Sociodemographic Homophily Within Friendships and Sequential Peer Victimization:

A Longitudinal Dyadic Perspective

Jiayi Li, B. A.

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Faculty of Social Sciences, Brock University

St. Catharines, Ontario

Abstract

Bullying is embedded within peer social networks that involve more than just bullies and victims. Extant research mostly supports that victims' friends–as the individuals closest to the victims in the peer network–can protect victims by reducing risk factors and promoting adjustment at the individual level (Bukowski et al., 2018). However, the effect of similarity between victims and their friends on peer victimization remains understudied. Homophily refers to the tendency that people to befriend similar others (Lazarsfeld & Merton,1964). The current thesis investigated how homophily–magnitude (i.e., similarity level) and direction (i.e., which party of the dyad has a high score in specific characteristics) in Emotionality, social status, and peer victimization experience–between youth and their mutual friends can impact the frequency of peer victimization, concurrently and over time. The data were extracted from a two-wave longitudinal study. The analytic sample included 207 Grade 5-9 participants (female 62.8%, M_{age} = 11.88, SD = 1.18), creating 424 friendship dyads. Regression analyses suggested that a higher level of similarity in peer victimization at Wave 1 and in social status at Wave 2 predicted the targeted youth's lower frequency of peer victimization at Wave 2. Regarding homophily direction, befriending peers with lower Emotionality than oneself and with more peer victimization experience than oneself at Wave 1 predicted an increase in youth's peer victimization at Wave 2. From a dyadic perspective, the current thesis supports the effect of friendship selection based on dyadic similarity and addresses the significant role of sociodemographic homophily within friendships. It also provides a more complete picture of how bullying operates in peer groups than the current bullying research has.

Keywords: peer victimization, friendship homophily, dyadic perspective

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Chapter 1: Introduction

Peer relations play a critical role in youth development in various aspects, such as mental health, cognitive development, social intelligence, and academic performance (Bagwell & Bukowski, 2018). Bullying is among the most pronounced examples of negative peer relations that are a detrimental social process occurring within peer groups. Based on an imbalance of power, bullying is a harmful and goal-oriented behavior that intentionally inflicts harm on victims (Olweus, 1978; Volk et al., 2014). Bullying is a worldwide social phenomenon; almost one-third of school-age youth reported experiencing bullying within the past month (Biswas et al., 2020). In Canada, one-fifth of youth have been bullied, according to the Canadian Psychological Association (2021). Twenty-one percent of Ontario youth reported being bullied, according to the 2019 report from the Centre for Addiction and Mental Health (Government of Ontario, 2021). Bullying can trigger and worsen victimized youth's mental health (e.g., depression, anxiety, suicidal ideation), academic regression, and behavioral problems (Cook et al., 2010). The far-reaching impacts and high prevalence of bullying have called for attention from both the public and academia.

Bullying research has shifted from a focus on dyadic relationships solely involving bullies and victims to an expanded focus on peer social networks over the last two decades (Olweus, 2001). Because most bullying happens in school settings, it is embedded within the broader peer social network in which bullies and victims share social ties, either relational or cultural (Bagwell & Bukowski, 2018). Daniel Olweus, the pioneer of bullying research, proposed a bullying circle with seven different roles that youth may take in the bullying network (2001). Salmivalli (2010) proposed a similar set of roles that individuals might occupy within the bullying network. They both claimed that the network of bullying can involve peers who

positively or negatively support the bully (e.g., followers, reinforcers, assistants), peers who actively or covertly defend the victim (e.g., possible defenders, defenders), and peers who witness without any actions (e.g., disengaged onlookers, outsiders). Both frameworks illustrate that bullying is often not just about bullies and victims. Exploring the roles of other participants can provide a more complete picture of bullying networks than the extant research and enhance understanding of how bullying operates in peer groups. Practically, the investigation of the current thesis can offer a new avenue for bullying prevention and intervention by targeting other participants in bullying networks.

Friendship, one of the closest social relations within peer social networks, provides contexts for youth to practice social skills and build a foundation for future relationships (Bagwell & Bukowski, 2018). Within the bullying network, friends can influence one's experience of bullying by directly or indirectly producing positive or negative influences. Having a friend, having more friends, having friends who can provide either physical or psychological support, and having positive friendships can prevent youth from bullying and bullying-related outcomes, which fits with the friendship protection hypothesis (Bagwell & Bukowski, 2018). Contrasting evidence suggests that friends who are themselves involved in bullying can amplify one's bullying experience and worsen one's ability to cope with their bullying experience (Guameri-White et al., 2015; Schacter & Juvonen, 2020). These data question the role of friends in the bullying network. Though most studies supported the friendship protection hypothesis that friendships can prevent the risk factors and maladjustment associated with peer victimization (Kendrick et al., 2012), extant bullying research on friendship influence has paid most attention to the nature of friendships, such as quality and quantity. A limited amount of bullying research has taken friendship selection and socialization into consideration. How do friendships operate

within the bullying network? Which youth are more likely to help or support their friends facing peer victimization than others? Theories of interpersonal attraction suggest that people are more likely to befriend peers similar to themselves (Clark & Ayers, 1992; Hartup, 1993), and friendship dyads with a high level of similarity build stronger, more supportive relationships (Laursen & Veenstra, 2021). Lazarsfeld and Merton (1964) coined the term homophily to explain this tendency of being associated with similar others and specified two types of homophily. One is value homophily (i.e., befriend those with similar values or beliefs) and sociodemographic/status homophily (i.e., befriend those with similar ascribed and acquired characteristics like age, sex, and social status). Previous bullying research has studied similarity within friendship, but the main focus was on similarity on bullying engagement and attitude toward bullying (e.g., whether friendship dyads recognize bullying as a bad thing; Pozzoli & Gini, 2013; Sijtsema et al., 2014), which could be considered value homophily. Moreover, these studies employed self-report methods, which investigated perceived similarity–whether youth thought their friends were similar to them–rather than actual similarity. In order to further explore the role of friendship within the bullying network, particularly for youth experiencing peer victimization, the aim of my thesis was to investigate how sociodemographic homophily (i.e., similarity in personal attributes and relational characteristics) of youth and their friends influence youth's peer victimization experience over time based on longitudinal data of self-report and peer nomination. My thesis addresses the following questions:

1. Does homophily drive friendship selection? In other words, do youth more likely to befriend similar peers?

2. Is sociodemographic homophily correlated with youth's peer victimization?

3. Does sociodemographic homophily significantly amplify or attenuate youth's future peer victimization?

Chapter 2: Literature review

Bullying

Olweus (1994), as the pioneer of school bullying research, defines bullying as behaviors that aim to harm others within a relationship of power imbalance and may happen repeatedly. Though bullying research has expanded substantially over the past half century, there is no uniform operational definition of bullying. Scholars mostly agree on several characteristics of bullying as following: 1) bullying is any unwanted aggressive behaviors by one or more youth, 2) it is highly likely to be repetitive, 3) bullies intentionally inflict harm or distress, 4) there is a power imbalance within the relationship of bullies and victims (Griffin & Gross, 2004; Hawker & Boulton, 2000). Volk et al. (2014) redefine bullying as aggressive goal-directed behaviors which aim to meet evolutionarily relevant needs and goals. Traditional forms of bullying include physical, verbal, and relational/social bullying while cyberbullying has grown with the technology development in the last three decades. Reviews indicated that physical (e.g., kicking) and verbal (e.g., verbal threatening) bullying were more direct/overt forms of bullying of which victims were more likely to be boys than girls (Hawker & Boulton, 2000; Wang et al., 2009). Relational bullying, such as spreading rumours and social exclusion, aimed to damage peer relationships and lower victims' peer acceptance. Girls are at higher risk of being victims of relational bullying, which is an indirect form of bullying, than other types of bullying (Volk et al., 2006; Wang et al., 2009). Cyberbullying is carried out through electronic devices like smartphones, such as instant messaging, spreading embarrassing photos, and spreading rumours about people online (Ansary, 2020; Kowalski & Limber, 2007). Cyberbullying changes the

operation of bullying to some extent. It involves anonymity, which creates difficulties in identifying bullies (Ansary, 2020). The power imbalance can still occur, but it is more about the difference in the ability to use information and communication technologies rather than in physical and psychological strength (Slonje et al., 2013).

Regardless of the various forms that bullying can take, bullying poses numerous detrimental impacts on victimized youth. Entering adolescence, youth increasingly evaluate their social life in terms of peer relationships, peer acceptance, and social status (Blakemore & Mills, 2014). Being bullied directly threatens youth's social status and peer relationships. Victimized youth suffer from losing social connections and a lower level of peer acceptance than those not being bullied (Card & Hodges, 2008). Because social relationships function as a reflection of oneself in society, being bullied induces one's questioning about his self-concept and self-worthiness, increasing the magnitude of self-blaming of the responsibility of being bullied (Hawker & Boulton, 2000). Unlike uninvolved youth, victimized youth shift their attention from academic life to the fear and anxiety of being repeatedly bullied, which leaves their academic responsibilities behind and damages their cognitive health (Card & Hodge, 2008, Takizawa et al., 2014). Meta-analytic reviews of both relevant cross-sectional and longitudinal studies suggest that victimized youth were at a higher risk than others of experiencing physical symptoms (e.g., headache, sleep difficulties, and somatic complaint), internalizing problems and adjustment difficulties (e.g., depression, anxiety, and loneliness), externalizing problems (e.g., disruptiveness and aggression), and suicidal ideations and attempts (van Geel et al., 2013; Gini & Pozzoli, 2013; Hawker & Bolton, 2000; Reijntjets et al., 2010; Reijntjets et al., 2011). A population-based cohort study indicates peer victimization during childhood can increase one's risk of psychiatric outcomes and impaired health functioning in adulthood (Copeland et al.,

2013; Copeland et al., 2014). The immediate and long-term consequences of peer victimization have been well-documented, validating that victimization experiences detrimentally impact victimized youth's development from various aspects across time.

Risk Factors of Peer Victimization Based on Bronfenbrenner's Ecological Theory

Based on Bronfenbrenner's ecological framework, bullying is a complicated phenomenon where risk factors from various levels account for its occurrence (Hong & Espelage, 2012). Bronfenbrenner's ecological framework proposed a systematic explanation for personal experience. Being embedded in systems, youth's experience is shaped by five interrelated systems listed based on proximity from the center (the individual) including microsystem (the most immediate setting), mesosystem (interaction between microsystems), exosystem (the broader environment), macrosystem (cultures and the society), and chronosystem (consistency and changes of the individual and environment) (Bronfenbrenner, 1977; Hong & Espelage, 2012; Rodkin, 2004; Swearer & Espelage, 2004).

At the individual level, certain attributes leave youth in a vulnerable position within the peer social network and being exposed to a higher risk of being bullied than their peers. Bullying peaks during middle school and decreases in later adolescence (Hong & Espelage, 2012; Pichel et al., 2021; Tsaousis, 2016; Volk et al., 2006) with youth aged 12-13 more likely to be relationally bullied than older youth and youth aged 14-15 more likely to be directly bullied than younger youth (Pichel et al., 2021). Girls are more likely to experience relational bullying and report being bullied whereas boys are at a higher risk of experiencing physical and verbal bullying (Tsaousis, 2016; Volk et al., 2006; Wang et al., 2009). Despite the unchangeable attributes mentioned, intrapersonal characteristics of youth can also increase youth's likelihood of being bullied. Low self-concept and self-esteem, weak social skills and social competence,

pre-existing internalizing and externalizing problems, sensitivity, and a sense of insecurity can be the most pronounced characteristics of victimized youth's profiles (Card & Hodge, 2008; Cook et al., 2010; Goldbaum et al., 2003; Olweus, 1994; Volk et al., 2006). Youth who score high in Emotionality (i.e., experience intense emotional response towards life stresses, require emotional support) and low in eXtraversion (i.e., are indifferent to social activities and relations) in the HEXACO Personality Inventory are at a higher risk of being bullied than others (Pronk et al., 2021).

At the microsystem level, the magnitude of social bonds attached to peers, family, and school is negatively associated with the frequency of peer victimization (Tsaousis, 2016). Familial factors build the foundation of the likelihood of being bullied. Youth who experience family economic hardship (Tippett & Wolke, 2014), child maltreatment or abuse (Card & Hodges, 2008), overprotection, intra-parent violence (Hong & Espelage, 2012), and lack of secure attachment with parents (Tsaousis, 2016) are prone to be bullied. A negative school environment and class climate can encourage bullying (Cook et al., 2010; Hong & Espelage, 2012; Volk et al., 2006). Within peer social networks, being friendless (Card & Hodges, 2008; Mouttapa et al., 2004; Olweus, 1994), low friendship quality (Goldbaum et al., 2003), low peer acceptance (Card & Hodge, 2008; Mouttapa et al., 2004), and having negative and limited peer interaction due to incomplete social competence and social skills (Card & Hodges, 2008; Cook et al., 2010) can enhance one's risk of being bullied in the peer social network (Card & Hodges, 2008; Goldbaum et al., 2003; Mouttapa et al., 2004).

Factors in the system distant from immediate settings of youth can indirectly enhance youth's peer victimization experience, such as adult figures' attitudes toward and involvement in bullying at the mesosystem level, exposure to media violence at the exosystem level, cultural

norms in favour of violence at the macrosystem, and changes in family structure at the chronosystem (Hong & Espelage, 2012). Extant research has paid more attention to immediate risk factors for victimized youth than risk factors within other distant systems, perhaps because prevention and intervention efforts at the individual and microsystem levels are more accessible. Given that bullying is a relational problem, however, it is necessary to explore how to prevent bullying from an interpersonal perspective. At the interpersonal level, friends within peer social networks have the most immediate relationship with victimized youth's bullying experience.

