and a kurtosis value greater than 7 or less than -7 may suggest a violation of normality (Kim, 2013). In the present study, all variables were within the acceptable range.

Univariate and Multivariate Outliers. To test for univariate outliers, *z*-scores for each variable were created. A score was considered an outlier if it had a *z*-score greater than ±3.29 (Tabachnick & Fidell, 1996). According to the recommended cut-off score, there were eight univariate outliers present (*z*-scores > ±3.29, $p < .001$). Mahalnobis distance statistics was employed to screen for multivariate outliers. With a critical value of $\chi^2(5) = 20.52$, $p < .001$ (Tabachnick & Fidell, 2007), two cases exceeded the critical value. To determine the retainment or removal of the outliers, path analysis was conducted with and without univariate and multivariate outliers. Results showed no differences between the results including outliers and those excluding outliers. Therefore, all outliers were retained for further analyses.

Linearity. The assumption of linearity was tested by a visual inspection of scatterplots. All scatterplots revealed an approximate oval-shape for the independent and dependent variables, therefore meeting the assumption of linearity.

Multicollinearity. To test for multicollinearity, the diagnostic statistics VIF (variance inflation factor) was used. A VIF value exceeding the cut-off of 10 would indicate multicollinearity (Midi & Bagheri, 2010). In the present study, VIF values were within the acceptable range, therefore indicating that no multicollinearity issues exist between the study variables.

Homoscedasticity. The assumption of homoscedasticity was tested by a visual inspection of scatterplots between the standardized predicted value (*x*-axis) and standardized residuals (*y*-axis). According to Tabachnick & Fidell (2007), the assumption of homoscedasticity is met when the scatterplot shows scores scattered horizontally, most commonly in the form of a rectangular shape.

For the present study, all scatterplots revealed a random array of dots approximately shaped as a rectangle, which indicated that the assumption of homoscedasticity was not violated.

Descriptive Statistics

Using IBM SPSS Statistics (Version 26), a bivariate Pearson Correlations analysis was conducted to test for the mean (*M*), standard deviation (*SD*), correlations and Cronbach's alpha values among the study variables. Results are presented in Table 2. Correlations revealed a significant negative correlation between autonomy support and psychological control ($r = -.146$, $p = .002$). While autonomy support showed a significant negative correlation with shame, ($r = -.121$, $p = .010$), psychological control was positively correlated with shame ($r = 132$, $p = .005$). Furthermore, while psychological control had a significant positive correlation with guilt ($r = .137$, $p = .004$), there was a non-significant correlation with autonomy support ($r = .021$, $p = .661$). In regards to parental practices and moral disengagement, psychological control showed a significant positive correlation with moral disengagement ($r = .305$, $p < .001$), while autonomy support was not significantly correlated with moral disengagement ($r = -.018$, $p = .704$). Similarly, only psychological control was significantly correlated with cyberbullying perpetration ($r = .300$, $p < .001$), as autonomy support showed no significant correlation ($r = -.022$, $p = .646$). Shame and guilt were positively correlated ($r = .468$, $p < .001$). Out of shame and guilt, only guilt had a significant negative correlation with moral disengagement ($r = -.405$, $p < .001$), whereas shame was not significantly correlated with moral disengagement ($r = -.044$, $p = .357$). Additionally, shame had no significant correlation with cyberbullying perpetration ($r = -.081$, $p = .088$), but guilt was negatively correlated with cyberbullying perpetration ($r = -.458$, $p < .001$). Finally, there was a significant positive correlation of moral disengagement with cyberbullying perpetration ($r = .577$, $p < .001$).

Tests of Hypotheses

A mediation model was tested using SEM on MPlus (Version 8) to examine the hypothesized relationship of perceived autonomy support and psychological control being indirectly related to cyberbullying perpetration through shame, guilt, and subsequent moral disengagement (see Figure 2 for the hypothesized mediation model).

To determine model fit, the χ^2 goodness-of-fit test was observed. The test was significant, $\chi^2(5) = 33.75$, $p < .001$. Although a non-significant χ^2 goodness-of-fit test is commonly used to indicate good model fit (Kline, 2015), this test is sensitive to sample size (Bentler & Bonett, 1980). Thus, fit indexes including the comparative fit index (CFI) and root mean square error of approximation (RMSEA) were used in this study to supplement the χ^2 goodness-of-fit test in order to evaluate model fit (Kline, 2015).

Traditional cut-off values that indicates good model fit are CFI scores greater than .90 and RMSEA scores less than .08 (e.g., Bentler & Bonett, 1980; Browne & Cudeck, 1992). With regards to the RMSEA, values are considered adequate fit if they range between .08 to .10 (Browne & Cudeck, 1992). However, researchers have suggested that fit indices do not need to be stringent thresholds strictly followed, but instead should be used as aids for interpretation (Lai & Green, 2016; Yuan, 2005). Fit-indexes of the present study's model revealed an overall acceptable fit, CFI = .88 and RMSEA = .17. The standardized mediation model is depicted in Figure 3.

Perceived Parental Practices on Moral Emotions

The first hypothesis of the present study (H1) indicated that perceived autonomy support is positively associated with guilt and negatively associated with shame, while perceived psychological control is negatively associated with guilt and positively associated with shame. As shown in Figure 3, autonomy support was insignificantly associated with guilt ($\beta = .001$, $p = .988$), but revealed a significant negative association with shame ($\beta = -.105$, $p = .026$). Meanwhile, psychological control

showed a positive association with shame (β = .117, p = .012) and negative association with guilt (β = -.137, p = .003). Therefore, H1 was partially supported.

Perceived Parental Practices on Moral Disengagement

The second hypothesis (H2) indicated that perceived autonomy support is negatively associated with moral disengagement, while perceived psychological control is positively associated with moral disengagement. Results partially support H2. Contrary to what was hypothesized, autonomy support was not significantly associated with moral disengagement (β = .042, p = .318). However, in line with H2, psychological control revealed a significant positive association with moral disengagement (β = .233, p < .001).

Moral Emotions on Moral Disengagement

The third hypothesis (H3) stated that shame and guilt would be differentially associated with moral disengagement (shame is positively associated with moral disengagement, guilt is negatively associated with moral disengagement). Results from the present study fully supports the hypothesis, indicating a significantly negative association between guilt and moral disengagement (β = -.437, p < .001), and a significant positive association between shame and moral disengagement (β = .135, p = .005).