Friendship

Peers, as one of the microsystems based on Bronfenbrenner's ecological systems theory, have an important role to play during adolescence. Youth have close connections to their peers during their development where the impact of peers on their social lives tremendously increases from childhood to adolescence (Hartup, 1993). Among peers, friends are those with whom youth spend the most time, practice social skills, and influence youth to a great extent. Friendships are developmentally necessary and crucial for youth from various perspectives. Being socially isolated or friendless induces long-lasting adverse consequences (Laursen & Bukowski, 2007). As youth grow up and transition across different school contexts, having friends can help youth make a smooth transition across schools and promote adjustment as well as adaptation (Bagwell & Bukowski, 2018; Hartup, 1996). As such, youth who have friends are prone to have better school performance than those without friends (Burk & Laursen, 2005; Cooley et al., 2015; Hartup, 1996; Kendrick et al., 2012). Friendships are beneficial for building self-concept (Hartup, 1993) and self-confidence (Hartup, 1996), exploring identity (Bukowski & Sippola, 2005), and validating self-worth (Martin et al., 2018; Cooley et al., 2015; Newcomb & Bagwell, 1995; Sullivan, 1953), which is particularly significant during adolescence, a period of self-

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construction. Embedded in peer social networks, friendship can be an asset for youth's social development. Having friends fulfills youth's needs for interpersonal relationships (Newcomb & Bagwell, 1995) and peer acceptance (Hartup, 1993; Kochel et al., 2015). Friendship serves as a context where youth learn and practice social skills, adaptive skills (Bagwell & Bukowski, 2018; Hartup, 1996; Newcomb & Bagwell, 1995), and conflict management (Burk & Laursen, 2005). These skills build the foundation of youth's interpersonal relationships in the future. Friends can provide emotional support (Martin et al., 2018; Newcomb & Bagwell, 1995) such as companionship, warmth, trust, intimacy (Burk & Laursen, 2005), and a sense of security (Bukowski & Sippola, 2005; Cooley et al., 2015; Newcomb & Bagwell, 1995). Friendship can buffer youth against negative emotions, such as loneliness, inadequateness, and depressive emotion (Laursen & Bukowski, 2007), because it functions as a comfort zone where youth can express and regulate their emotions (Newcomb & Bagwell, 1995). As an interpersonal resource, friends can provide both emotional and instrumental support for youth when they face crises (Cohen & Wills, 1985; Hartup, 1996). Friendship can not only attenuate the negative consequences of previous adversities (e.g., child abuse, Bukowski & Sippola, 2005; Cooley et al., 2015; Kendrick et al. 2012; Laursen & Bukowski, 2007; Sullivan, 1953) but also protect youth from potential adversities (Bagwell & Bukowski, 2018; Cohen & Wills, 1985; Kendrick et al., 2012; Kochel et al., 2017).

Being bullied is one of the most stressful crises that youth may face. Extant research illustrates that friendship produces mixed effects on youth's peer victimization experience. Friends who are not socially well-adjusted or who are aggressive are more likely to encourage unhealthy solutions to combat peer victimization (e.g., retaliation and revenge) (Martin et al., 2018; Berndt, 1992; Lamarche et al., 2007; Frey et al., 2015). Contradicting research above,

high-quality friendship with more information disclosure can also foster co-rumination, wherein youth repetitively discuss problems about their adversities and induce more intense distress (Guameri-White et al., 2015). Additionally, supports from friends who also experience bullying can exacerbate victimized youth's anxiety and distress (Bagwell & Bukowski, 2018; Schacter & Juvonen, 2020). Although some studies demonstrate negative influence of friendship on youth's peer victimization, most research supports the friendship protection hypothesis that Boulton et al. (1999) proposed. The friendship protection hypothesis suggests that having friends contributes to preventing adversities and sequent negative consequences. Bagwell & Bukowski (2018), Hartup (1993), and Kendrick et al. (2012) demonstrated that both quality and quantity of friendship protect youth from being bullying targets. Friendships mainly protect youth from peer victimization through moderating the association 1) between risk factors and bullying, and 2) between bullying and subsequent negative consequences. Having more friends is positively associated with social competence and peer acceptance (Hartup, 1996; Kochel et al., 2015), which can further reduce youth's risk of being bullied. Friends with strong social competence can guide youth entrance into positive social networks and positive peer interactions and assist youth in climbing the social network ladder (Laursen & Bukowski, 2007). High-quality and positive friendship functions as a beneficial coping resource. It can boost youth's self-worth and self-efficacy (Cooley et al., 2015), scaffold solutions to combat bullying, offer emotional support by providing a sense of agency and security (Frey et al., 2015), and provide essential socio-emotional support (Schacter & Juvonen, 2020), which contributes to adjustment and resiliency after being bullied. Similar experiences of being bullied between victimized youth and their friends can diminish victimized youth's self-blaming and sense of responsibility (Schacter &

Juvonen, 2019). Therefore, the moderation models support that certain friendships (e.g., positive and high-quality) can protect youth from bullying and its deleterious consequences.

Research Gap

But what counts as positive and high-quality friendships? What can attenuate the adverse effect of high-quality friendships as mentioned above? What kind of friends can promote these moderation effects? Friends' characteristics may be the answer because one's characteristics, personal and relational, can predict how one will behaviorally respond to a social situation. Though most research supports the friendship protection hypothesis, implying that victimized youth's friends can be their best potential defenders in bullying networks, it has not explained the mechanism behind it. Hence, an investigation of the characteristics of victimized youth's friends benefits tackling the role of friends in the bullying-victimization network–whether they will be bystanders leaving victimized youth in the crisis or be defenders/helpers offering direct or indirect support toward victimized youth.

Existing research has identified several individual characteristics that are associated with defending behaviors. More defending behaviors are displayed in adolescents and girls than in children and boys, perhaps due to an increase in valuing social relations and gendered socialization, respectively (Berndt, 1981; Berndt, 1985; Guroglu et al., 2014; Rose & Rudolph, 2006). Youth who have stronger empathy (Caravita et al., 2009; Porter & Smith-Adcock, 2011), self-esteem and social self-efficacy (Porter & Smith-Adcock, 2011) are prone to defend others. Regarding relational characteristics, previous studies suggest that one's social status and her defending behaviors are positively related, which can be a bi-directional association (Caravita et al., 2009; Duffy et al., 2016; Pöyhönen et al., 2010; Sainio et al., 2010; Salmivalli et al., 2011; Wentzel, 2003). Besides direct defending behaviors, similar results have been found regarding

the association of one's characteristics and one's potential for supporting others more generally. Hence, extant research supports that certain characteristics are associated with a high likelihood of offering help to others. Research also illustrates that friendship bonds can promote defending behaviors as victims tend to be defended by their friends who like them (Oldenburg et al., 2018). Research has primarily explored friendship protection with regard to the nature of the friendship (e.g., friendship quality and quantity) and supports that friends can offer (Bagwell & Bukowski, 2018).

Though the existing research examined the effect of friendship at the individual level, limited attention has been paid to individual and relational characteristics of youth's friends themselves, from a dyadic perspective. Friendship is often considered at the individual level despite the dyadic nature of friendship. However, friendship is inherently relational and dyadic because one of the main features of friendship is reciprocity (Hartup, 1993). Yet, limited knowledge is present about the joint links between youth and their friends within bullying networks. Few studies have considered friendship selection and socialization in the context of bullying and victimization, which can inform what forms strong friendship bonds that promote defending behaviors.

Homophily

Lazarsfeld & Merton (1964) first proposed the concept of homophily and defined it as a tendency to associate or bond with others who are similar to them regarding characteristics, attitudes, and behaviors. Homophily is a foundation of friendship formation and maintenance (Berten & van Rossem, 2015; Laursen, 2017; Laursen & Veenstra, 2021; McPherson et al., 2001). From a perspective of friendship selection and socialization, individuals tend to befriend others who share similar characteristics (e.g., race, gender, personality), and being similar is one

of the most essential determinants of friendship (Berten & van Rossem, 2015; Clark & Ayers, 1992; Hartup, 1993; Laursen, 2017). Theories of interpersonal attraction explain that similarities between people can be the primary driver of relationship formation because similarity can predict attraction (Clark & Ayers, 1992; Kandel, 1978; Montoya et al., 2008). Similarity is also a product of friendship influence on youth (Laursen & Veenstra, 2021). Adolescent friends become increasingly similar over time because adolescents are susceptible to peer influence and conformity. Friendships with a high level of similarity experience fewer conflicts, produce a greater sense of validation and belonging (Hartup, 1993; Hartup, 1996; McPherson et al., 2001), create more positive social identities, build a stronger foundation for relationship development (Berten & van Rossem, 2015), and form stronger protection from social exclusion (Laursen & Veenstra, 2021) compared to friendships with dissimilar peers. The increasing need for peer conformity and sensitivity to social affection accounts for stronger friendship homophily during adolescence (Laursen & Veenstra, 2021).

Homophily can significantly influence victimized youth's friendship selection and adjustment to peer victimization. Victimized youth are at a greater chance of befriending peers with similar victimization experiences, which is called default selection (Lodder et al., 2016; Sijtsema et al., 2013). Sharing similar experiences of being bullied can reduce loneliness and self-blaming and provide a sense of companionship, resulting in better psychological health and social adjustment. Contrary to previous theoretical and empirical evidence, a more recent study suggested that victimized youth were prone to make friends with prosocial and popular peers whose social profiles were far apart from victims of bullying (Berger et al., 2019). The contrary findings call for a further investigation into characteristic similarities and differences between youth and their friends regarding its effect on youth's peer victimization experience. Previous

research also suggests that homophily is more pronounced from childhood to early adolescence than during middle and late adolescence (Digout Erhardt, 2005; Pozzoli & Gini, 2013; Shrum et al., 1988). This early adolescent period is also the stage at which youth are most prone to be involved in bullying. As such, an investigation of similarities between youth and their friends in the context of bullying and victimization is needed.

The limited bullying research exploring homophily has primarily focused on similarity in terms of values and behaviors. Yet, Lazarsfeld and Merton (1964) proposed two distinct types of homophily. One is value homophily, referring to an internal status like thinking patterns, values, and beliefs (McPherson et al., 2001; Lazarsfeld & Merton, 1964). The other is sociodemographic homophily, regarding ascribed and acquired characteristics, such as age, race, sex, personality, and social status. Therefore, what is missing in bullying research is an examination of sociodemographic homophily within the relationship between victimized youth and their friends. Given that sociodemographic characteristics can be the foundation of value, attitude, and defending behaviors (Pozzoli & Gini, 2013), the examination of sociodemographic homophily can explain what kinds of friends are prone to be defenders in bullying networks. Additionally, researchers tend to pay attention to only a single dimension of sociodemographic homophily (i.e., focus on one characteristic) at a time with their research grounded in bullying and victimization (Hooijsma et al., 2020). More research is, therefore, needed regarding the various dimensions of sociodemographic homophily and the interaction effect of different dimensions within friendships of victimized youth and their friends in the context of bullying and victimization.

HEXACO Personality - Emotionality. The HEXACO model of personality depicts a more complete picture of prosocial and antisocial behaviors than other theories of personality

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(Volk et al., 2020). The model examines six domains of personality including Honesty-Humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, and Openness (Ashton et al., 2014). Research suggests that Emotionality is closely related to peer victimization and defending/prosocial behaviors. Emotionality of the HEXACO personality inventory contains four facets: fearfulness (i.e., experiencing fear), anxiety (i.e., being concerned when facing life stresses), dependence (i.e., need for emotional support from others), sentimentality (i.e., feel an emotional bond with others; Ashton et al., 2014). Certain personality traits related to weak social competence can place youth in a risky position in the peer social network. Youth who are more emotionally unstable (high in Emotionality) are at a higher risk of being bullied than their peers (Kulig et al., 2019; Pronk et al., 2021). Cross-sectional studies suggest that being empathic, which is a main component of Emotionality, promotes defending behaviors in bullying situations (Longobardi et al., 2020; Pronk et al., 2021; van Noorden et al., 2015). The relationship between Emotionality and defending/prosocial behaviors can count on youth's strong response to others' adverse experiences, especially when youth have a strong social bond (e.g., friendship tie) with others. The relationship between Emotionality and peer victimization is bidirectional. Reijintjes et al. (2011) suggest that being victimized can trigger emotional problems whereas being emotional can also increase the likelihood of experiencing peer victimization. To my knowledge, research about Emotionality has never taken friendship selection and socialization into consideration, particularly regarding Emotionality homophily between youth and their friends related to peer victimization experience.

      Social status. Social preference and popularity are based on one's reputation in peer social networks, which are both indicators of social status (Dijkstra et al., 2012). Youth are more likely to befriend peers of similar or higher social status to maintain or escalate their own social

status. Research on the social profiles of participants in bullying networks reveals that defenders are as popular as bullies during childhood but less popular than bullies during adolescence (Pouwels et al., 2018a). The change in the level of popularity can be explained in that adolescence is a period when youth are more sensitive to popularity and affiliation with victims poses risks to one's popularity (Pouwels et al., 2018b). Though new evidence suggests that youth of high social status are also at risk of peer victimization, especially relational victimization (Dawes & Malamut, 2020), victims are often the least popular participant of the bullying network across age and gender (Pouwels et al., 2015; Pouwels et al., 2018a). It can be implied that there is a discrepancy in the social status (popularity and social preference) of victims and of defenders or friends who are more likely to offer support.

Peer victimization experience. Based on the idea of default selection, victimized youth tend to befriend peers who share similar experiences of being bullied with them (Huitsing et al., 2014; Sijtsema et al., 2013). However, homophily regarding peer victimization within friendships is correlated to mixed developmental outcomes. Having friends with similar experiences of being bullied can reduce one's self-blaming due to peer victimization and promote constructive conflict solutions (Schacter & Juvonen, 2019). Contrastingly, similar experiences may induce co-rumination which further induces anxiety and distress (Bagwell & Bukowski, 2018; Guameri-White et al., 2015). Being bullied by the same bullies also promotes defending behaviors over time among victimized youth and their friends (Huitsing et al., 2014). The mixed findings cannot provide a clear answer to how the homophily in peer victimization experience within friendships can impact victimized youth's sequential peer victimization.

The current study

  To address the research gaps mentioned above, my thesis aimed to investigate whether the magnitude and direction of homophily between youth and their friends regarding personal attributes and relational characteristics impact targeted youth's sequential peer victimization. Previous research mainly focused on attitudinal and behavioral homophily. My thesis focused on sociodemographic homophily in terms of personal attributes (i.e., HEXACO-Emotionality) and relational characteristics (i.e., social status, peer victimization experience). My research question was examined from a dyadic perspective based on two-wave longitudinal data of both self-report and peer nomination. Based on existing literature, I made the following hypotheses (see Table 1 for a summary):

1. Emotionality:

    1. (H1.1) At the individual level, Emotionality is positively correlated to youth's peer victimization within each wave. A higher level of Emotionality is significantly correlated to a higher frequency of youth's peer victimization within each wave.

    1. (H1.2) At the individual level, Emotionality positively predicts youth's peer victimization across waves. A higher level of Emotionality at Wave 1 significantly predicts a higher frequency of youth's peer victimization at Wave 2.

    1. Homophily magnitude

        1. (H1.3) Within each wave, homophily magnitude in Emotionality is positively correlated to the targeted youth's individual peer victimization. A higher level of homophily magnitude (i.e., lower level of similarity) in Emotionality of friendship dyads is significantly correlated to a higher

frequency of peer victimization that the targeted youth experiences within each wave.

1. (H1.4) Across waves, homophily magnitude in Emotionality positively predicts the targeted youth's individual peer victimization. A higher level of homophily magnitude (i.e., lower level of similarity) in Emotionality at Wave 1 significantly predicts a higher level of peer victimization that the targeted youth experiences at Wave 2.

1. Homophily direction:

1. (H1.5) Within each wave, homophily direction in Emotionality is positively correlated to the targeted youth's individual peer victimization. A higher score in homophily direction in Emotionality, meaning that the targeted youth had a higher score in Emotionality than friends within a friendship dyad, is correlated to a higher frequency of peer victimization that the targeted youth experiences within waves.

1. (H1.6) Across waves, homophily direction in Emotionality positively predicts the targeted youth's individual peer victimization. A higher score in homophily direction in Emotionality at Wave 1, meaning that the targeted youth had a higher score in Emotionality than friends within a friendship dyad, significantly predicts a higher frequency of peer victimization that the targeted youth experiences at Wave 2.