Moral Disengagement on Cyberbullying Perpetration

Moral disengagement was hypothesized to be positively associated with cyberbullying perpetration (H4). This hypothesis is supported by the present study's findings. As depicted in Figure 3, moral disengagement was a significant positive predictor of cyberbullying perpetration (β = .578, p < .001).

Perceived Parental Practices on Cyberbullying Through the Mediation of Moral Emotions and Moral Disengagement

Shame and guilt were hypothesized to mediate the relationship between perceived parental practices and moral disengagement, and in turn, moral disengagement would predict cyberbullying (H5; Figure 2). Results revealed partial support for the hypothesis (H5). The total, direct, and indirect effects of the mediation model are specified in Table 3 and Figure 3.

Psychological Control. The total effect of perceived psychological control on moral disengagement was significant ($\beta = .309$, $p < .001$). Accordingly, higher levels of perceived psychological control are associated with higher levels of moral disengagement. Furthermore, indirect effects of guilt on the association between perceived psychological control and moral disengagement were significant ($\beta = .060$, $p = .005$). Subsequently, moral disengagement was significantly associated with cyberbullying perpetration ($\beta = .578$, $p < .001$). On the other hand, the indirect effect of perceived psychological control on moral disengagement through shame revealed non-significant mediation effects ($\beta = .016$, $p = .062$). However, results indicate that the direct effect of perceived psychological control on moral disengagement, after controlling for guilt, remains significant ($\beta = .233$, $p < .001$). This suggests that guilt partially mediates the relationship between perceived psychological control and moral disengagement, and in turn, moral disengagement positively predicts cyberbullying perpetration.

Autonomy Support. In regards to perceived autonomy support, the total effect of perceived autonomy support on moral disengagement was non-significant ($\beta = .027$, $p = .548$). No significant indirect effects of shame ($\beta = -.014$, $p = .081$) or guilt ($\beta = .000$, $p = .988$) were observed in the relationship between perceived autonomy support and moral disengagement. Finally, when controlling for moral emotions, the direct effect of perceived autonomy support on moral disengagement was revealed to be non-significant ($\beta = .042$, $p = .318$).

Discussion

The present study examined social-emotional and moral factors that contribute to cyberbullying perpetration. Specifically, under the frameworks of the socio-cognitive theory (Bandura, 1999) and the affect-cognition model (Malti & Keller, 2010), how emerging adults' perceive parental practices, their moral emotions (shame and guilt) and moral cognitions (moral disengagement) were explored. It was found that perceived parental practices and moral emotions were important factors associated with moral disengagement. In turn, moral disengagement significantly predicted cyberbullying perpetration. Perceived parental practices and moral emotions were all important factors associated with moral disengagement. Furthermore, a major finding of this study was the evidence of significant indirect effects of perceived psychological control on emerging adults' moral disengagement through guilt-proneness, and subsequently, moral disengagement significantly predicted cyberbullying perpetration. The following section discusses the results from this study and their implications. Finally, the limitations of this study as well as suggestions for future research are addressed.

Perceived Parental Practices and Moral Emotions

As expected (H1), perceived psychological control was positively associated with shame-proneness and negatively associated with guilt-proneness. In other words, postsecondary students who reported greater perceptions of psychological control from their parents were more likely to experience shame and less likely to experience guilt across various situations. Previous research by Tangney & Dearing (2002), Stuewig & McCloskey (2005), and Mintz and colleagues (2017) showed that negative parental practices (e.g., rejecting, criticizing, demeaning behaviours) are likely to result in children's feelings of worthlessness or insignificance. In particular, it can lead to a negative internal view of oneself (Mintz et al., 2017). The finding from this study is in line with previous research (Alessandri & Lewis, 1993; Mintz et al., 2017; Stuewig & McCloskey, 2005) that

shows individuals are more shame-prone when their parents explicitly express negative behaviour towards them (e.g., constantly directing attention to the child's failure).

Furthermore, findings from this study reveals that a greater level of psychological control is associated with less guilt-proneness. As experiences of guilt is commonly characterized by perspective-taking and empathy (Tangney & Dearing, 2002), results from this study suggest that emerging adults who perceive psychological control from their parents may display less of these characteristics. This is in line with extant literature indicating that psychological control contributes to an individual's feelings of incompetence and weakened self-concept (Choe et al., 2020). For instance, when a psychologically controlling parent tells their child that it hurts them when their child doesn't do as they say, the child may not necessarily focus on hurting their parent's feelings, but more so on the fact that they are a bad person to have done so, and should be ashamed. Due to the preoccupation of one's flaws, individuals may not attend to others' needs or emotions, thus, experience less guilt, but more shame.

Moreover, as expected, perceived autonomy support was revealed to have a significant negative association with shame-proneness, such that individuals perceiving greater autonomy from their parents were less likely to experience shame (e.g., maladaptive self-blame, feelings of incompetence, avoidance) across various contexts. This supports the notion that in contrast to negative parenting, perceiving positive, warm parenting is associated with an increase in self-acceptance and feelings of relatedness (Costa et al., 2016), and subsequently, more positive development among children, adolescents, and emerging adults (Deci & Ryan, 2000; Ryan & Deci, 2009; Van der Giessen et al., 2014). On the other hand, autonomy support was not significantly associated with guilt-proneness. However, further studies with a larger sample size may be needed to elucidate this association.

Nevertheless, it should be noted that the majority of previous research examining perceived parental practices and moral emotions were from self-report studies with children or adolescent samples (e.g., Stuewig & McCloskey, 2005; Tangney & Dearing 2002), with one consisting of emerging adults (Mintz et al., 2017). This has limited the research on this area beyond childhood and adolescence. Further research is warranted to understand the role of parental practices on shame and guilt experiences during emerging adulthood.