2. Social status:

1. (H2.1) At the individual level, social status is negatively correlated to youth's peer victimization within each wave. A higher social status is significantly

correlated to a lower frequency of peer victimization that youth experience within each wave.

1. (H2.2) At the individual level, social status negatively predicts youth's peer victimization across waves. A higher social status that youth have at Wave 1 significantly predicts a lower frequency of youth's peer victimization at Wave 2.

1. Homophily magnitude

    1. (H2.3) Within each wave, homophily magnitude in social status is negatively correlated to the targeted youth's individual peer victimization. A higher level of homophily magnitude (i.e., lower level of similarity) in the social status of friendship dyads is significantly correlated to a lower frequency of peer victimization that the targeted youth experiences within each wave.

        1. (H2.4) Across waves, homophily magnitude in social status negatively predicts the targeted youth's individual peer victimization. A higher level of homophily magnitude (i.e., lower level of similarity) in the social status of friendship dyads at Wave 1 significantly predicts a lower level of peer victimization that the targeted youth experiences at Wave 2.

1. Homophily direction

    1. (H2.5) Within each wave, homophily direction in social status is positively correlated to the targeted youth's individual peer victimization. A higher score in homophily direction in social status, meaning that the targeted youth had a higher score in social status than friends within a friendship

dyad, is significantly correlated to a higher frequency of peer victimization that the targeted youth experiences within each wave.

1. (H2.6) Across waves, homophily direction in social status positively predicts the targeted youth's individual peer victimization. A higher score in homophily direction in social status at Wave 1, meaning that the targeted youth had a higher score in social status than friends within a friendship dyad, predicts a higher frequency of peer victimization that the targeted youth experiences within waves.

2. Peer victimization experience

1. (H3.1) Homophily magnitude: Across waves, homophily magnitude in peer victimization experience is positively correlated to the targeted youth's individual peer victimization experience. A higher level of homophily magnitude (i.e., lower level of similarity) in peer victimization experience of friendship dyads at Wave 1 significantly predicts a higher frequency of peer victimization that the targeted youth experiences at Wave 2.

1. (H3.2) Homophily direction: Across waves, homophily direction in peer victimization experience negatively predicts the targeted youth's individual peer victimization experience. A higher score in homophily direction in peer victimization at Wave 1, meaning that the targeted youth experienced more peer victimization than friends within a friendship dyad, significantly predicts a lower frequency of peer victimization that the targeted youth experiences at Wave 2.

Table 1

Hypothesized Relationships

		Hypothesis Number	Predicted
Emotionality			
Individual	E1 -> PV1	H1.1	+
	E2 -> PV2	H1.1	+
	E1 -> PV2	H1.2	+
Dyadic Homophily magnitude	E1hmag -> PV1	H1.3	+
	E2hmag -> PV2	H1.3	+
	E1hmag -> PV2	H1.4	+
Dyadic Homophily direction	E1hdir -> PV1	H1.5	+
	E2hdir -> PV2	H1.5	+
	E1hdir -> PV2	H1.6	+
Social Status			
Individual	SS1 -> PV1	H2.1	-
	SS2 -> PV2	H2.1	-
	SS1 -> PV2	H2.2	-
Dyadic Homophily magnitude	SS1hmag -> PV1	H2.3	-
	SS2hmag -> PV2	H2.3	-
	SS1hmag -> PV2	H2.4	-
Dyadic Homophily direction	SS1hdir -> PV1	H2.5	+
	SS2hdir -> PV2	H2.5	+
	SS1hdir -> PV2	H2.6	+
Peer Victimization			
Dyadic	PV1hmag -> PV2	H3.1	+
	PV1hdir -> PV2	H3.2	-

Note. E = Emotionality, SS = Social Status, PV = Peer Victimization, 1 = Wave 1, 2 = Wave 2, hmag = homophily magnitude, hdir = homophily direction, + = positive relationship, - = negative relationship.

Chapter 3: Methods

Participants

Participants were drawn from a two-wave longitudinal study, Niagara Catholic District School Board Study. The study was conducted in partnership with five local elementary schools and one high school in southern Ontario. Participation required both parental consent and student assent. In Wave 1 (May 2019), 538 youth (45.7% boys) aged 10-14 years ($M_{age} = 11.82$, $SD = 1.19$) participated. In Wave 2 (November 2019), 708 youth (42.4% boys) aged 9-14 years ($M_{age} = 11.92$, $SD = 1.40$) participated. Participants for the proposed study met three specific inclusion criteria. First, participants were those who participated in both waves so that sequential effects and cross-lagged effects can be tested. Wave 2 included new Grade 5 students, but their responses cannot show a change in their peer victimization experience. Therefore, this proportion of data was excluded from further analysis. Second, participants and their friends nominated each other as friends (i.e., mutual friendship) through the question "Who are your best or closest friends?" because friendship is inherently reciprocal. Third, mutual friendships were sustained, indicating that participants and their friends nominated each other at both waves. 207 participants were included for analyses, and 424 dyads were created based on these 207 participants.

Procedure

Two waves of data collection were conducted in May 2019 and November 2019. Any students in Grade 5 to 8 attending the designated schools were eligible to participate in the study. The principal investigator and research assistants administered electronic Qualtrics-based questionnaires which were on Samsung tablets. Questionnaires included self-reports and peer nomination. For peer nomination, participants were given a list with names of participants in their grades on it and instructed to choose whoever in their grade that they thought fit in the

described items. Participants were allowed to choose "No one" if they did not want to nominate anyone. For self-report, participants were asked to report information regarding demographics, personality, social status, and peer victimization experience. In total, the questionnaires took around 1.5 hours to complete (See Appendices for measures used).

Measures

  Demographics. Demographic information was collected through self-report. Participants self-identified their chronological age. They reported their sex as boy, girl, other, or prefer not to say. Participants were asked to indicate their race or cultural group from nine categories (i.e., White, East Asian, Southeast Asian, South Asian, West Asian or Arab, Black African or Black Caribbean or Black Canadian or American, Latin American or Central American or South American, Indigenous/Native, and Other).

  HEXACO Personality - Emotionality. Participants' personalities were assessed through two versions of the HEXACO Personality Inventory: a 47-item version from the original 60-item HEXACO Personality Inventory (Ashton & Lee, 2009) for Wave 1 and a 104-item simplified version of the HEXACO Personality Inventory (de Vries & Born, 2013) for Wave 2. Both inventories measured six domains of personality including Honesty-Humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, and Openness. For the purpose of this project, only Emotionality items that were assessed across both waves ($N = 8$, W1 $\alpha = 0.69$, W2 $\alpha = 0.71$) were included in the data analysis. Though Emotionality was assessed through two inventories across waves, the inventories were based on the same structure and contained the same items of Emotionality. An example question could be "I need someone to comfort me when I suffer from a painful experience." Participants rated the provided statement on a five-point Likert scale with

1=*Strongly disagree* and 5=*Strongly agree*. The score of Emotionality was the mean of all items assessing Emotionality.

Social status. Social status was assessed through peer nomination. Participants were asked to choose names that fit the description "Who do you like in your grade" (i.e., social preference) and "Who are the most popular people in your grade?" (i.e., popularity). A higher score represented more nominations and higher social status regarding social preference and popularity respectively. To compare youth's social status across different class size, z-scores were utilized to standardize peer nominations which were based on different grades in different schools.

Peer victimization experience. Peer victimization experience was self-reported through the Integrated Measure of Bullying and Non-Bullying Aggression questionnaire ($\alpha = .93$; Prabaharan, 2020). All types of peer victimization were measured, including direct (i.e., physical and verbal) and indirect (i.e., relational, cyber) either by bullying or non-bullying aggression. Participants were asked to indicate their frequency of experiencing peer victimization on a five-point scale from 1 = *Never* to 5 = *Very often*. An example question can be "In the PAST FEW MONTHS, how often have the following things BEEN DONE TO YOU by someone who was MORE popular or strong than you?". For the purpose of this study, a composite variable, which was a mean of all types of peer victimization, was created to represent the overall frequency of peer victimization. Higher scores represented a higher frequency of peer victimization.

Homophily Magnitude and Direction. Measures included variables for both individual and dyadic variables. All measured variables, except for demographic variables, were computed into two corresponding homophily variables after univariate and multivariate screening and cleaning of individual variables to indicate the magnitude and direction of sociodemographic

homophily. Variables of homophily magnitude and homophily direction were both computed based on the subtraction of the targeted youth's and their friends' scores (i.e., friends' scores subtract from the targeted youth's score) of the corresponding individual variables. The absolute difference represented the *magnitude of sociodemographic homophily*. Higher absolute values indicated the targeted youth and their friends were of a lower level of similarity in corresponding sociodemographic characteristics (i.e., weak homophily). Lower absolute values, which were closer to 0, indicated higher levels of similarity (i.e., strong homophily).

The difference represented the *direction of sociodemographic homophily*. Positive values of homophily direction variables indicated that the targeted youth scored higher than their friends in the corresponding comparison. Negative values of these homophily direction variables represented that the targeted youth's friends scored higher in the corresponding comparison. For example, a friendship dyad has -2 for homophily in social status where 2 indicated that this friendship dyad was not similar in social status (i.e., weak in homophily magnitude), and the negative value indicated that the targeted youth's friend was more popular than the targeted youth (homophily direction). In contrast, a friendship dyad had 0.5 for homophily in social status where 0.5 indicated that this friendship dyad was relatively more similar in social status (i.e., stronger in homophily magnitude) compared to the dyad in the first example, and the positive value indicated that the targeted youth was more popular than the targeted youth (homophily direction).

Data Analysis

Raw data were inputted into IBM SPSS Statistics Version 27. Variables of interest were re-coded into a new dataset. Friendship dyads of targeted youth and their friends were identified through peer nomination data based on the criteria of participant inclusion. Analyses about the

relationship between peer victimization and Emotionality as well as social status at the individual

level included variables about individual Emotionality, social status, and peer victimization at

both waves. Variables of sociodemographic homophily (magnitude and direction) were created

for each friendship dyad and for each wave. Analyses at the dyadic level included variables of

frequency of peer victimization for youth and variables of sociodemographic homophily at both

waves. SPSS was used to 1) test univariate assumptions 2) test multivariate assumptions and 3)

obtain descriptive statistics of both individual and dyadic variables. To assess hypotheses at the

individual level (H1.1, H1.2, H2.1, H2.2), regression analyses were conducted in SPSS. To

assess different types of associations in Figure 1 and Figure 2, cross-lagged panel models were

conducted in M*plus* 8.3. These associations were: 1) within-time correlation between each

sociodemographic homophily magnitude/direction and youth's peer victimization experience

(H1.3, H1.5, H2.3, H2.5; b_1 and b_2 in Figure 1 and Figure 2), 2) auto-regressive paths examining

stabilities of sociodemographic homophily magnitude/direction and peer victimization across

waves (a_1 and a_2 in Figure 1 and Figure 2), 3) the cross-lagged correlation, including the effect of

sociodemographic homophily magnitude/direction at Wave 1 on peer victimization at Wave 2

(H1.4, H1.6, H2.4, H2.6; c_2 in Figure 1 and Figure 2) and the effect of peer victimization at

Wave 1 on sociodemographic homophily magnitude/direction at Wave 2 (c_1 in Figure 1 and

Figure 2). To examine the relationship between homophily magnitude/direction in peer

victimization at Wave 1 and targeted youth's peer victimization at Wave 2 (H3.1, H3.2; see

Figure 3), regression analyses were conducted. No cross-lagged panel model was hypothesized

with homophily magnitude/direction in peer victimization as a predictor. The reason for this was

that the calculation of creating the predictor (i.e., homophily magnitude/direction in peer

victimization) was based on friends' peer victimization and the targeted youth's peer

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victimization that was also the outcome variable, which would violate the assumptions for

running cross-lagged panel models.

Figure 1

*Hypothesized cross-lagged panel models of the relationship between homophily
magnitude/direction in Emotionality and frequency of victimized youth's peer victimization*

Wave 1   Wave 2

Homophily Magnitude a_1 Homophily Magnitude
in HEXACO - Emotionality   in HEXACO - Emotionality
                            c_1

b_1 b_2

                            c_2
Youth's Experience of   Youth's Experience of
Peer Victimization a_2 Peer Victimization

Wave 1   Wave 2

Homophily Direction a_1 Homophily Direction
in HEXACO - Emotionality   in HEXACO - Emotionality
                            c_1

b_1 b_2

                            c_2
Youth's Experience of   Youth's Experience of
Peer Victimization a_2 Peer Victimization
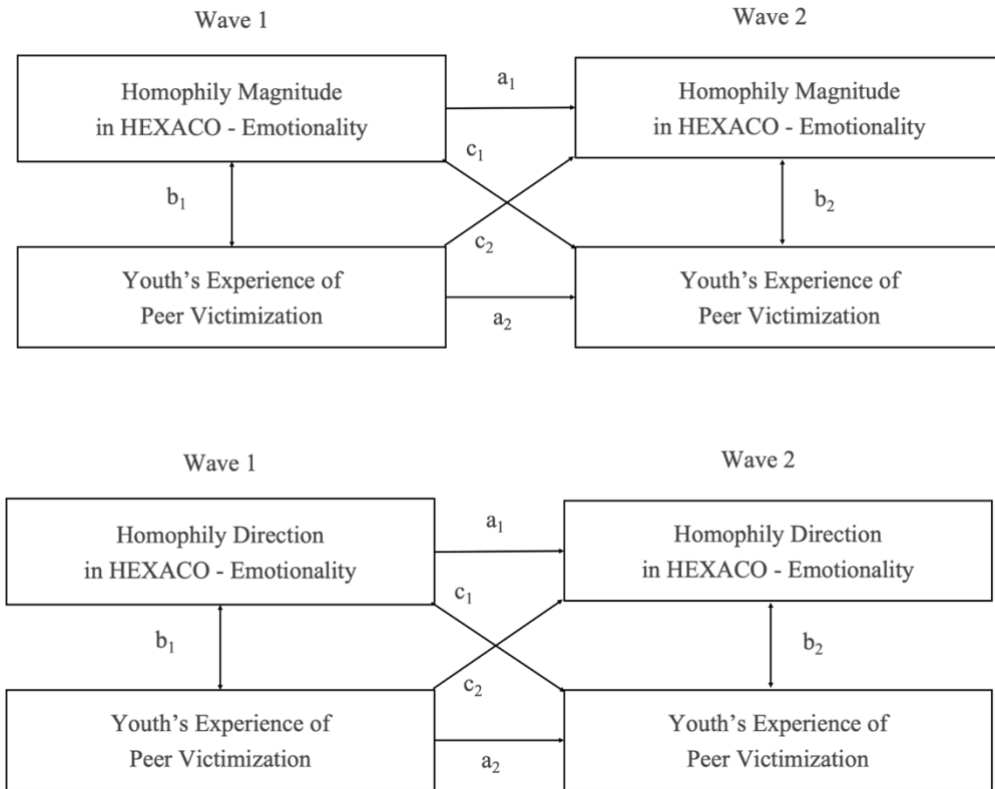
Figure 2

Hypothesized cross-lagged panel models of the relationship between homophily magnitude/direction in Social Status and frequency of victimized youth's peer victimization
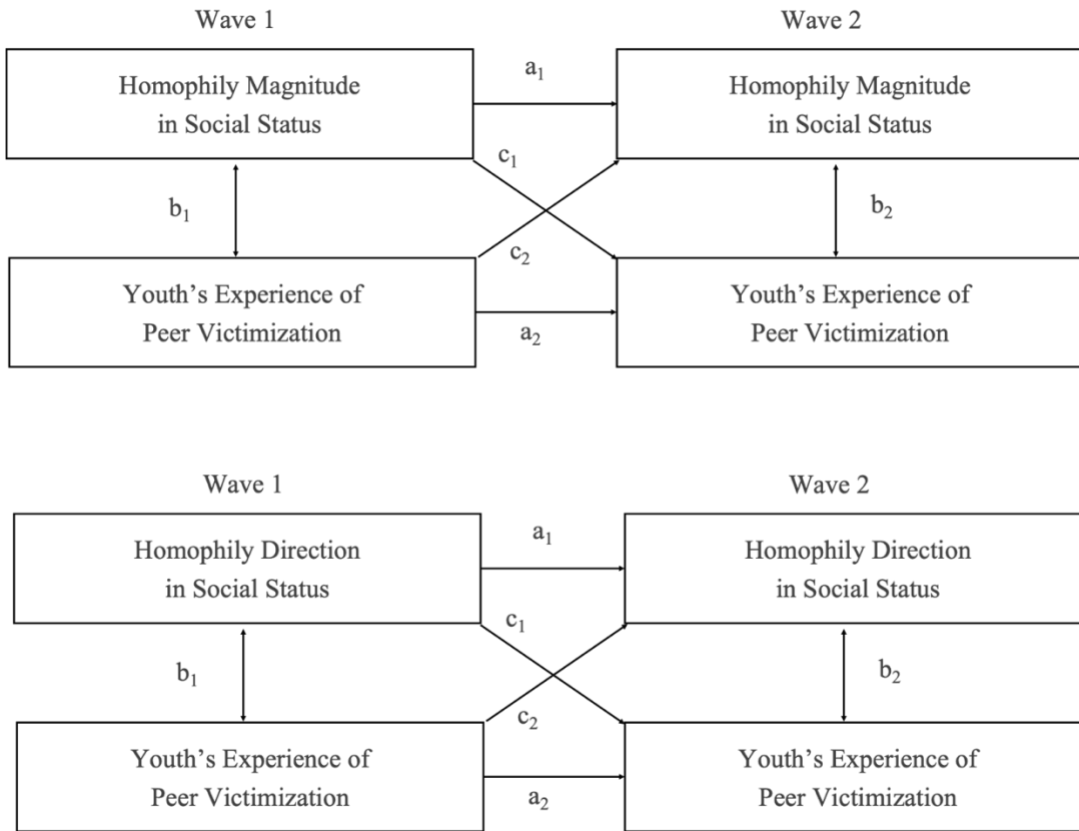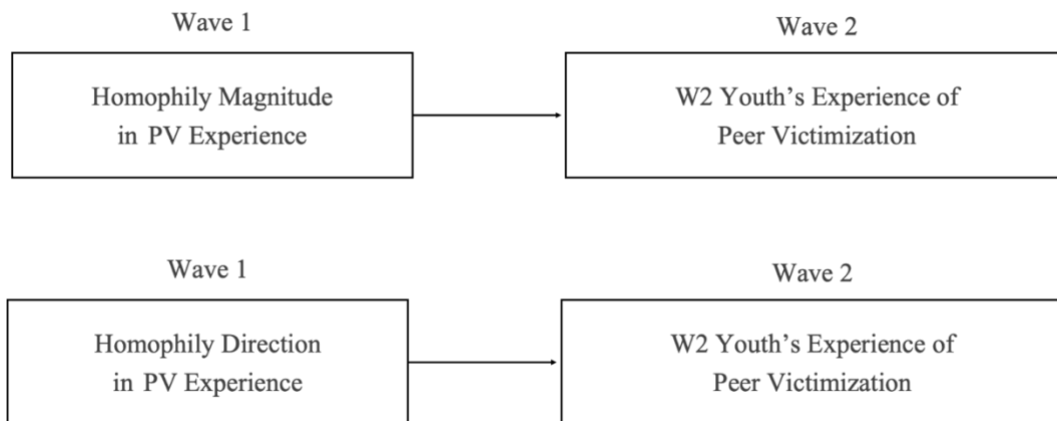

Figure 3

Hypothesized regression models of the relationship between homophily magnitude/direction in peer victimization at Wave 1 and frequency of victimized youth's peer victimization at Wave 2

Chapter 4: Results

Preliminary Analyses

Univariate Assumptions

Based on the criteria of participant inclusion, 207 participants were included for analyses, and 424 dyads were created based on these 207 participants. Preliminary analyses were conducted through SPSS Version 27. All individual and dyadic variables were assessed for plausible values, missing data, outliers, distribution normality, and homogeneity.

Individual level. Assessment of missing data revealed that the number of missing cases ranged from 0 to 6 (0-3% of the whole dataset): one for Wave 1 peer victimization, three for Wave 2 peer victimization, six for Wave 1 Emotionality, and four for Wave 2 Emotionality. The missing value analysis (i.e., Little's MCAR test) suggested that no patterns existed in the missing data, $\chi^2(40) = 54.29$, $p = .065$. Expectation-Maximization (EM) imputation was used to account for missing data to avoid biased analysis. Based on statistics of skewness and kurtosis, distributions of peer victimization at Wave 1, peer victimization at Wave 2, and social status at Wave 2 were positive-skewed and leptokurtic. Reciprocal transformation of the peer victimization variables normalized the distributions for both Wave 1 and Wave 2. However, none of the transformations (i.e., the square root, the logarithm, the reciprocal) normalized the distribution of social status at Wave 2. To further assess the reason for normality violation, z-scores of individual variables were obtained to examine the distance between outliers and the corresponding mean. Based on |3.29| cut-off for standardized scores (Tabacknick & Fidell, 2013), peer victimization at both waves did not have outliers after reciprocal transformation, whereas social status at Wave 2 had four outliers at the upper end, which induced the violation of distribution normality. The strategy of dealing with outliers for social status at Wave 2 was based

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on the distribution normality and the proportion of outliers. After winsorizing outliers to 95% of the distribution, statistics of skewness and kurtosis demonstrated the distributions of social status at Wave 2 met the assumption of normality. Although there was still one outlier for the distribution of social status at Wave 2, the outlier was kept in the subsequent analyses because the number of outliers was below 1% of the sample size. Distributions met the assumption of homogeneity as outcomes of Levene's test were all non-significant ($p > .05$), meaning that variance of individual peer victimization was the same across categorical demographic groups (i.e., by sex and by ethnicity).

Dyadic level. Variables of homophily magnitude and homophily direction were created for each predictor, which were based on individual scores of variables including peer victimization at Wave 1, Emotionality at Wave 1 and Wave 2, and social status at Wave 1 and Wave 2. Based on the statistics of skewness and kurtosis, distributions of all homophily variables and individual peer victimization met the assumption of normality. The boxplots and histograms suggested that distributions of all homophily magnitude were slightly positive-skewed. This tendency indicated that youth and their friends were more likely to be similar (i.e., a lower score in homophily magnitude meant a higher level of similarity), which aligned with previous literature. Z-scores of dyadic variables were obtained to examine the distance between outliers and the corresponding mean. Based on the |3.29| cut-off for standardized scores (Tabacknick & Fidell, 2013), two outliers were detected on each of the following distribution: homophily magnitude in Emotionality at Wave 1, homophily magnitude in Emotionality at Wave 2, homophily direction in Emotionality at Wave 2, homophily magnitude in social status at Wave 2, and homophily direction in social status at Wave 2. Four outliers were detected in the distribution of homophily magnitude in peer victimization at Wave 1. The strategy of dealing

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with outliers for these three variables was based on the distribution normality and the proportion of outliers. After winsorizing outliers to 95% of the distribution, only two outliers remained in the distribution of homophily magnitude in Emotionality at Wave 1 and in peer victimization at Wave 1. The outliers were kept in the subsequent analyses because the number of outliers was below 1% of the sample size. The outcome variables at the dyadic level were still individual peer victimization at each wave, which was reciprocally transformed. Univariate assumptions of the outcome variable were double checked because at the dyadic level, individual peer victimization was repeatedly entered because of the dyadic nature of the dataset. The statistics of skewness and kurtosis suggested that the distribution of individual peer victimization at both waves met the assumption of normality. The boxplots and histograms suggested that the distributions at both waves were slightly negative-skewed, which aligned with previous literature assumptions.

Multivariate Assumptions

Prior to data analyses, both individual and dyadic variables at each wave were examined for the multivariate assumptions of linearity, residual independence and normality, homoscedasticity, multicollinearity, and multivariate outliers.

Individual Level. Scatterplots suggested that independent variables at both waves were correlated to the outcome variables in a linear pattern. The Durbin-Watson tests revealed that residuals were independent for both waves with test statistics around 2 (W1 = 1.804, W2 = 1.832; Field, 2018). Standardized residuals of each wave were plotted through normality P-P plots and histograms. Plots revealed that the assumptions of linearity and homoscedasticity were met. Zero-order correlations for each wave showed that the variance inflation factors (VIFs) were around 0.9 and tolerance values were around 1, which suggested that the assumption of

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multicollinearity was met (Field, 2018). Mahalanobis distance with $p < .001$ identified zero multivariate outliers.

Dyadic Level. Scatterplots suggested that independent variables at both waves were correlated to the outcome variables in a linear pattern. The Durbin-Watson tests revealed that residuals were independent for both waves with test statistics around 2 (W1 = 1.923, W2 = 1.911; Field, 2018). Standardized residuals of each wave were plotted through normality P-P plots and histograms. Plots revealed that the assumptions of linearity and homoscedasticity were met. Zero-order correlations for each wave showed that VIFs were around 0.9 and tolerance values were around 1, which suggested that the assumption of multicollinearity was met (Field, 2018). Mahalanobis distance with p < .001 detected four multivariate outliers for Wave 1 analysis and two multivariate outliers for Wave 2 analysis. Regression models with and without multivariate outliers did not suggest meaningful differences. Therefore, multivariate outliers were included for further analyses.

Preliminary Results

Descriptive Statistics and Correlations

After data screening and cleaning, the analytic sample included 207 participants and 424 dyads. Before diving into the results, the following explanation was provided to avoid confusing interpretations due to the reciprocal transformation of peer victimization. Peer victimization was reciprocally transformed, so the direction of relationships involving peer victimization should be reversed. For example, the correlation coefficient is negative for the association between Emotionality and peer victimization at the individual level. Because peer victimization was reciprocally transformed, this indicates a positive relation, such that, higher Emotionality is correlated to higher peer victimization. A descriptive analysis was run to depict the

demographics of the sample at both waves (i.e., age, gender, grade, and ethnicity; see Table 2).

Descriptive statistics (i.e., mean, standard deviation, range) of the individual, dyadic variables

were presented in Table 3.

Table 2

Demographic Data: Sample Composition

		Wave 1	Wave 2
Gender	Boys	74 (35.7%)	72 (34.8%)
	Girls	130 (62.8%)	127 (61.4%)
	Others	3 (1.5%)	8 (3.8%)
Age	10	30 (14.5%)	6 (2.9%)
	11	54 (26.1%)	51 (24.6%)
	12	52 (25.1%)	12 (51%)
	13	54 (26.1%)	62 (30%)
	14	17 (8.2%)	36 (17.4%)
Average		11.88 (1.19)	12.35 (1.12)
Grade	5	52 (25.1%)	-
	6	54 (26.1%)	51 (24.6%)
	7	55 (26.6%)	54 (26.1%)
	8	46 (22.2%)	55 (26.6%)
	9	-	47 (22.8%)
Average		6.46 (1.10)	7.47 (1.10)
Ethnicity	White	140 (67.6%)	118 (57.0%)
	Asian	19 (9.2%)	20 (9.7%)
	Black	3 (1.4%)	5 (2.4%)
	Native Canadian	1 (0.5%)	0 (0.0%)
	Other	16 (7.7%)	29 (14.0%)
	Mixed	22 (10.6%)	32 (15.5%)
	Missing	6 (2.9%)	3 (1.4%)

Table 3

Descriptive Statistics of Individual and Dyadic Variables at Both Waves

	Wave 1			Wave 2		
	M	*SD*	Min - Max	*M*	*SD*	Min - Max
Individual variables						
Emotionality	3.49	0.05	1.75 - 5.00	3.37	0.05	1.00 - 5.00
Social Status	0.00	0.07	-1.45 - 3.37	-0.04	0.06	-1.52 - 2.89
Peer Victimization	0.79	0.01	0.29 - 1.00	0.85	0.01	0.29 - 1.01
Dyadic variables						
Homophily magnitude						
Emotionality	0.63	0.45	0.00 - 2.13	0.62	0.46	0.00 - 2.13
Social Status	0.67	0.54	0.00 - 2.41	0.45	0.41	0.00 - 1.77
Peer Victimization	0.18	0.14	0.00 - 0.67	0.16	0.16	0.00 - 0.65
Homophily direction						
Emotionality	0.0038	0.79	-2.37 - 2.38	-0.0024	0.77	-2.12 - 2.13
Social Status	0.0009	0.88	-2.66 - 2.66	0.0023	0.62	-1.94 - 1.94
Peer Victimization	0.0002	0.23	-0.68 - 0.68	0.0002	0.22	-0.65 - 0.65

Note. *M* = mean, *SD* = standard deviation. Peer victimization was reciprocally transformed.

Correlations between variables were shown in Table 4 for individual variables and in Table 5 for dyadic variables. At the individual level, specific predictors were correlated with each other but not the outcome variables. Emotionality at both waves were positively correlated with sex at both waves, indicating that girls were more likely to score higher in Emotionality of the HEXACO Personality Inventory than boys. Emotionality at Wave 1 was positively correlated with Emotionality at Wave 2. Social status at Wave 1 was positively correlated with age, suggesting that older youth had higher social status than younger youth. Social status at Wave 1 was positively correlated with social status at Wave 2. Social status at Wave 1 was negatively correlated with Emotionality at both waves. Social status at both waves was negatively correlated with sex, suggesting that girls were more likely to be popular than boys. Peer victimization at Wave 1 was positively correlated with peer victimization at Wave 2.