Perceived Parental Practices and Moral Disengagement

The second hypothesis (H2) of this study was partially supported. Perceived psychological control revealed a significant positive association with moral disengagement. In other words, university students who perceive more psychological control from their parents have a higher likelihood to morally disengage. This finding lends support to previous studies that found children who perceive negative parenting characterized by aggressive, criticizing, and rejecting behaviour have a higher likelihood to morally disengage (e.g., Campaert et al., 2018; Hyde et al., 2010; Zhang et al., 2021). Through psychological control, individuals may learn to morally disengage as they internalize the negative behaviour: (1) to be serving a greater purpose (e.g., making their parents happy), (2) the 'victim' can be blamed (e.g., the child is blamed if they don't act in accordance with their parent's agenda), and (3) the responsibility of the controlling behaviour can be diffused (e.g., one parent agreeing with the other). Therefore, this study extends existing knowledge on the association between negative parenting and moral disengagement, by demonstrating that psychologically controlling tactics may be a potential factor that increases the propensity to morally disengage.

Results revealed that autonomy support was not significantly associated with moral disengagement. A possible explanation for this finding could be due to the fact that autonomy support promotes volition and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2009), and has been

found to foster greater social competence and prosocial behaviour (Matte-Gagné et al., 2015). Therefore, those perceiving autonomy support from their parents may be less likely to endorse moral disengagement mechanisms when making moral decisions.

Moral Emotions and Moral Disengagement

Findings from the study fully supported the third hypothesis (H3). Specifically, while shame-proneness had a significant positive association with moral disengagement, guilt-proneness revealed a significantly negative association with moral disengagement. That is, while postsecondary students who experience greater tendencies of shame were more likely to morally disengage, those who are guilt-prone were less likely to use moral disengagement. These findings are in accordance with previous studies (Johnson & Connelly, 2016; Mazzone et al., 2018; Moore et al., 2012; Tillman et al., 2018), which suggested that higher levels of guilt serve as a protective factor against moral disengagement. This study further supports the notion that individuals with higher levels of guilt experience increased empathic concern and acceptance of responsibility for their wrongdoing, thus are less likely to engage in morally disengaging mechanisms (Johnson & Connelly, 2016; Moore et al., 2012).

On the other hand, a higher level of shame is associated with a greater likelihood for morally disengaging behaviour, which has been suggested in previous studies (Johnson & Connelly, 2016). Unlike guilt, shame emphasizes on self-blame, with the belief that a personal flaw is responsible for misconduct (Tangney et al., 2005). Accordingly, the experience of shame is painful and facilitates the experience of incompetency and avoidance (Tangney & Dearing, 2002). Therefore, researchers have argued that individuals morally disengage from their misconduct in order to resolve their shameful feelings (Bandura et al., 1996; Doramajian & Bukowski, 2015). The present study supports this line of notion as the positive trend observed in the present study indicates that the more shame one experiences, the more likely they will morally disengage.

However, due to limited studies examining these associations during emerging adulthood, more research is needed to understand how the experience of shame or guilt is associated with moral disengagement among emerging adults. In addition, the saliency of shame and guilt in emerging adults should be studied further in detail.

Moral Disengagement and Cyberbullying

Results fully supported hypothesis H4. In line with previous literature among children, adolescents and emerging adults (Bussey et al., 2015; Kowalski et al., 2014; Marín-Lopez et al., 2020; Meter & Bauman, 2018; Orue & Calvete, 2016; Renati et al., 2012; Perren & Sticca, 2011; Pornari & Wood, 2010; Robson & Witenburg, 2013; Wang et al., 2017; Wang et al., 2019; Zhang et al., 2021), moral disengagement was positively associated with cyberbullying perpetration. The results indicated that postsecondary students who reported higher levels of moral disengagement were also more likely to engage in cyberbullying perpetration. According to two studies, individuals readily endorse moral disengagement mechanisms due to the anonymity and absence of social-emotional cues in the online space (Cross et al., 2015; Runions & Bak, 2015). Moreover, emerging adults experience less parental monitoring on their internet-use (Coyne et al., 2013). Combined with the characteristics of the internet that facilitate moral disengagement behaviour, the perception of less parental surveillance on online activities may increase the likeliness of morally disengaging. Thus, this study not only confirms that moral disengagement continues to have a positive association with cyberbullying perpetration beyond adolescence, but contributes to a new understanding of emerging adults' moral attitudes towards online interactions. This finding can inform school professionals in the development of interventions for cyberbullying perpetrators (e.g., moral reasoning training) among postsecondary institutions.

The Mediation of Moral Emotions and Moral Disengagement

Of importance, the present study also hypothesized (H5) that perceived psychological control and autonomy support would be associated indirectly to moral disengagement through shame or guilt, and subsequently, moral disengagement would be associated with cyberbullying perpetration. Three main findings were observed (see Table 3). First, for perceived psychological control, guilt was found to be a partial mediator between psychological control and moral disengagement. In turn, moral disengagement was positively associated with cyberbullying perpetration. Specifically, results reveal that less proneness to guilt increases the likelihood that individuals perceiving high levels of psychological control would morally disengage. Following, a greater chance of engaging in cyberbullying perpetration is observed.

Secondly, shame-proneness as a partial mediator between psychological control and moral disengagement borderlines significance ($p = .06$). In other words, findings indicate that greater shame-proneness heightens the likelihood that those perceiving high levels of psychological control would endorse moral disengagement. Subsequently, greater levels of moral disengagement would indicate more chances of cyberbullying perpetration. However, as the partial mediation was not significant, it is suggested that a larger sample size may be needed in order to examine this mediation effect.

These findings support previous studies that have suggested the critical role of parental practices on moral emotions and moral disengagement, and in turn, cyberbullying perpetration (e.g., Zych et al., 2019). For instance, studies have revealed that positive parenting is associated with greater empathy and perspective-taking in children, including more guilt-proneness, while negative parenting increases feelings of incompetency and self-blame, including more proneness to shame (Bartolo et al., 2019; Campaert et al., 2018; dos Santos et al., 2020; Hart & Matsuba, 2007; Mintz, 2017; Sheikh & Janoff-Bulman, 2010; Stuewig & McCloskey, 2005; Tangney & Dearing, 2002;

Walter & Burnaford, 2006). Furthermore, shame and guilt are well-known behaviour regulators that are associated with moral disengagement (e.g., Johnson & Connelly, 2016), and subsequently, moral disengagement is found to be positively associated with cyberbullying perpetration across numerous studies (e.g., Bussey et al., 2015; Kowalski et al., 2014; Perren & Gutzwiller-Helfenfinger, 2012; Perren & Sticca, 2011; Pornari & Wood, 2010; Wang et al., 2016; Wang et al., 2019; Zhang et al., 2021). In other words, those who have a higher propensity to morally disengage from their misconduct are also more likely to cyberbully others. The present study therefore was consistent with the previous literature, but extended these findings by simultaneously examining the mediating role of moral emotions in the association between perceived parental practices and moral disengagement, and in turn, moral disengagement positively predicted cyberbullying perpetration.