Table 4

Bivariate Correlations among Individual Variables at Both Waves

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Age W1	--						0.02	0.08	0.28***	-0.10	0.05	0.09
2. Age W2		--					-0.03	0.03	0.24***	-0.09	0.10	0.07
3. Sex W1			--				0.52***	0.50***	-0.18**	-0.17*	0.08	0.01
4. Sex W2				--			0.50***	0.45***	-0.21**	-0.08	0.13	0.06
5. Ethnicity W1					--		-0.02	0.02	-0.05	-0.09	0.11	0.07
6. Ethnicity W2						--	0.01	0.06	0.11	0.04	-0.06	-0.08
7. E W1							--	0.73***	-0.18**	-0.08	-0.06	-0.11
8. E W2								--	-0.15*	-0.09	-0.02	-0.13
9. SS W1									--	0.50***	-0.04	-0.03
10. SS W2										--	-0.07	-0.06
11. PV W1											--	0.63***
12. PV W2												--

Note. N = 274. E = Emotionality, SS = Social status, PV = Peer victimization, W1 = Wave 1, W2 = Wave 2. Sex was coded as 0 = boy, 1 = girl. Peer victimization was reciprocally transformed.
***$p < .001$; ** $p < .01$; * $p < .05$

At the dyadic level, specific predictors were correlated with each other but not the outcome variables. The homophily magnitude of Emotionality at Wave 1 was positively correlated with the homophily magnitude of Emotionality at Wave 2. The homophily direction of Emotionality at Wave 1 was positively correlated with the homophily direction of Emotionality at Wave 2. The homophily magnitude of social status at Wave 2 was positively correlated with the homophily magnitude of Emotionality at Wave 2 and the homophily magnitude of social status at Wave 1. The homophily direction of social status at Wave 1 was positively correlated with the homophily direction of social status at Wave 2. The homophily magnitude of peer victimization at Wave 1 was positively correlated with the homophily magnitude of social status at Wave 1. The homophily direction of peer victimization at Wave 1 was negatively correlated with the homophily direction of Emotionality at both waves. The homophily magnitude of peer victimization at Wave 2 was positively correlated with the homophily magnitude of peer victimization at Wave 1. The homophily direction of peer victimization at Wave 2 was

negatively correlated with the homophily direction of Emotionality at both waves. The

homophily direction of peer victimization at Wave 2 was positively correlated with the

homophily direction of peer victimization at Wave 1. The targeted youth's peer victimization at

both waves were negatively correlated with homophily magnitude in peer victimization and

positively correlated with homophily direction in peer victimization at both waves.

Table 5

Bivariate Correlations among Dyadic Variables at Both Waves

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. E1 hmag	--	0.00	0.27***	-0.00	-0.01	0.00	-0.04	0.00	0.02	0.00	-0.06	0.00	-0.05	0.02
2. E1 hdir		--	-0.00	0.61***	-0.00	-0.07	0.01	0.05	-0.00	-0.11*	-0.00	-0.14**	0	-0.09
3. E2 hmag			--	-0.00	0.02	0.00	0.12*	-0.01	-0.03	0.00	-0.03	-0.00	0.01	-0.04
4. E2 hdir				--	0.00	-0.06	-0.00	0.01	0.00	-0.10*	0.00	-0.17***	-0.07	-0.11
5. SS1 hmag					--	-0.00	0.35***	-0.01	0.10*	0.00	0.03	-0.00	-0.02	-0.01
6. SS1 hdir						--	0.00	0.58***	-0.00	0.07	-0.00	0.00	0.05	0.00
7. SS2 hmag							--	0.01	0.00	-0.00	0.00	0.00	-0.03	-0.09
8. SS2 hdir								--	-0.01	0.04	-0.00	-0.02	0.02	-0.02
9. PV1 hmag									--	0.00	0.41***	-0.00	-0.32***	-0.29***
10. PV1 hdir										--	-0.00	0.64***	0.67***	0.42***
11. PV2 hmag											--	-0.00	-0.30***	-0.43***
12. PV2 hdir												--	0.43***	0.65***
13. NTPV1													--	0.62***
14. NTPV2														--

Note. N = 424. E = Emotionality, SS = Social status, PV = Peer victimization, NT = Nominator,
1 = Wave 1, 2 = Wave 2, hmag = homophily magnitude, hdir = homophily direction. Peer
victimization was reciprocally transformed.
***$p < .001$; ** $p < .01$; * $p < .05$

Concurrent (within-time) correlations were first tested by bivariate correlations via SPSS

Version 27 before examining cross-lagged panel models. Pearson *r*s and significance levels were

shown in Table 6. The homophily direction of Emotionality at Wave 2 was positively correlated

with the targeted youth's peer victimization at Wave 2, $r = -0.109$, $p = .025$, indicating that the

targeted youth with a higher level of Emotionality than friends promoted the targeted youth's

higher level of peer victimization at Wave 2, which was reciprocally transformed. The

homophily magnitude of social status at Wave 2 was marginally correlated with the targeted

youth's peer victimization at Wave 2 in a positive direction, $r = -0.089$, $p = .069$, indicating that

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a higher discrepancy of social status between the targeted youth and their friends promoted the

targeted youth's higher level of peer victimization at Wave 2, which was reciprocally

transformed. At Wave 1, the targeted youth's peer victimization was not significantly correlated

with the homophily magnitude of Emotionality, $p = .336$, and of social status, $p = .620$, and with

the homophily direction of Emotionality and, $p = .113$, and of social status, $p = .307$. At Wave 2,

the targeted youth's peer victimization was not significantly correlated with the homophily

magnitude of Emotionality, $p = .453$, and with the homophily direction of social status, $p = .750$.

Table 6

Concurrent Bivariate Correlations

Variables	Pearson *r*	*p*	N
E1 & PV1	-0.063	.357	207
E2 & PV2	-0.125	**.074**	207
E1 & PV2	-0.109	.118	207
SS1 & PV1	-0.037	.600	207
SS2 & PV2	-0.060	.393	207
SS1 & PV2	-0.033	.639	207
E1hmag & PV1	-0.047	.336	424
E1hdir & PV1	-0.077	.113	424
E2hmag & PV2	-0.037	.453	424
E2hdir & PV2	-0.109	**.025**	424
SS1hmag & PV1	-0.024	.620	424
SS1hdir & PV1	0.050	.307	424
SS2hmag & PV2	-0.089	**.069**	424
SS2hdir & PV2	-0.016	.750	424

Note. E = Emotionality, SS = Social status, PV = Peer victimization, 1 = Wave 1, 2 = Wave 2, hmag = homophily magnitude, hdir = homophily direction. Peer victimization was reciprocally transformed. Bolded *p*-values indicate significance or marginal significance.

Regression

At the individual level, the relationships between independent variables (i.e.,

Emotionality and social status) and outcome variables (i.e., peer victimization) were examined

within and across waves by regression analyses via SPSS Version 27. Regression results were

shown in Table 7. Within Wave 1, youth's Emotionality and social status both did not

significantly predict youth's peer victimization, both ps > .05. Youth's Emotionality at Wave 2

was trending towards significance when it came to predicting youth's peer victimization at Wave

2, p = .074, explaining a 1.6% variance of peer victimization. Within Wave 2, youth's social

status did not significantly predict youth's peer victimization, p = .393. Youth's Emotionality

and social status at Wave 1 both did not significantly predict youth's peer victimization at Wave

2, both ps > .05.

Table 7

Regression Results among Individual Variables

							95% CI		
	Estimate (B)	SE	beta	t	F	p	LL	UL	R^2
E1 -> NTPV1	-0.017	0.019	-0.064	-0.924	0.854	.357	-0.054	0.019	0.004
SS1 -> NTPV1	-0.007	0.013	-0.037	-0.526	0.276	.600	-0.031	0.018	0.001
E2 -> NTPV2	-0.033	0.018	-0.125	-1.797	3.228	**.074**	-0.069	0.003	0.016
SS2 -> NTPV2	-0.012	0.014	-0.06	-0.856	0.732	.393	-0.038	0.015	0.004
E1 -> NTPV2	-0.028	0.018	-0.109	-1.57	2.464	.118	-0.063	0.007	0.012
SS1 -> NTPV2	-0.006	0.012	-0.033	-0.47	0.220	.639	-0.029	0.018	0.001

Note. N = 207. E = Emotionality, SS = Social status, PV = Peer victimization, NT = Nominator,
1 = Wave 1, 2 = Wave 2. Peer victimization was reciprocally transformed. Bolded p-values
indicate significance or marginal significance.

At the dyadic level, regression analyses examined the relationships between homophily

magnitude and direction of each predictor within friendship dyads and youth's peer victimization

across time and the relationships of the same variables across time (see Table 8). Each

homophily variable in Emotionality and social status at Wave 1, both magnitude and direction,

significantly predicted the corresponding homophily variable at Wave 2, all ps < .000, suggesting

the stability of individual differences across waves. Individual peer victimization at Wave 1 also

significantly predicted individual peer victimization at Wave 2, p < .000. Consistent with

hypotheses, the homophily magnitude of peer victimization at Wave 1 positively predicted the

targeted youth's peer victimization at Wave 2, estimate = -0.35, $p < .001$, indicating that a higher

discrepancy of peer victimization experience between the targeted youth and their friends at

Wave 1 significantly predict a higher level of peer victimization that the targeted youth

experienced at Wave 2, which was reciprocally transformed. Consistent with hypotheses, the

homophily direction of peer victimization at Wave 1 negatively predicted the targeted youth's

peer victimization at Wave 2, estimate = 0.31, $p < .001$, indicating that the targeted youth

experiencing more peer victimization than their friends at Wave 1 significantly predicted a lower

level of peer victimization that the targeted youth experienced at Wave 2, which was reciprocally

transformed. Contrast to the hypothesis, the homophily direction of Emotionality at Wave 1 was

trending to significance when it came to predicting youth's peer victimization at Wave 2,

estimate = -0.02, $p = .054$, indicating that friends experiencing more peer victimization than the

targeted youth at Wave 1 predicted a higher level of Wave 2 peer victimization for the targeted

youth, which was reciprocally transformed. However, the homophily magnitude of Emotionality

and social status at Wave 1 and the homophily direction of social status at Wave 1 did not

significantly predict the targeted youth's peer victimization at Wave 2, all ps > .05. The targeted

youth's peer victimization at Wave 1 did not significantly predict homophily magnitude and

direction in Emotionality and social status at Wave 2, all ps > .05.

Table 8

Regression Results among Dyadic Variables

	Estimate (B)	SE	beta	t	F	p	95% CI		R^2
							LL	UL	
PV1 hmag -> NTPV2	-0.349	0.055	-0.292	-6.282	39.460	**.000**	-0.458	-0.239	0.086
PV1 hdir -> NTPV2	0.308	0.033	0.416	9.402	88.398	**.000**	0.243	0.372	0.173
E1 hmag -> E2 hmag	0.272	0.048	0.268	5.705	32.541	**.000**	0.179	0.366	0.072
E1 hdir -> E2 hdir	0.602	0.038	0.614	15.982	255.414	**.000**	0.528	0.676	0.377
SS1 hmag -> SS2 hmag	0.270	0.035	0.353	7.739	59.886	**.000**	0.201	0.338	0.124
SS1 hdir -> SS2 hdir	0.409	0.028	0.580	14.607	213.371	**.000**	0.354	0.464	0.336

NTPV1 -> NTPV2	0.618	0.038	0.620	16.215	262.934	**.000**	0.543	0.692	0.384
E1hmag -> NTPV2	0.009	0.019	0.022	0.462	0.214	.644	-0.028	0.045	0.001
E1hdir -> NTPV2	-0.021	0.011	-0.094	-1.930	3.724	**.054**	-0.041	0.000	0.009
SS1hmag -> NTPV2	-0.004	0.015	-0.012	-0.255	0.065	.798	-0.034	.026	0.000155
SS1hdir -> NTPV2	0.000	.010	0.002	.045	0.002	.964	-0.018	0.019	0.000005
NTPV1 -> E2hmag	0.016	0.129	0.006	0.126	0.016	.900	-0.238	0.271	0.000038
NTPV1 -> E2hdir	-0.311	0.217	-0.070	-1.436	2.062	.152	-0.737	0.115	0.005
NTPV1 -> SS2hmag	-0.061	0.117	-0.025	-0.523	0.274	.601	-0.291	0.169	0.001
NTPV1 -> SS2hdir	0.083	0.174	0.023	0.476	0.227	.634	-0.259	0.424	0.001

Note. N = 424. E = Emotionality, SS = Social status, PV = Peer victimization, NT = Nominator, 1 = Wave 1, 2 = Wave 2, hmag = homophily magnitude, hdir = homophily direction. Peer victimization was reciprocally transformed. Bolded p-values indicate significance or marginal significance.

Cross-lagged Panel Models

Cross-lagged panel analyses were conducted via M*plus* 8.3 to examine concurrent and predictive associations between homophily magnitude/direction of Emotionality and/or social status and youth's individual peer victimization. Each model included paths that examined 1) the auto-regressive effect of homophily magnitude/direction variable, 2) the auto-regressive effect of youth's individual peer victimization, 3) the concurrent correlation between homophily magnitude/direction and youth's individual peer victimization at each wave, 4) the cross-lagged effects from homophily magnitude/direction at Wave 1 to youth's individual peer victimization at Wave 2, and 5) the cross-lagged effects from youth's individual peer victimization at Wave 1 to homophily magnitude/direction at Wave 2. Model fit statistics presented in Table 9 indicated that all four models provided a good fit to the data with all RMSEAs below .06 and comparative fit indexes (CFIs) and Tucker-Lewis indexes (TLIs) above .95 (Xia & Yang, 2019). Standardized estimates of models were presented in Figure 4-5 and explained below.

Table 9

Model Fit Statistics for the Cross-Lagged Panel Model of Homophily Magnitude/direction of Emotionality and Social Status and Youth's Peer Victimization

Model	χ^2	df	p	CFI	TLI	RMSEA [90% CI]
Ehmag & NTPV	241.03	5	**.000**	1.00	1.00	0.00 (0.00,0.00)
Ehdir & NTPV	409.39	5	**.000**	1.00	1.00	0.00 (0.00,0.00)
SShmag & NTPV	266.05	5	**.000**	1.00	1.00	0.00 (0.00,0.00)
Sshdir & NTPV	379.62	5	**.000**	1.00	1.00	0.00 (0.00,0.00)

Note. N = 424. E = Emotionality, SS = Social status, PV = Peer victimization, NT = Nominator, hmag = homophily magnitude, hdir = homophily direction.

Emotionality. The homophily magnitude of Emotionality was relatively stable across time with an estimate of .27, $p < .01$. Targeted youth's experience of peer victimization was more stable than the homophily magnitude of Emotionality across time with an estimate of .62, $p < .01$. Concurrent effects between the homophily magnitude of Emotionality and targeted youth's individual experience of peer victimization were not significantly correlated at both waves (estimate$_1$ = -.05, p_1 = .33; estimate$_2$ = -.07, p_2 = .14). In contrast to the hypotheses, cross-lagged effects in this model were not significant. The homophily magnitude of Emotionality at Wave 1 did not significantly predict the targeted youth's individual experience of peer victimization at Wave 2 (estimate = .05, $p = .18$). Targeted youth's individual experience of peer victimization at Wave 1 did not significantly predict the homophily magnitude of Emotionality at Wave 2 (estimate = .02, $p = .69$).

The homophily direction of Emotionality was relatively stable across time with an estimate of .61, $p < .01$. Targeted youth's experience of peer victimization was similarly stable across time with an estimate of .62, $p < .01$. Concurrent effects between the homophily direction of Emotionality and targeted youth's individual experience of peer victimization were not significantly correlated at both waves (estimate$_1$ = -.08, p_1 = .11; estimate$_2$ = -.06, p_2 = .21). In contrast to the hypotheses, cross-lagged effects in this model were not significant. The

homophily direction of Emotionality at Wave 1 did not significantly predict the targeted youth's individual experience of peer victimization at Wave 2 (estimate = -.05, *p* = .23). Targeted youth's individual experience of peer victimization at Wave 1 did not significantly predict the homophily direction of Emotionality at Wave 2 (estimate = -.02, *p* = .56).

Figure 4

Cross-lagged panel models of the relationship between homophily magnitude/direction in Emotionality and frequency of victimized youth's peer victimization

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

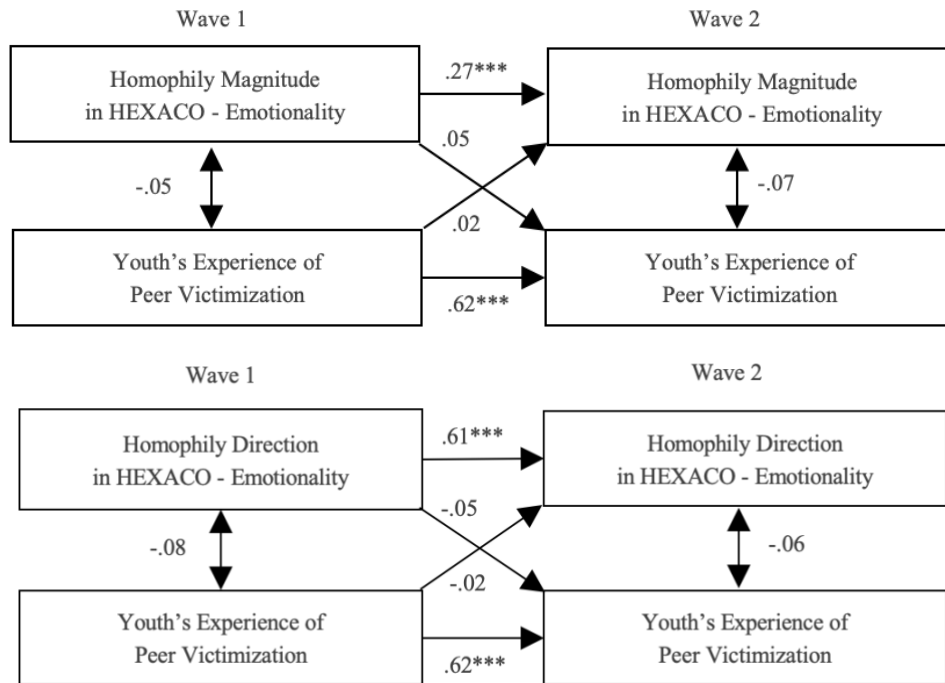**Social status**. The homophily magnitude of social status was relatively stable across time with an estimate of .35, *p* < .01. Targeted youth's experience of peer victimization was more stable than the homophily magnitude of social status across time with an estimate of .62, *p* < .01. The concurrent effect between the homophily magnitude of social status and targeted youth's individual experience of peer victimization were not significantly correlated at Wave 1 (estimate = -.02, *p* = .62). However, the magnitude of social status and targeted youth's individual peer victimization were significantly correlated at Wave 2 (estimate = -.01, *p* < .05). In contrast to the

hypotheses, cross-lagged effects in this model were not significant. The homophily magnitude of

social status at Wave 1 did not significantly predict the targeted youth's individual experience of

peer victimization at Wave 2 (estimate = .01, p = .95). Targeted youth's individual experience of

peer victimization at Wave 1 did not significantly predict the homophily magnitude of social

status at Wave 2 (estimate = -.02, p = .71).

The homophily direction of social status was relatively stable across time with an

estimate of .58, p < .01. Targeted youth's experience of peer victimization was more stable than

the homophily direction of social status across time with an estimate of .62, p < .01. Concurrent

effects between the homophily direction of social status and targeted youth's individual

experience of peer victimization were not significantly correlated at both waves ($estimate_1$ = .05,

p_1 = .31; $estimate_2$ = -.02, p_2 = .67). In contrast to the hypotheses, cross-lagged effects in this

model were not significant. The homophily direction of social status at Wave 1 did not

significantly predict the targeted youth's individual experience of peer victimization at Wave 2

(estimate = -.03, p = .45). Targeted youth's individual experience of peer victimization at Wave

1 did not significantly predict the homophily direction of social status at Wave 2 (estimate = -.01,

p = .89).

Figure 5

Cross-lagged panel models of the relationship between homophily magnitude/direction in Social Status and frequency of victimized youth's peer victimization
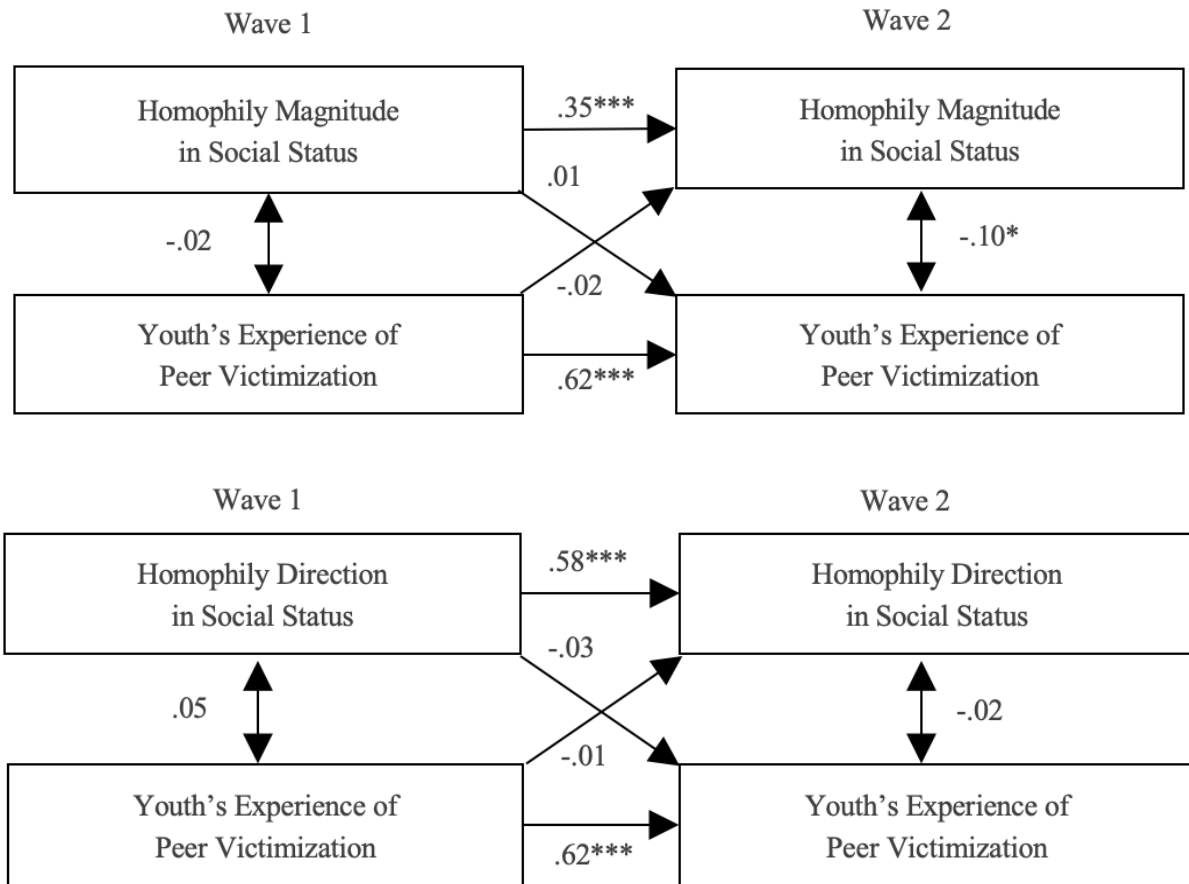

*p < .05, ** p < .01, *** p < .001

Chapter 5: Discussion

My thesis aimed to investigate the effect of sociodemographic homophily of friendship dyads on youth peer victimization. The sociodemographic homophily regarding Emotionality, social status, and peer victimization was examined on two dimensions: magnitude and direction. Hypotheses were made regarding relationships between sociodemographic characteristics and peer victimization at an individual level and relationships between sociodemographic homophily magnitude/direction and peer victimization from a dyadic level. As Table 10 illustrated, my

findings highlighted the significant predictive effects of homophily magnitude and direction in

peer victimization of friendship dyads on sequential peer victimization. Findings also highlighted

the significant concurrent relationships between homophily direction in Emotionality of

friendship dyads and peer victimization as well as between homophily magnitude in social status

of friendship dyads and peer victimization.

Table 10

Comparison Between Predicted and Demonstrated Relationships

		Hypothesis Number	Predicted	Demonstrated
Emotionality				
Individual	E1 -> PV1	H1.1	+	x
	E2 -> PV2	**H1.1**	**+**	**+ [+ab]**
	E1 -> PV2	H1.2	+	x
Dyadic Homophily magnitude	E1hmag -> PV1	H1.3	+	x
	E2hmag -> PV2	H1.3	+	x
	E1hmag -> PV2	H1.4	+	x
Dyadic Homophily direction	E1hdir -> PV1	H1.5	+	x
	E2hdir -> PV2	**H1.5**	**+**	**+[*a]**
	E1hdir -> PV2	**H1.6**	**+**	**+[+b]**
Social Status				
Individual	SS1 -> PV1	H2.1	-	x
	SS2 -> PV2	H2.1	-	x
	SS1 -> PV2	H2.2	-	x
Dyadic Homophily magnitude	SS1hmag -> PV1	H2.3	-	x
	SS2hmag -> PV2	H2.3	-	+[*abc]
	SS1hmag -> PV2	H2.4	-	x
Dyadic Homophily direction	SS1hdir -> PV1	H2.5	+	x
	SS2hdir -> PV2	H2.5	+	x
	SS1hdir -> PV2	H2.6	+	x
Peer Victimization				
Dyadic	**PV1hmag -> PV2**	**H3.1**	**+**	**+[***b]**
	PV1hdir -> PV2	**H3.2**	**-**	**-[***b]**

Note. E = Emotionality, SS = Social Status, PV = Peer Victimization, 1 = Wave 1, 2 = Wave 2, hmag = homophily magnitude, hdir = homophily direction, + = positive relationship, - = negative relationship, x = non-significant relationship based on findings. Bolded relationships were

supported by the data. Relationships highlighted in red were significant but contrary to hypotheses.

[a] mean the results were supported by correlation analyses
[b] means the results were supported by regression analyses
[c] means the results were supported by cross-lagged panel models
[+] $p < .08$, *$p < .05$, ** $p < .01$, *** $p < .001$

Emotionality

My hypotheses regarding Emotionality were partially supported by data at both individual and dyadic levels (see Table 10). At the individual level, the relationship between Emotionality and peer victimization at Wave 2 was in line with the hypothesized association. The results indicated that having a higher score in Emotionality significantly predicted more peer victimization. This association indicates that youth having difficulties in dealing with life stresses and being more emotional are more likely to be those experiencing peer victimization that those less emotional. Though the association was aligned with previous research and was supported by both correlation and regression analyses, the correlation coefficient and effect size were relatively small around .02. The potential reason could be that Emotionality is multidimensional and not all dimensions have close associations with peer victimization (Ashton et al., 2014). Beyond my thesis, meta-analyses suggest that previous research has not assessed Emotionality as a HEXACO Personality Inventory does, but has done so as various negative emotionalities found in the Big Five factor of Neuroticism (e.g., depression, anxiety, loneliness; Reijintjes et al., 2011). Considering Emotionality as a broad construct may conceal the true effects of specific Emotionality facets (see the limitation section below for further explanation).

At the dyadic level, my results partially supported the hypotheses of the current thesis. The homophily direction in Emotionality not only had a significant concurrent association with peer victimization but also significantly predicted sequential peer victimization. From a dyadic perspective, being more emotionally unstable and anxious about life stresses than one's friends

predicted an increase in one's peer victimization. In other words, having friends who are emotionally stable does not prevent youth from peer victimization. One potential reason could be that the discrepancy in Emotionality between youth and their friends leads to the absence of understanding of youth's peer victimization (Eisenberg et al., 1998). The discrepancy can hinder emotional connections like sympathy and empathy, further facilitating maladjustment and increasing youth's risk of being bullied. Another potential reason could be that friends with lower Emotionality are less likely to defend others in bullying situations than those with higher Emotionality (Longobardi et al., 2020; Pronk et al., 2021; van Noorden et al., 2015). Youth with low Emotionality can have weak emotional bonds with others (Ashton et al., 2014), which may reduce their efforts in maintaining friendships. Youth with low Emotionality may feel less necessary to offer help when their friends are in trouble, peer victimization in this case. Given that bullying research has not explored the relationship between Emotionality and peer victimization at a dyadic level, a more precise explanation of the mechanism behind the current association should be made in future works.

In sum, my findings preliminarily supported that Emotionality marginally predicts youth's peer victimization at the individual level, and being more emotional and anxious about life stresses than friends predicts youth's peer victimization at the dyadic level. However, the associations were not as pronounced as hypothesized. As such, I make a call for more in-depth studies investigating the relationship between Emotionality and peer victimization at both individual and dyadic levels.

Social Status

My hypotheses about social status were all unsupported by the current findings at both individual and dyadic levels (see Table 10). At the individual level, relationships between social status and peer victimization were not significantly correlated within and across waves, which contrasts with previous research evidence. Previous studies indicated that social status is a significant correlate of youth's peer victimization. Marginalized youth who are at the bottom of social rank within peer networks are usually more likely to suffer from peer victimization (Pouwels et al., 2015; Pouwels et al., 2018a). One potential explanation for these contradictory results could be that the small portion of victimized youth in the current sample concealed the true effect of social status on peer victimization. Indeed, a recent literature review provided a more complete picture of the relationship between social status and peer victimization wherein youth of high social status are also targets of peer victimization (Dawes & Malamut, 2020). The curvilinear relationship between social status and peer victimization increases the difficulty of detecting significant effects of social status (Andrews et al., 2016). Additionally, though both social preference and popularity are indicators of social status, social status is a complex construct of which social preference and popularity are related but different facets of social status (van den Berg et al., 2020). While popularity is about social visibility and power, social preference is about likeability based on closer social relationships than popularity does. A recent meta-analysis indicated that the difference between popularity and social status would increase by age, especially for girls (van den Berg et al., 2020). Thus, popularity and social preference may not tell the same story about the association of social status and peer victimization.