Thirdly, despite the significant associations between autonomy support and shame, and shame with moral disengagement, shame was found to be a non-significant mediator in the association between autonomy support and moral disengagement. In addition, guilt did not significantly mediate the association between psychological control and moral disengagement as well. The inability to discover significant mediating effects may be due to one or more factors.

Firstly, shame- and guilt-proneness have been proposed to vary across contexts and relationships (Roos et al., 2014). As the measures of shame and guilt utilized in the present study measured shame- and guilt-proneness across various contexts and relationships (e.g., family members, colleagues, friends), future studies should use measures that are relationship-specific (e.g., shame and guilt experiences in the parent-child relationship). Another potential reason for the non-significant mediation effects could be that the saliency of autonomy support, in comparison with psychological control, decreases during emerging adulthood. During emerging adulthood years, physical proximity is often decreased, and parents can no longer behaviourally control their children.

Thus, this may lead parents to engage in psychologically controlling tactics to maintain in authority (Nelson et al., 2019).

This may be particularly true for this study's sample, which consisted entirely of postsecondary school students. For this population, parents often struggle with the fine balance between being in authority while also allowing their child the freedom to make independent decisions (Padilla-Walker et al., 2014). To corroborate, Padilla-Walker and colleagues (2014) found that the boundaries of parental authority are often unclear among postsecondary school students, as both the parents and this specific group of emerging adults may not yet perceive their child and themselves to be fully adults. In particular, as most postsecondary school students remain financially dependent on their parents, many aspects of personal life (e.g., making personal or financial decisions) may be perceived as being under parental authority (Padilla-Walker et al., 2014). In other words, parents may believe their opinions are more important given that their child is inexperienced navigating adulthood. Thus, bounded by the rules set by their parents, some emerging adults may perceive higher levels of parental psychological control in comparison to those with financial independence. Furthermore, a lack of autonomy and tension may be perceived within the parent-child relationship, as the child attempts to seek autonomy while their parents continue to assert control.

Although the third finding is contrary to what was hypothesized (H5), this study provided insight into the underlying processes of the association between perceived parental practices and cyberbullying perpetration. Specifically, findings from this study support the notion that psychological control may become particularly salient for emerging adults, especially postsecondary school students (Nelson et al., 2019; Padilla-Walker et al., 2014), and may have significant moral implications for this population.

Implications

The present study provided valuable insight on how parental practices shape morality through molding the tendencies to experience shame or guilt in various situations, which in turn, leads to more or less endorsement in moral disengagement thought processes. Subsequently, the more likely one is to use moral disengagement, the higher likelihood they will also engage in cyberbullying perpetration. Consistent with the affect-cognition model (Malti & Keller, 2010), which proposed that an individual's moral functioning is molded by the reciprocal exchanges between individual and external social factors, such as parent-child interactions, results from this study contribute to the understanding of how parental socialization play a role in aggressive behaviour. For example, findings from the present study provide further evidence for the importance of positive parental practices, such as autonomy support, and moral reasoning strategies when designing cyberbullying prevention and intervention programs. Specifically, parents should be made aware of the potential negative moral implications of psychologically controlling parental practices among emerging adults (Soenen & Vansteenkiste, 2010).

Further, participants in the present study reported high levels of moral disengagement. This contrast previous studies suggesting that emerging adults, when comparing with their younger counterparts, generally report lower levels of moral disengagement and cyberbullying perpetration (Gibb & Devereux, 2014; Paciello et al., 2008), given more complex patterns of perspective-taking skills (Killen & Smetana, 2015), internalized moral principles, and developed moral identity (Pacillo et al., 2008). Thus, findings from the present study suggests that this age group may remain vulnerable to moral disengagement cognitions, which in turn increases the risk of engaging in cyberbullying (e.g., Lo Cricchio et al., 2020; Zhang et al., 2021). Therefore, school professionals working in postsecondary settings should foster the awareness of moral disengagement, and the

understanding of how moral disengagement thought processes could facilitate aggressive behaviour, such as cyberbullying perpetration.

Finally, in line with the socio-cognitive theory (Bandura, 1999), which suggested that moral behaviour is the product of the interplay between affective and cognitive components of morality, another significant implication from the present study is understanding the role moral emotions play on moral disengagement thought processes, and subsequently, cyberbullying perpetration. Specifically, for school and mental health professionals, finding ways to reduce maladaptive self-defeating strategies for shame-prone (e.g., self-blame, anger, avoidance, denial, displacing blame) individuals, while enhancing the adaptive characteristics of guilt-proneness, such as perspective-taking and concern for others' well-being appear to be important in minimizing the activation of moral disengagement mechanisms in the cyberbullying context.

Limitations and Future Directions

In considering the present study's findings, several limitations should be noted. Firstly, this study utilized self-report questionnaires. Results must be interpreted with caution, as the questionnaires measure the subjective perception from the surveyed emerging adults regarding parental practices, their tendencies of experiencing shame or guilt, moral disengagement levels, and cyberbullying perpetration. Self-report questionnaires could include several reporting biases, such as social desirability (Richman et al., 1999). Therefore, future research could include multi-informant assessments (e.g., parent-report questionnaires) to provide additional perspectives. Moreover, administering the questionnaire simultaneously to emerging adults and their parents in future studies could provide insight from both child-parent perspectives when measuring perceived parental practices.

Additionally, while this study used a cross-sectional design, future studies are recommended to consider using a longitudinal study design to provide more robust mediation effects, as well as to

shed light on possible developmental changes. In particular, longitudinal studies may inform on developmental changes in parent-child dynamics and individuals' perceptions of parental practices across childhood, adolescence, and adulthood.

Moreover, a high proportion of female participants were observed in the study sample (73.7%), which may bias the findings of the study. A larger sample is necessary in order to make definite conclusions about factors that contribute to cyberbullying perpetration during emerging adulthood. Having a more proportionate number of participants across gender could also allow for the examination of potential gender differences.