At the dyadic level, the only significant relationship that I found was regarding homophily magnitude in social status and individual peer victimization at Wave 2. Contrary to my hypothesis, the results indicated that this relationship was a positive correlation. The

significant relationship suggested that the less similar in social status (i.e., high homophily magnitude) youth and their friends are, the more peer victimization youth will experience. It could be explained by friendship or group characteristics. Given that social status is an indicator of one's position in peer networks, the effect of social status may be closely related to other network factors in which youth and their friends are embedded. One's social interaction can be influenced not only by their own social status but also their friends' social status. Although previous research suggested that friends of high social status youth can make connections to positive peer networks for victimized youth (Laursen & Bukowski, 2007), bringing an outsider of low social status may impact the existing network relationship. Befriending victimized youth may increase one's likelihood of being targeted as future victims. Additionally, youth tend to befriend peers of higher social status than themselves to maintain their own social status (Pouwels et al., 2018a). As such, existing members of the current network may push the outsider away from their network to avoid its impact on their network. According to the balance theory, the contrast between one's attitudes and interests and their network can create an unstabilized condition of the network and put oneself into a social dilemma (Heider, 1958). This imbalance of peer networks might be responsible for an increase in peer victimization. That is, too large a discrepancy between one's own and their friends' social status may destabilize the peer network and result in a higher chance of negative peer experiences, such as victimization.

In sum, the relationship between social status and peer victimization remains unclear at both individual and dyadic levels. My thesis provides preliminary evidence that befriending peers with more different social statuses than oneself predicts an increase in future peer victimization. Though the effect size was not large, the concurrent association between

homophily magnitude in social status and peer victimization was supported by correlation analyses, regression analyses, and a cross-lagged panel model.

Peer Victimization Experience

In line with my hypotheses (see Table 10), friendship homophily of peer victimization experience significantly predicted individual sequential peer victimization at a dyadic level. Befriending peers with similar peer victimization experiences as oneself can reduce one's risk of being bullied in the future. The finding supported that the mechanism behind default selection may relate to reducing the risk of future peer victimization. Being similar to friends who have similar peer victimization experiences prevents youth from feeling lonely and guilty about being bullied (Lodder et al., 2016; Sijtsema et al., 2013; Schacter & Juvonen, 2020). These subtle emotional supports can reduce one's maladjustment and promote positive coping strategies, which further buffers one's risk of being bullied in the long run (Frey et al., 2015; Schacter & Juvonen, 2019). The current findings contrast with the previous evidence that befriending peers with similar peer victimization experience increases co-rumination and further increases sequential peer victimization (Guameri-White et al., 2015; Schacter & Juvonen, 2020). The balance theory can explain why my data offered a different answer. The balance theory suggests that befriending peers with similar experiences eases one's efforts in friendship formation and maintenance (Heider, 1958). This tendency of friendship selection also promotes more self-disclosure and emotional understanding than befriending dissimilar peers, which can buffer the association of maladjustment and peer victimization (Bagwell & Bukowski, 2018).

My findings also indicated that having more peer victimization experience than friends significantly predicted a decrease in future peer victimization. In line with previous research, befriending peers who are victimized can increase youth's risk of being bullied. Previous

research suggested that youth who are friends of victimized youth are more likely to be targeted as victims (Echols & Graham, 2016). Victimized youth are usually socially visible in peer networks. Because people tend to define others based on their social relationships and positions, befriending those with more experience of peer victimization may reduce youth's peer reputation, which further increases youth's risk of being bullied. Additionally, victimized youth are more likely to be more emotional and less socially intelligent than those experiencing less peer victimization (Pronk et al., 2021). As such, they may apply unhealthy coping strategies toward peer victimization, such as rumination. Given that youth are prone to be socialized by peer influence, having highly victimized youth as friends may increase one's risk of developing maladjustment to peer victimization (Bagwell & Bukowski, 2018). And, conversely, having friends who are low in victimization compared to oneself appears to decrease one's risk of victimization.

Combining the results of homophily magnitude and direction in peer victimization, my thesis supports the tendency of befriending peers with similar experiences of peer victimization. It further addresses that befriending peers with more experience of peer victimization predicts youth's increasing risk of future peer victimization, which explains the homophily tendency in friendship selection regarding peer victimization.

Overall

Although some significant effects of friendship homophily were found, they were only found via correlation or regression analyses, but not cross-lagged panel models (CLPMs). The potential reason for the non-significant effects of friendship homophily in CLPMs might be that CLPMs conceal variances (Hamaker et al., 2015). A more detailed explanation will be made in the limitation session below.

From a dyadic perspective, the findings illustrate that friendship homophily in peer victimization appears to play a larger role in youth's peer victimization than Emotionality and social status. Based on the findings, similarity in peer victimization is a primary factor in friendship selection when considering future peer victimization. Findings of Emotionality may have been less robust because it may be that youth may hide their emotionality from peers that they do not know. It is hard to tell whether youth are emotionally unstable and anxious about life stresses at first glance during friendship selection. Based on my findings, social status was identified as the least robust factor in friendship selection. Though youth may have a tendency of befriending peers with a higher social status than themselves to climb up the social ladder, it is also the case that youth with different positions within peer networks have their own social groups. Social groups are usually clustered with youth with similar backgrounds and experiences. As such, different social groups may not be overlapped and members from different social groups may not have chances to know and interact with each other. When members with different social statuses of different social groups do interact, it may create network instability that increases peer victimization, which explains why only the concurrent association of homophily magnitude of social status and peer victimization was significant.

Implications

Though not all the hypotheses of the current thesis were supported by the findings, the current thesis provides some important insights for theory and practice in bullying research.

Theory. Bullying research has paid limited attention to friendship homophily. The current thesis employed a dyadic longitudinal perspective to investigate the role of friendship homophily in bullying networks. My thesis delved into an old topic–friendship and peer victimization–from an innovative angle (i.e., dyadic homophily). My thesis emphasizes the

significance of similarity in friendship selection and how the homophily tendency can influence youth's sequential peer victimization. My findings call for further research investigation into the relationship between friendship homophily and peer victimization. Such research attention from a dyadic perspective, or moving forward to a social network perspective, can further disentangle the role that friendship plays in the operation of peer victimization. Instead of focusing on the effect of friendship at the individual level, the dyadic perspective or social network perspective addresses that friendship and peer victimization is inherently an interpersonal topic, which should be examined at a dyadic or group level.

Practice. Although the causal relationship between friendship homophily and peer victimization remains unclear, especially regarding friendship homophily in Emotionality and social status, my data have practical implications both for youth themselves and for bullying prevention and intervention programs. My findings offer research evidence of the role of friendship homophily in peer victimization. This enhances youth's awareness of how important similarity with peers is in friendship selection and future peer victimization. By addressing the significance of friendship homophily, educators and bullying interventionists can understand that bullying is not just about bullies and victims themselves, but also involves other peers within bullying networks. It is necessary to take a dyadic or even social network perspective to investigate, intervene, and prevent peer victimization. More practically, bullying intervention and prevention programs can target friendship dyads with similar personalities and experiences of peer victimization to offer extra support. These supports can be knowledge mobilization about the significance of friendship within bullying networks and resources about what actual supportive actions that ones can take when seeing friends being bullied.

Limitations and Future Directions for Research

A few limitations could be addressed in future research. First, my sample was relatively homogeneous. The participant recruitment targeted youth from Catholic schools where students were fairly racially and socially homogeneous. The rationale for recruiting at Catholic schools was that students attending Catholic elementary schools in southern Ontario would usually transit to Catholic high schools, which reduced the dropout rate of participation for the longitudinal study. However, Catholic schools may promote a sense of community that prevents negative behaviors among students like bullying (Lee & Holland, 2021). Future research can address the sample diversity by recruiting participants from both Catholic and non-Catholic schools. Beyond the scope of my thesis, future studies can examine how peer victimization differs in Catholic schools and non-Catholic schools and if strong bonds in Catholic schools influence youth's peer victimization experience. Moreover, almost two thirds, 62.8%, of my analytic sample was female, suggesting female youth are more likely to have friends or reciprocal friends than male youth. Since the correlation analysis suggested that Emotionality and social status were significantly correlated to sex, having more female youth in the sample might bias the results of the effect of friendship homophily. Future studies will benefit from having a sex-balanced sample or controlling for sex in analyses. Furthermore, my sample included youth with and without peer victimization experience, which might influence the effect size of homophily magnitude and direction. To enhance the possibility of detecting the significant effect of friendship homophily, future studies could consider narrowing samples to victim-only samples with a more defined criterion of victim.

Second, measurements of Emotionality were not identical across waves and might not be fully understandable for youth. The longitudinal study that the current data derived from used

two versions of HEXACO Personality inventories as the measure was being piloted. Besides the different versions of the HEXACO inventory, the inventories that the longitudinal study employed were not specifically created for elementary and high school students. The timing of the COVID pandemic prohibited a third wave of data collection being used for my thesis project, so I had to use the different Emotionality measures from Waves 1 and 2. Though both inventories assess the same construct of Emotionality, the inventory for Wave 1 included eight items for Emotionality while the inventory for Wave 2 included 12 items for Emotionality. Though my thesis only examined items that were consistent across waves (N = 8), the different items in inventories across waves might substantially influence participants' answers on the items I examined. Future studies may use an identical youth-specific inventory to assess the same structure across waves, which can reduce the probability of misunderstandings and false interpretations and increase reliability. Though previous research suggested Emotionality is closely correlated to peer victimization experience and defending behaviors, only two facets of Emotionality, which are dependence and sentimentality, are related to interpersonal experience. Dependence is about requiring support from others which is a need of victims, while sentimentality is about feeling connected with others which may promote emotional attachment and empathic sensitivity to others (Ashton et al., 2014). Furthermore, it would be interesting to investigate the effect of homophily in different Emotionality facets on peer victimization.

Third, the current thesis focused on sociodemographic homophily only, which may have discrepancies from youth's actual behaviors, while actual defending behaviors may have a more direct effect on youth's peer victimization. Though bullying research suggested that Emotionality and social status were significantly correlated to peer victimization, the effect size of Emotionality and social status related to defending behaviors are both small, around .10 (Ma et

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al., 2019; Pronk et al., 2021). Future studies incorporating information on friends' defending

behaviors can further disentangle the operation of peer victimization from a dyadic perspective.

Defending behaviors may be a moderator or mediator between friendship homophily and youth's

peer victimization. Additionally, my thesis only examined discrepancies in sociodemographic

characteristics between targeted youth and their friends but did not explore the effect of

individual scores. The homophily effect might be magnified when friendship dyads have a

discrepancy at the high end (e.g., friends with 5 and the targeted youth with 4) rather than when

the discrepancy was at the low end (e.g., friends with 2 and the targeted youth with 1). In this

case, both situations were classified as small homophily magnitude, which might conceal the true

effect of friendship homophily. Classifying various homophily trends (e.g., difference at the high

or low end) helps to further explore the effect of friendship homophily on peer victimization. The

interaction effect of homophily trends and defending behaviors is also worthwhile to examine in

future studies.

Fourth, I considered homophily within friendship dyads while group/network

characteristics (e.g., bullying norms, social hierarchy, the connection between group members)

may influence the effect of dyadic homophily on peer victimization. Friendship dyads are nested

in greater peer networks, so they are interdependent. Victimized youth tend to fall into default

selection to select youth with similar experiences as themselves (Sijtsema et al., 2013). Because

victimized youth tend to be marginalized in bullying networks, they are inevitably limited in

their friendship selection. Other than friendship selection, the interaction within friendships can

also be influenced by group/network norms. Group/network norms suggest desirable behaviors

and cast social pressure on how members of the group/network interact with others, even with

their friends. Recent evidence suggested that in groups with strong bullying norms, victimized

friendship dyads are easy bullying targets and friends will be less likely to defend at the risk of being the next targets (Shin, 2022). Given that peer victimization is inherently a network issue involving peers more than just bullies and victims (Olweus, 2001; Pouwels et al., 2018b), future studies may benefit from taking group/network characteristics into consideration and investigating the current questions from a social network perspective. An interesting follow-up question would be if group/network characteristics act as a moderator or a mediator in the relationship between friendship homophily and peer victimization. The length of time between waves in the current longitudinal study was four months. It is possible that the effects of homophily may take a longer time to change and to be readily observed. Also, homophily was only examined among sustained friendship dyads to maintain the sample size. Future studies may benefit from deriving data from longitudinal studies across greater periods of time, which might allow friendship dynamics to further evolve as well as take friendship termination into consideration.

Finally, cross-lagged panel models (CLPMs) which were employed in the current data analyses concealed variances. The lag length of the current longitudinal data was six months while friendship socialization may take more time to be effective. Unfortunately, the Wave 3 data collection was not conducted until late 2022 due to the COVID pandemic. The longitudinal effect of friendship homophily on peer victimization may be more pronouncing and easier for CLPMs to detect if the analysis used data from more than two waves or data with longer lags. Critiques of CLPMs mainly emphasized that cross-lagged paths may inadequately represent the targeted relationships across time, especially when the autoregressive path involves variables that are stable, such as personality traits (Hamaker et al., 2015), like Emotionality in the current thesis. When examining one path of the current models, the variances of other paths within the

same model were controlled, which may have occluded small effects. For example, when examining the autoregressive effect of homophily magnitude of Emotionality, the variances of homophily magnitude of Emotionality at both waves on peer victimization at both waves were held as constant. In this case, the variance of the targeted autoregressive effect was relatively small, which increased the difficulty of detecting significant effects. Moreover, CLPMs have mostly been employed at the individual level to investigate causal effects, but the current thesis applied CLPMs to investigate dyad-individual correlations. Traditional CLPMs have been criticized for their failure in separating between-person and within-person associations (Mund & Nestler, 2019). The dyad-individual associations in the current thesis further complicated the models which might suggest a false interpretation of results. Future studies can apply other statistical models to clarify dyad-individual associations and examine if the results can be replicated or if the effects of friendship homophily can be more overt than the current results.

Conclusion

Though extant research has supported the protective effect of friendship on peer victimization, the impact of friendship homophily within bullying networks remains unclear. From a longitudinal dyadic perspective, my thesis investigated how homophily magnitude and direction of sociodemographic characteristics (i.e., Emotionality, social status, peer victimization experience) within friendships were associated with youth's individual peer victimization. The key findings of my thesis are as follows: friendship homophily magnitude in peer victimization, friendship homophily magnitude in and social status, and friendship homophily direction in peer victimization, and friendship homophily direction in Emotionality significantly influence individual peer victimization concurrently and over time. Specifically, befriending peers with similar experiences in peer victimization and similar social status as oneself can attenuate

youth's peer victimization. Also, having more peer victimization and lower Emotionality than friends predicts a decrease in youth's peer victimization. The ultimate goal of this research was to understand the role that friendship plays in bullying networks. My findings highlight the importance of adopting a longitudinal, dyadic perspective to understand bullying behavior more fully, which can be used to prevent future peer victimization. My thesis, therefore, provides a starting point and encourages future research into examining friendship homophily and investigating the mechanisms behind its effects on peer victimization. Ensuring educators and interventionists take the broader social context into consideration can support victims and prevent future bullying.