In addition, future studies could consider cultural differences in the perception of parental practices and cyberbullying perpetration among emerging adults. For instance, the perception of autonomy supportive and psychologically controlling parenting may vary across cultures, where Eastern cultures that place importance on interdependence, family harmony, and the accommodation of others in social contexts may perceive controlling parenting to be adaptive (Yu et al., 2018). In fact, based on traditional Confucian parenting principles, which accentuates on parental guidance and filial piety, psychological control may not be perceived as a form of manipulation among Asian and Asian American samples (Fung & Lau, 2012; Fung et al., 2017; Yu et al., 2018). Instead, psychologically controlling practices may reflect the interdependent parent-child bond, where guilt induction is used in order for children to understand their parent's perspectives, and as a result, foster empathy and perspective-taking skills (Fung & Lau, 2012). It is thus suggested that future studies attend to these cultural differences when examining autonomy support and psychological control among emerging adults.

As the TOSCA-3 scale employed in the present study measured shame- and guilt-proneness across different contexts and relationships, future studies could utilize a measure that examines shame- and guilt-proneness of an individual in the context of the parent-child relationship.

Finally, further research may consider examining the different communication modalities of which cyberbullying could occur and the association with cyberbullying severity. For instance, differentiating between anonymous versus non-anonymous cyberbullying perpetration may shed light on shame, guilt, and moral disengagement processes.

Conclusions

This study adds to the understanding of the contribution of parental practices on moral and aggression outcomes. A gap in the literature was addressed by examining perceived parental practices on emerging adult's moral functioning and subsequent cyberbullying perpetration. Extensive literature has found significant implications of parental practices on moral functioning and cyberbullying behaviours among children and adolescents (Fousiani et al., 2016; Legate et al., 2019). Though parental practices are evidently important in the understanding of individual differences in moral functioning (Campaert et al., 2018), this remains understudied in the emerging adulthood years (McKinney et al., 2018).

In regards to parental practices and moral emotions, the present study found that perceiving high levels of psychological control was associated with a greater proneness to feeling shameful, but a lower likelihood to be guilt-prone. This is in line with previous literature that have suggested that while guilt-proneness can be adaptive, shame-proneness is maladaptive. To corroborate, individuals who are more prone to guilt are more likely to display an adaptive, empathetic and prosocial nature (Roos et al., 2014; Torstveit et al., 2016; Tangney & Dearing, 2002), while those with high levels of shame-proneness are likely to evaluate the self negatively and engage in withdrawal, hostility, and less prosocial behaviour (Kaufman, 2004; Rangganadhan & Todorov, 2010; Roos et al., 2014; Tangney & Dearing, 2002). Thus, in line with previous studies (e.g., Alessandri & Lewis, 1993; Mintz et al., 2017; Stuewig & McCloskey, 2005; Tangney & Dearing (2002), the present study

found that emerging adults who perceive negative parenting (e.g., psychological control) display more maladaptive shame responses and less adaptive guilt.

Next, the present study revealed that higher levels of psychological control was also associated with the increased likelihood to morally disengage. However, guilt-prone individuals were less likely to use moral disengagement mechanisms, while a greater proneness to shame increased the likelihood of morally disengaging. In regards to moral disengagement and cyberbullying, the finding from this study was consistent with previous studies which demonstrated individuals endorsing in greater moral disengagement thought processes were also more likely to cyberbully others.

Lastly, results showed that guilt-proneness, but not shame-proneness partially mediated the association between psychological control and moral disengagement, and in turn, greater moral disengagement was associated with a higher chance of cyberbullying perpetration. Meanwhile, no significant mediation effects were found for shame-proneness or guilt-proneness between autonomy support and moral disengagement.

Put together, findings from this study reveal that parental figures remain salient beyond adolescent years, and emerging adults who perceive high levels of psychologically controlling parental practices may be at risk of engaging in cyberbullying perpetration. In particular, this study found that individuals who experience greater levels of psychological control may be more likely to experience maladaptive shame-tendencies across various situations, resulting in negative self-evaluations and self-destructive strategies. On the other hand, those who perceive more autonomy support reported less experiences of shame. Furthermore, psychological control was associated with a higher propensity to morally disengage from transgressions. Therefore, while autonomy support was found to prevent maladaptive shame experiences, which may decrease the likelihood of one

from morally disengaging, it is suggested that psychological control may have serious, negative implications for morality during emerging adulthood.

Based on this study, it is proposed that future research should continue to explore these associations, and to conduct a longitudinal study in order to consolidate the mediating effects. Overall, the present study contributed to the extant parenting and cyberbullying literature, and has provided further insight into the understanding of parental socialization roles and moral functioning among emerging adults.

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Table 1

Participant Descriptive Statistics

Characteristics	*n*	%
Gender		
Female	331	73.7
Male	108	24.1
Non-binary	9	2.0
Prefer not to answer	1	0.2
Age		
19	63	14.0
20	72	16.0
21	63	14.0
22	72	16.0
23	73	16.3
24	48	10.7
25	53	11.8
Missing cases	5	1.1
Level of study		
1st year undergraduate	68	15.1
2nd year undergraduate	92	20.5
3rd year undergraduate	84	18.7
4th year undergraduate	85	18.9
Other (e.g., graduate studies)	120	26.7

Note. $N = 449$.

Table 2

Correlation Matrix for Autonomy Support, Psychological Control, Shame-proneness, Guilt-proneness, Moral Disengagement and Cyberbullying Perpetration

Variable	*M* (*SD*)	1	2	3	4	5	6
Autonomy Support	104.42 (31.62)	-					
Psychological Control	79.46 (29.65)	-.146**	-				
Shame	40.53 (8.94)	-.121**	.132**	-			
Guilt	50.48 (7.21)	.021	-.137**	.468***	-		
Moral disengagement	59.72 (16.91)	-.018	.305***	-.044	-.405***	-	
Cyberbullying	23.76 (9.71)	-.022	.300***	-.081	-.458***	.577**	-

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 3

Total, Direct, and Indirect Effects

Paths	Estimate	*S.E.*	*p*
Total effect			
1. AS → MD	.027	.045	.548
2. PC → MD	.309	.043	.000***
Direct effect			
1. AS → MD	.042	.042	.318
2. PC → MD	.233	.042	.000***
Indirect effect			
1. AS → Shame → MD	-.014	.008	.081
2. AS → Guilt → MD	.000	.021	.988
3. PC → Shame → MD	.016	.008	.062
4. PC → Guilt → MD →	.233	.021	.005**

Note. AS = autonomy support, PC = psychological control, MD = moral disengagement. Total, direct, and indirect effects = the effects between perceived parental practices and moral disengagement without mediators, including mediators, and through mediators. **$p < .01$, ***$p < .001$.

Figure 1

Bandura's Theory of Moral Disengagement (Eight Mechanisms Clustered Within Four Domains)

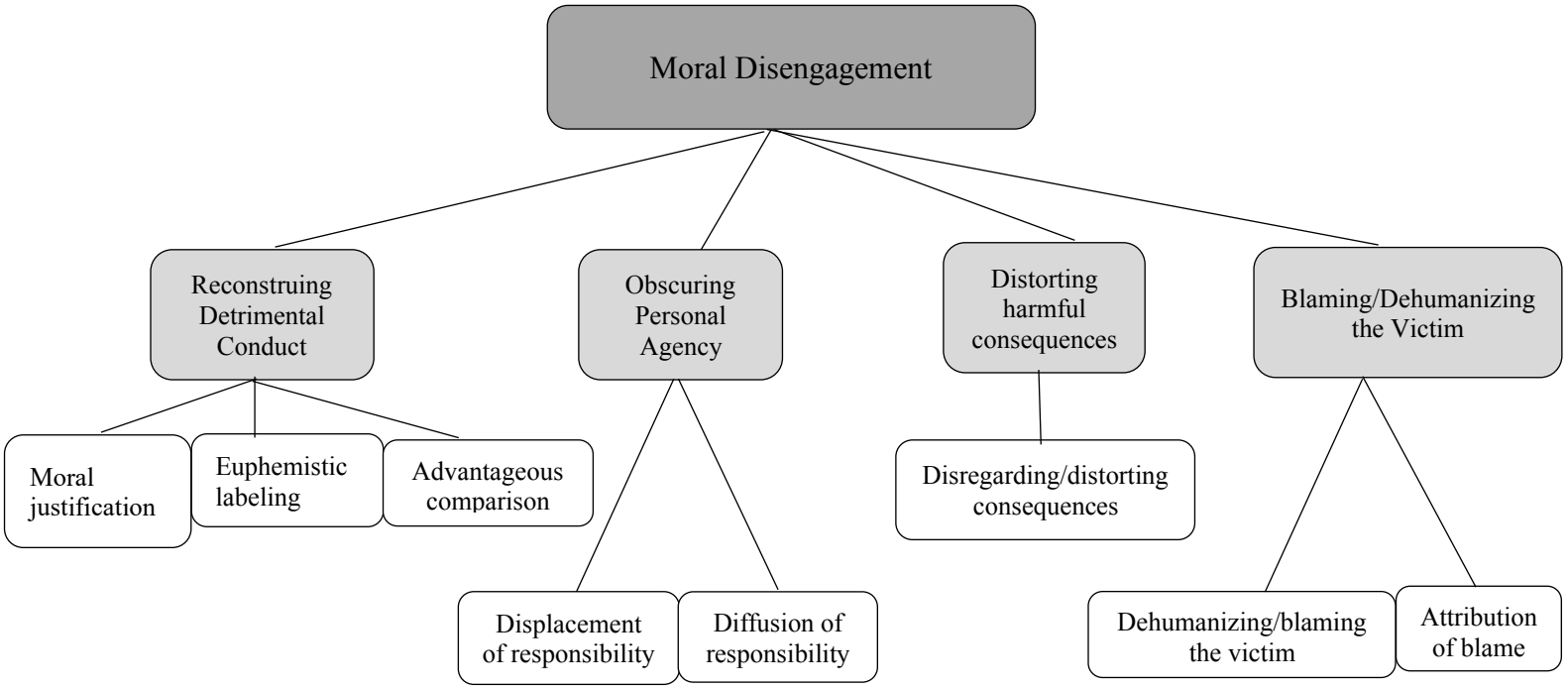


Figure 2

Hypothesized Mediation Model of Perceived Parental Practices, Moral Emotions, Moral Disengagement, and Cyberbullying