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Appendices

Appendix A - Demographics

1. How old are you?
2. Are you a boy or a girl?
   1. Boy
   1. Girl
   1. Other
   1. Prefer not to say
2. Which category best describe your race or cultural group? Mark all that apply.
   1. White
   1. East Asian (e.g., Chinese, Japanese, Korean)
   1. Southeast Asian (e.g., Vietnamese, Filipino, Cambodian, Malaysian, Laotian)
   1. South Asian (e.g., East Indian, Pakistani, Sri Lankan, Afghan, Bangladeshi)
   1. West Asian or Arab (e.g., Iraqi, Syrian, Lebanese, Egyptian)
   1. Black African (e.g., Ghanaian, Kenyan), Black Caribbean (e.g., Jamaican, Haitian) or Black Canadian or American
   1. Latin American, Central American, South American (e.g., Mexican, Colombian, Brazilian, Chilean)
   1. Indigenous/Native (e.g., First Nations, Métis, or Inuit)
   1. Other

Appendix B – Friendship and Dating Nomination

Reference: Houser, J. J., Mayeux, L., & Cross, C. (2015). Peer status and aggression as predictors of dating popularity in adolescence. *Journal of Youth Adolescence, 44*, 683-695.
Instructions: Check the boxes beside the names of students in your grade who fit the descriptions in each question. Choose as many students as you wish, as long as they match the description. Choose all that apply.

      1. Who are your best or closest friends?

      2. Who would you most like to go out on a date with?

      3. Who is your boyfriend or girlfriend now?

      4. Who have been your boyfriends or girlfriends in the past?

Appendix C - Peer Liking and Popularity Nominations

<u>Instructions:</u> Check the boxes beside the names of students in your grade who fit the descriptions in each question. Choose as many students as you wish, as long as they match the description. Choose all that apply.

1. Who do you like in your grade?
2. Who are the most popular people?

Appendix D - HEXACO Personality Inventory for Wave 1

References:
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        inventory. *Multivariate Behavioral Research*, *39*(2), 329-358.
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        of personality. *Journal of Personality Assessment, 91*, 340-345

Instructions: Please read each statement and decide how much you agree or disagree with that
statement. Then choose your response next to the statement using the scale. Please answer every
statement, even if you are not completely sure of your response.

Response Scale:
1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

1. I would be quite bored by a visit to a nature museum.
2. I plan ahead and organize things, to avoid scrambling at the last minute.
3. I hold a grudge against people who have done me wrong.
4. I feel reasonably satisfied with myself overall.
5. I say extra nice things to people when I want something from them.
6. I'm interested in learning about how things work.
7. I often push myself very hard when trying to achieve a goal.
8. People sometimes tell me that I criticize others too much.
9. I sometimes can't help worrying about little things.
10. I would be willing to steal a hundred dollars if I knew that I could never get caught.
11. I would enjoy creating a craft, singing a song, or painting a painting.
12. When working on something, I don't pay much attention to small details.
13. People sometimes tell me that I'm too stubborn.
14. I prefer working with others instead of working alone.
15. I need someone to comfort me when I suffer from a painful experience.
16. Having a lot of money or things is not especially important to me.
17. I make decisions based on the feeling of the moment rather than on careful thought.
18. People think of me as someone who has a quick temper.
19. On most days, I feel cheerful and hopeful.
20. I feel sad myself when I see other people crying.
21. I think that I deserve more respect than most people my age.
22. My attitude toward people who have treated me badly is "forgive and forget".
23. I feel that I am an unpopular person.
24. When it comes to physical danger, I am very fearful.
25. I've never really enjoyed looking up things up on Wikipedia.
26. I do only the minimum amount of work needed to get by.
27. I tend to be forgiving of other people.
28. In social situations, I'm usually the one who makes the first move.
29. I worry a lot less than most people do.
30. I wouldn't cheat a person, even if they were easy to trick or fool.
31. People have often told me that I have a good imagination.

32. The first thing that I always do in a new place is to make friends.
33. I would get a lot of pleasure from owning really expensive and cool stuff.
34. I like people who have different views than most people.
35. I make a lot of mistakes because I don't think before I act.
36. I feel strong emotions when someone close to me is going away for a long time.
37. I want people to know that I am an important or popular person.
38. I don't think of myself as the artistic or creative type.
39. People often call me a perfectionist (someone who needs everything to be perfect).
40. I rarely say anything negative about people, even when they make a lot of mistakes.
41. I sometimes feel that I am a worthless person.
42. Even in an emergency I wouldn't feel like panicking.
43. I find it boring to discuss new ideas.
44. When people tell me that I'm wrong, my first reaction is to argue with them.
45. When I'm in a group of people, I'm often the one who speaks for the group.
46. Even if most people get upset or sad about a movie, I don't.
47. I'd be tempted to steal candy from a store, if I were sure I could get away with it.

Emotionality: 9, 15, 20, 24, 29, 36, 42,46

Appendix E - HEXACO Personality Inventory for Wave 2

Instructions: Please read each statement and decide how much you agree or disagree with that statement. Then choose your response next to the statement using the scale. Please answer every statement, even if you are not completely sure of your response.
Response Scale:
1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

1. I can look at a painting for a long time.
2. I neatly put away my clothes.
3. I remain unfriendly to someone who was mean to me.
4. People like me.
5. I avoid situations in which I can get injured.
6. I sometimes pretend to be better than I really am.
7. I like to read about new scientific discoveries.
8. I work harder than others.
9. I often express criticism.
10. I stay in the background when I'm in a group.
11. I worry about unimportant things.
12. If a cashier charged me too little, I wouldn't say anything.
13. I have a lot of imagination.
14. I typically check my work carefully.
15. I often change my opinions to match those of others.
16. I prefer to work alone rather than with others.
17. I can deal with personal problems all by myself.
18. I want others to see how important I am.
19. I like people with strange ideas.
20. I think carefully before I do something dangerous.
21. I sometimes react very strongly when faced with a setback or loss.
22. I enjoy life.
23. I strongly feel others' pain.
24. I am an ordinary person; anything but special.
25. I find most art dull.
26. I have a tough time finding things because I'm untidy.
27. I quickly trust others again after they have cheated on me.
28. Nobody likes me.
29. I can easily withstand physical pain.
30. I sometimes tell lies to get my way.
31. I think science is boring.
32. If something is hard, I give up easily.
33. I am gentle to others.
34. I easily approach strangers.

35. I often worry that something will go wrong.
36. I am curious about how you can earn a lot of money in a dishonest way.
37. I love thinking up new ways of doing things.
38. I think it's a waste of time to check my work for errors.
39. I rarely disagree with others.
40. I prefer being on my own.
41. I rarely need support from others.
42. I want to own valuable things.
43. It would bother me if people thought I was strange.
44. I generally do whatever comes to mind.
45. I am rarely angry at someone.
46. I am often in a somber mood.
47. I sometimes feel tears welling up when I tell someone goodbye.
48. I feel I should be allowed to bend the rules.
49. I love poetry.
50. My bedroom is always tidy.
51. If someone has mistreated me once, I won't trust the person again.
52. Nobody likes talking with me.
53. I am afraid of feeling pain.
54. I'm bad at putting on an act around other people.
55. Nature programs on television bore me.
56. I avoid doing complicated tasks as long as possible.
57. I get mad at people who make mistakes.
58. I often act as the leader when I'm in a group.
59. I worry less than others.
60. I'd rather die than steal anything.
61. I love making unusual things.
62. I work very precisely.
63. Others have a hard time changing my ideas.
64. I like having a lot of people around me.
65. I need others to comfort me.
66. I don't mind wearing plain clothes rather than expensive clothes.
67. Others think I have strange ideas.
68. I tend to control myself well.
69. Even when I'm treated badly, I remain calm.
70. I am generally cheerful.
71. I get sad when a good friend leaves for a long time.
72. I don't think the rules should apply to someone like me.
73. It amazes me that people want to spend money on art.
74. I make sure that things are in the right spot.
75. I am a very trusting person.
76. I get the feeling many people dislike me.
77. I am more daring than others in dangerous situations.
78. I find it difficult to lie.
79. I would enjoy reading a book about inventions.
80. I'd rather take it easy than work hard.

81. I immediately show it if I find something stupid.
82. I feel uncomfortable in an unfamiliar group.
83. Even under stress, I sleep well.
84. If I damaged something when nobody was around, I'd keep it to myself.
85. My work is often original.
86. I always re-read what I write to make sure that it is error-free.
87. I tend to quickly agree with others.
88. I like to talk with others.
89. I can easily overcome difficulties on my own.
90. I want to be famous.
91. People are surprised by the beliefs I have.
92. I often do things without really thinking.
93. People have seen me get into in a rage.
94. I am seldom cheerful.
95. I often cry during sad movies.
96. I am entitled to special treatment.
97. I would really feel bad if I hurt someone.
98. I make plans to improve things.
99. I sympathize with people who are less fortunate than me.
100. I shy away from opportunities to change my surroundings.
101. I like the idea that only the strongest survive.
102. If there is a problem, I tackle it right away.
103. People consider me to be cold-hearted.
104. I organize in detail all sorts of changes I want to implement.

Emotionality: 5, 11, 17, 23, 29, 35, 41, 47, 53, 59, 65, 71, 77, 83, 89, 95

Appendix F - Integrated Measure of Bullying and Non-Bullying Aggression
Self-report Peer Victimization

Direct Victimization by Bullying (Physical and Verbal)
11) The next set of questions ask about things that have BEEN DONE TO YOU by different people. In the PAST FEW MONTHS, how often have the following things **BEEN DONE TO YOU** by someone who was **MORE** popular or strong than you?
Response Scale: Never, Hardly Ever, Sometimes, Fairly Often, Very Often
      a) Damaged or broke my things on purpose
      b) Hit, kicked, or shoved me
      c) Used physical force against me
      d) Someone threatened to harm me in person
      e) Others said mean things or made fun of me to my face
      f) Others put me down or called me hurtful names in person

Relational Victimization by Bullying
12) In the PAST FEW MONTHS, how often have the following things **BEEN DONE TO YOU** by someone who was **MORE** popular or strong than you?
Response Scale: Never, Hardly Ever, Sometimes, Fairly Often, Very Often
      a) Others spread negative rumours or gossip about me
      b) Others kept me out of their group of friends
      c) Someone ignored or stopped talking to me
      d) Others left me out or excluded me from a group activity

Cyber Victimization by Bullying
13) In the PAST FEW MONTHS, how often have the following things **BEEN DONE TO YOU** by someone who was **MORE** popular or strong than you?
Response Scale: Never, Hardly Ever, Sometimes, Fairly Often, Very Often
      a) Others spread negative rumours or gossip about me, using the internet or a cell phone
      b) Someone used the internet or a cell phone to say mean things to me
      c) Someone used the internet or a cell phone send hurtful or embarrassing information, pictures or videos directly to me
      d) Someone used the internet or a cell phone to post hurtful or embarrassing information, pictures, or videos about me, for others to see
      e) Someone used the internet or a cell phone to threaten me
      f) Others ignored or stopped responding to me when I messaged them using the internet or a cell phone

Racial or Ethnic Victimization by Bullying
14) In the PAST FEW MONTHS, how often have the following things **BEEN DONE TO YOU** by someone who was **MORE** popular or strong than you?
Response Scale: Never, Hardly Ever, Sometimes, Fairly Often, Very Often
      a) Made fun of your language, religion, race, or culture

b) Targeted you online because of your language, religion, race, or culture

c) Excluded you because of your language, religion, race, or culture

d) Physically hit you because of your language, race, religion or culture

Direct Victimization by Non-bullying Aggression

The next set of questions ask about the same experiences as above, but DONE TO YOU BY DIFFERENT PEOPLE (i.e., EQUALLY or LESS strong and popular). Please keep this in mind as you are answering these questions.

15) In the PAST FEW MONTHS, how often have the following things **BEEN DONE TO YOU** by someone who was **EQUALLY or LESS** popular or strong than you?
<u>Response Scale:</u> Never, Hardly Ever, Sometimes, Fairly Often, Very Often

a) Damaged or broke my things on purpose

b) Hit, kicked, or shoved me

c) Used physical force against me

d) Someone threatened to harm me in person

e) Others said mean things or made fun of me to my face

f) Others put me down or called me hurtful names in person

Cyber Victimization by Non-bullying Aggression

16) In the PAST FEW MONTHS, how often have the following things **BEEN DONE TO YOU** by someone who was **EQUALLY or LESS** popular or strong than you?
<u>Response Scale:</u> Never, Hardly Ever, Sometimes, Fairly Often, Very Often

a) Others spread negative rumours or gossip about me, using the internet or a cell phone

b) Someone used the internet or a cell phone to say mean things to me

c) Someone used the internet or a cell phone send hurtful or embarrassing information, pictures or videos directly to me

d) Someone used the internet or a cell phone to post hurtful or embarrassing information, pictures, or videos about me, for others to see

e) Someone used the internet or a cell phone to threaten me

f) Others ignored or stopped responding to me when I messaged them using the internet or a cell phone

Relational Victimization by Non-bullying Aggression

17) In the PAST FEW MONTHS, how often have the following things **BEEN DONE TO YOU** by someone who was **EQUALLY or LESS** popular or strong than you?
<u>Response Scale:</u> Never, Hardly Ever, Sometimes, Fairly Often, Very Often

a) Others spread negative rumours or gossip about me

b) Others kept me out of their group of friends

c) Someone ignored or stopped talking to me

d) Others left me out or excluded me from a group activity

18) In the PAST FEW MONTHS, how often have you had negative rumours spread about you or been left out of groups when you **WEREN'T SURE WHO HAD DONE IT TO YOU**?
        a) Never
        b) Hardly Ever
        c) Sometimes
        d) Fairly Often
        e) Very Often

19) In the PAST FEW MONTHS, how often has someone used the internet or their cell phone to gossip or say mean things about you, threaten you, or to send or post things that are hurtful or embarrassing to you, when you **WEREN'T SURE WHO HAD DONE IT TO YOU**?
        a) Never
        b) Hardly Ever
        c) Sometimes
        d) Fairly Often
        e) Very Often

Victimization Hurt or Harmed by Subtype
20) How much have you been **HURT OR HARMED** (e.g., emotionally, socially, or physically) by being hit, kicked, shoved, having your things broken, being threatened, or having mean things said to you?
        a) Not at all
        b) A little bit
        c) Somewhat
        d) Quite a bit
        e) Very much

21) How much have you been **HURT OR HARMED** (e.g., emotionally, socially, or physically) by having negative rumours spread about you, being left out, or being ignored?
        a) Not at all
        b) A little bit
        c) Somewhat
        d) Quite a bit
        e) Very much

22) How much have you been **HURT OR HARMED** (e.g., emotionally, socially, or physically) when others have used the internet or a cell phone to spread rumours or say mean things about you, threaten you, or send or post things that were embarrassing or hurtful to you?
        a) Not at all
        b) A little bit
        c) Somewhat
        d) Quite a bit
        e) Very much