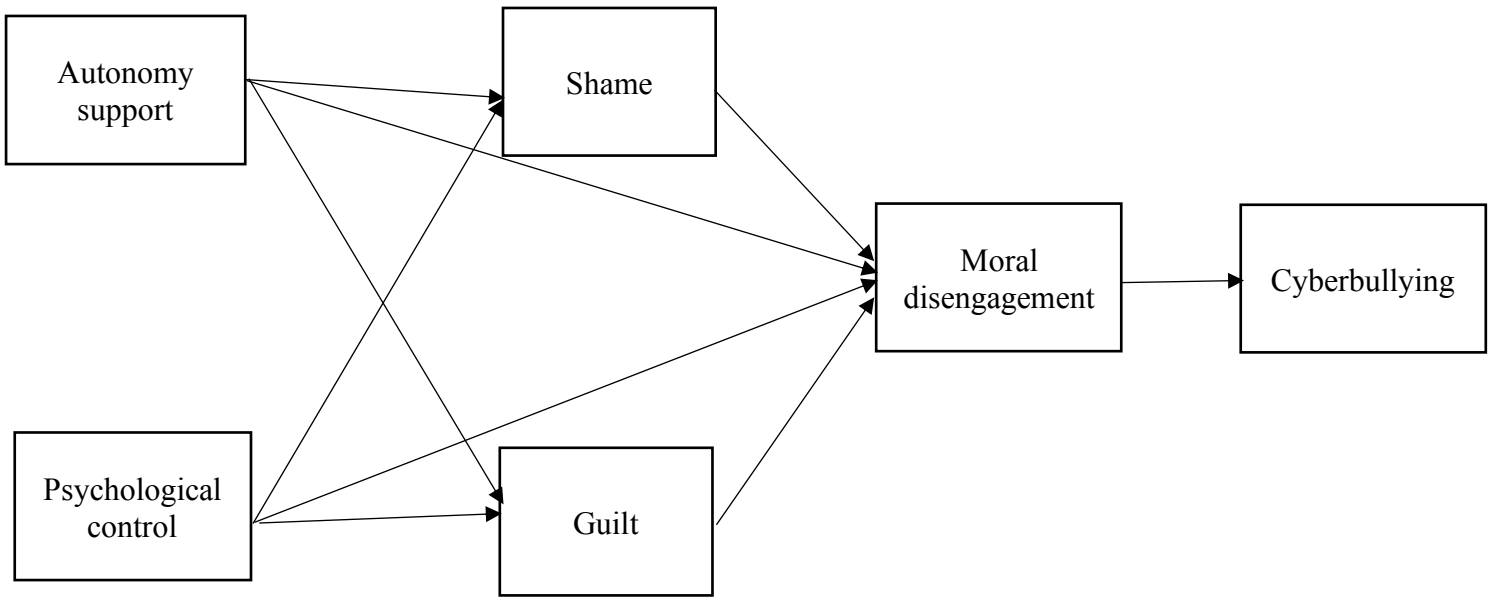
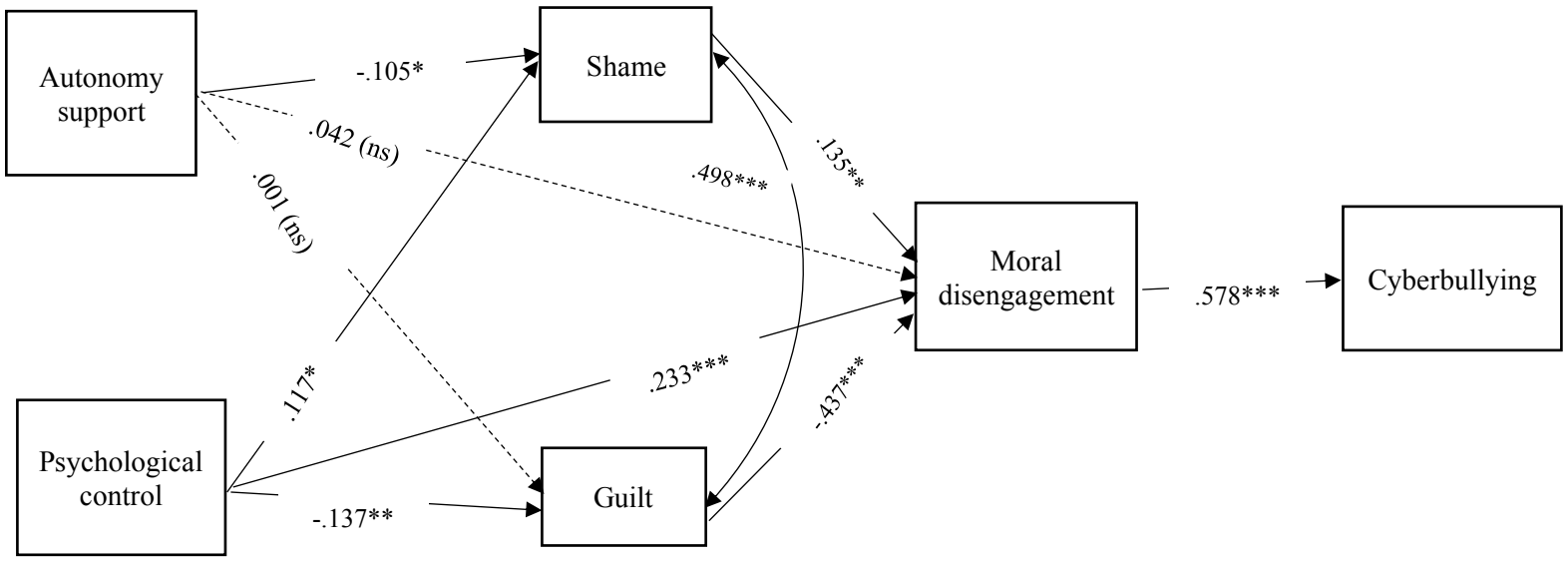


Figure 3

Mediation Model of Perceived Parental Practices, Moral Emotions, Moral Disengagement and Cyberbullying



Note. Dashed lines denote nonsignificant paths (ns = non-significant). *$p < .05$, **$p < .01$, ***$p < .001$.

Appendix A: Demographics Questionnaire

We are interested in learning about your background. Please answer all of the questions honestly.

REMEMBER, ALL OF YOUR ANSWERS WILL REMAIN PRIVATE AND CONFIDENTIAL, AND WILL ONLY BE SEEN BY THE RESEARCHERS.

1. How old are you?: _____ Years Old

2. What is your current level of study? (Check one):
1st year
2nd year
3rd year
4th year
Other (e.g., 5th year of undergraduate degree, graduate student)

3. To which gender identity do you most identify? (Check one):
Female _____
Male _____
Non-binary_____
Other _____
Prefer not to say _____

4. Do you consider yourself to be:
Heterosexual or straight ____
Homosexual ____
Bisexual ____
Prefer not to answer ____

5. How do you describe yourself in terms of ethnic or cultural heritage? (**Check all that apply**)
_____ First Nations (North American Indian, Metis, Inuit, etc.)
_____ African / Caribbean
_____ East Asian (Chinese, Japanese, Korean, etc.)
_____ South Asian (East Indian, Indonesian, Pakistani, etc.)
_____ Southeast Asian (Cambodian, Filipino, Indonesian, Vietnamese, etc.)
_____ European (Anglo, European descent, etc.)
_____ Latin American (Spanish, Mexican, South American, etc.)
_____ Middle Eastern (Arabic, Iranian, Israeli, Persian, Turkish, etc.)
_____ Other (If you would describe your ethnic or cultural heritage in some way that is not listed above, please describe your ethnic or heritage on the line below.)
_____

Thank you! ☺
For the following pages, please be sure to read all of the instructions before starting

Appendix B: Perceived Parental Autonomy Support Scale (P-PASS)*

Please answer the following questions about your mother and father while you were growing up. If you did not have any contact with one of your parents (for example, your father), but another parent of the same sex lived with you (for example, your stepfather), please answer the questions about this other adult.

If you did not have any contact with one of your parents, and no other adult of the same sex lived with you, please leave the questions about this parent blank.

Using the scale below, please indicate the extent to which you agree with each of the statements regarding your mother and father's behaviors.

Do not agree at all 1	Hardly agree 2	Slightly agree 3	Somewhat agree 4	Agree 5	Strongly agree 6	Very strongly agree 7

BE CAREFUL, the order of the responses for your mother and father changes for each item.

WHEN I WAS GROWING UP…

1. My parents gave me many opportunities to make my own decisions about what I was doing.	**Mother**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
2. When my parents asked me to do something, they explained why they wanted me to do it.	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
	Mother	**1**	**2**	**3**	**4**	**5**	**6**	**7**
3. When I refused to do something, my parents threatened to take away certain privileges in order to make me do it.	**Mother**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
4. My point of view was very important to my parents when they made important decisions concerning me.	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
	Mother	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5. My parents refused to accept that I could want simply to have fun without trying to be the best.	**Mother**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
6. When my parents wanted me to do something differently, they made me feel guilty.	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
	Mother	**1**	**2**	**3**	**4**	**5**	**6**	**7**
7. My parents encouraged me to be myself.	**Mother**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
8. Within certain limits, my parents allowed me the freedom to choose my own activities.	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
	Mother	**1**	**2**	**3**	**4**	**5**	**6**	**7**
9. When I was not allowed to do something, I usually knew why.	**Mother**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
10. I always had to do what my parents wanted me to do, if not, they would threaten to take away privileges.	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
	Mother	**1**	**2**	**3**	**4**	**5**	**6**	**7**
11. My parents believed that, in order to succeed, I always had to be the best at what I did.	**Mother**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
12. My parents made me feel guilty for anything and everything.	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*
	Mother	**1**	**2**	**3**	**4**	**5**	**6**	**7**
13. My parents were able to put themselves in my shoes and understand my feelings.	**Mother**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	*Father**	*1*	*2*	*3*	*4*	*5*	*6*	*7*

14. My parents hoped that I would make choices that corresponded to my interests and preferences regardless of what theirs were.	*Father** *1 2 3 4 5 6 7* **Mother 1 2 3 4 5 6 7**
15. When my parents wanted me to do something, I had to obey or else I was punished.	**Mother 1 2 3 4 5 6 7** *Father* 1 2 3 4 5 6 7*
16. My parents were open to my thoughts and feelings even when they were different from theirs.	*Father* 1 2 3 4 5 6 7* **Mother 1 2 3 4 5 6 7**
17. In order for my parents to be proud of me, I had to be the best.	**Mother 1 2 3 4 5 6 7** *Father* 1 2 3 4 5 6 7*
18. When my parents wanted me to act differently, they made me feel ashamed in order to make me change.	*Father* 1 2 3 4 5 6 7* **Mother 1 2 3 4 5 6 7**
19. My parents made sure that I understood why they forbid certain things.	**Mother 1 2 3 4 5 6 7** *Father* 1 2 3 4 5 6 7*
20. As soon as I didn't do exactly what my parents wanted, they threatened to punish me.	*Father* 1 2 3 4 5 6 7* **Mother 1 2 3 4 5 6 7**
21. My parents used guilt to control me.	**Mother 1 2 3 4 5 6 7** *Father* 1 2 3 4 5 6 7*
22. My parents insisted that I always be better than others.	*Father* 1 2 3 4 5 6 7* **Mother 1 2 3 4 5 6 7**
23. When I asked why I had to do, or not do, something, my parents gave me good reasons.	**Mother 1 2 3 4 5 6 7** *Father* 1 2 3 4 5 6 7*
24. My parents listened to my opinion and point of view when I disagreed with them.	*Father* 1 2 3 4 5 6 7* **Mother 1 2 3 4 5 6 7**

*The full P-PASS measure was displayed upon obtaining permission from the original developers of the measure

Appendix C: Cyberbullying Perpetration Scale (CBP)**

Instructions: The statements below concern your level of current cyberbullying perpetration. Please read each statement carefully and circle one of the numbers to the right to indicate how often you have done these things ***during the past 30 days***.

Drawing from your own experiences, please circle the answers that fits best, where:

1 = Not at all 2 = Rarely 3 = Sometimes 4 = Often 5 = Very often

Verbal/Written Perpetration					
1. I have sent someone mean text messages on the mobile phone to embarrass the person.	1	2	3	4	5
2. I have said mean things about someone on instant messenger or in chat rooms with intent to upset the person.	1	2	3	4	5
3. I have sent someone mean e-mails with intent to harm the person.	1	2	3	4	5
4. I have posted mean messages on social media platforms such as Facebook or Instagram to damage the person's reputation.	1	2	3	4	5
5. I have attempted with intent to harm another person by sending threatening statements via e-mail or text message.	1	2	3	4	5
6. *I have never said mean things about someone to their friends on instant messengers or in chat rooms to damage the person's relationship.	1	2	3	4	5
7. I have spread rumors about someone online to embarrass the person.	1	2	3	4	5
8. I have sent someone insulting online messages repeatedly.	1	2	3	4	5
9. I have said mean things about someone on websites repeatedly to embarrass the person.	1	2	3	4	5
Visual/Sexual Perpetration					
10. I have posted embarrassing pictures or videos of someone on social media platforms without their permission to damage the person's reputation.	1	2	3	4	5
11. I have posted humiliating pictures or videos of someone on instant messengers or in chat rooms to embarrass the person.	1	2	3	4	5
12. *I have never sent sexually explicit things to someone via e-mail or text	1	2	3	4	5

message to embarrass the person.					
13. I have teased someone about his/her appearance online to emotionally harm the person.	1	2	3	4	5
14. I have made sexual jokes about someone online to embarrass the person.	1	2	3	4	5
Social Exclusion Perpetration					
15. I have blocked someone in a chat room to harm the person.	1	2	3	4	5
16. I have blocked someone on an instant messenger to upset the person.	1	2	3	4	5
17. I have rejected someone's request playing online games together to upset the person.	1	2	3	4	5
18. I have excluded someone from online community groups to make them feel left out.	1	2	3	4	5
19. *I have never excluded someone from online group activities to make them feel left out.	1	2	3	4	5
20. I have ignored someone's comments on social media platforms to embarrass the person.	1	2	3	4	5

**The full CBP measure was displayed upon obtaining permission from the original developers of the measure