

Supporting the Self-Determination of Mentors and Mentees in A Cross-Age Peer Mentoring
Program

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Benjamin Dantzer

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The following individuals certify that they have read, and recommend to the Faculty of Graduate and Postdoctoral Studies for acceptance, a thesis/dissertation entitled:

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Examining Committee:

Dr. Nancy E. Perry, Human Development, Learning, and Culture
Supervisor

Dr. Shelley Hymel, Human Development, Learning, and Culture
Supervisory Committee Member

Dr. Jennifer Shapka, Human Development, Learning, and Culture
Additional Examiner

Abstract

During late childhood and early adolescence, the peer context becomes increasingly important as peer friendships manifest themselves as important sources of self-esteem and well-being (Parker et al., 2006). Research has shown that close peer friendships can protect students against peer victimization, poor academic achievement, low self-worth, and experiences of negative affect (Gest, Welsh, & Domitrovich, 2005; Furrer & Skinner, 2003; Fenzel, 2000; Parker et al., 2006). Cross-age peer mentoring programs, where older students mentor their younger peers, provide rich opportunities for participants to form healthy relationships with their peers (Karcher, 2005). This study applied Relationships Motivation Theory (RMT; Ryan & Deci, 2017), one of Self-Determination Theory's (SDT; Ryan & Deci, 2017) most recent "mini-theories", to the cross-age peer mentoring process. RMT was explored for its usefulness to prepare high-school mentors to support the three Basic Psychological Needs (BPN's) (autonomy, belonging, and competence) of mentees and investigate the potentially reciprocal benefits high-school students experience through mentoring. Ten students (ages 7-18) were recruited from an after-school program to participate in this study. A descriptive multiple-case study design was used to understand participants' experiences. Data include participant-created documents, audio recordings of dyadic interactions, a 9-item self-report questionnaire, and exit interviews. Descriptive statistics and a combination of Provisional and In-Vivo coding (Saldana, 2009) were used to analyze data. On average, mentors demonstrated an ability to use language and practices associated with BPN satisfaction, even though various challenges were highlighted. Mentees reported the greatest satisfaction of their belonging. Mentors reported the greatest satisfaction of their autonomy and competence. All participants reported feelings of happiness and satisfaction within their mentoring relationships and most often attributed these feelings to a sense of competence.

Lay Summary

Throughout elementary and high-school, children and youth often wish to feel connected with their peers. Close friendships provide children and youth with support systems that can help protect them from being bullied, feeling depressed and lonely, and dropping out of school. In this study, I explored a new approach to cross-age peer mentoring by helping high-school mentors support their mentees feelings of Self-Determination (feeling in-control of their thoughts and actions, important to others, cared for, and capable of achieving their goals). I was also interested in whether mentors would benefit by helping and supporting their mentees during my study (feeling Self-Determined themselves). My study found that high-school mentors could successfully learn to help their mentees feel Self-Determined, and that their efforts were mutually beneficial. These are important findings as they are the first to demonstrate that high-school mentors can support the Self-Determination of middle-school mentees and feel more self-determined themselves.

Preface: The UBC Behavioural Research Ethics Board found this study to be acceptable on ethical grounds for research involving human subjects. The Ethics Certificate Number is H15-03117.

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Chapter One: Introduction and Literature Review

Chapter Organization

This chapter reviews the literature that informed the development of my study. Toward this end, the chapter has five main sections. First, I review research on socially and economically challenged communities and their ability to strengthen themselves through social organization. Next, I present research on an increasingly advocated strategy for strengthening communities, cross-age peer mentoring. In the third section, I review the three dominant theoretical frameworks in the cross-age peer mentoring literature: Connectedness Theory (Karcher, 2005), Attachment Theory (Bowlby, 1969), and Socio-Cognitive Theory (Rhodes et al., 2002). In the fourth section, the theoretical framework for my study, Self-Determination Theory (SDT; Ryan & Deci, 2017) is presented. In this section, I discuss how SDT, and its associated “mini-theory”, Relationships Motivation Theory (RMT; Ryan & Deci, 2017) can be used to complement and potentially extend the existing theoretical frameworks of cross-age peer mentoring. Finally, I conclude with a statement of the research problem, describe the community in which my study was conducted, and purpose of my study.

Social Organization

Historically, research has focused on the negative developmental outcomes for children and youth from communities and neighborhoods characterized as “impoverished” (Leventhal & Brooks-Gunn, 2000). In contrast, current research has begun to explore how people are building on the resources within their own communities to help promote positive outcomes for their children and youth (Kohen, Leventhal, Dahinten & McIntosh, 2008). Increasing the amount of *social organization* within a community has been identified as one of these supportive strategies. Social organization refers to extent to which a community is successful in solving their own

problems and realizing their common goals and values (Kohen et al., 2008). This emphasis on the capacity for communities to strengthen themselves using their own local knowledge and expertise is also valued in many approaches to community-based research, including working with Indigenous communities populations (Smith, 2008). Some of the common traits of socially organized communities include a mutual trust among residents, shared values and norms, and the willingness to contribute to the common good of the community, especially for their own children and youth (Kohen et al., 2008). Communities with strong social organization also emphasize the positive influence of peer socialization and the presence of peer role models (Kohen et al., 2008; Karcher, 2005). In these communities, children are encouraged to socialize and learn from one another while engaging in positive developmental behaviours such as sports, art, and music (Kohen et al., 2008). This is consistent with Indigenous frameworks which emphasize the importance of peer and communal learning (Canadian Council on Learning, 2007; 2009). Generally, the idea is to support youth to embrace the diversity and strength within themselves and their communities by interacting with their peers (Karcher, 2005).

These opportunities for socialization are particularly important during the period of middle to late childhood (ages 7-12) when peer friendships and cliques manifest themselves as more important, in some cases, than family connections (Parker et al., 2006). The salience of peer relationships during this period transforms them into a profound source of developmental influence, capable of protecting children and youth from certain detrimental outcomes (Eccles & Roeser, 2009). In recent years, some communities, have begun to capitalize on the benefits of peer socialization through cross-age peer mentoring programs (Rhodes, 2002; Moodie & Fisher, 2009).

Cross-Age Peer Mentoring

Cross-age peer mentoring is a strengths-based intervention designed to increase the relationship and leadership skills of mentors while simultaneously promoting the self-esteem and sense of belonging of mentees (Karcher, 2005; 2007). Programs are typically designed to have mentors and mentees meet once a week, for a minimum of ten meetings, where they engage in conversation, play, and structured activities (Karcher, 2005). The main difference between cross-age peer mentoring programs and other traditional programs is that mentors are high-school students, rather than adults, who are at least two years older than the mentee (Karcher, 2008).

Cross-age peer mentoring sessions usually occur on school grounds during lunchtime or after-school, with some programs operating in after-school programs and summer camps (Karcher, 2008). The goal of these programs is to create a close relationship between a mentor and mentee as research indicates that it is the relational quality between these two students, not the specific skills or knowledge they learn from one another, that contributes to healthy development and successful outcomes (Karcher, 2007; Rhodes, 2005; Deutsch & Spencer, 2009). In this sense, cross-age peer mentoring can be differentiated from peer tutoring, where specific academic skills are the focus of interactions, and not the development of a positive and reciprocal relationship between two peers (Karcher, 2005).

The Impact of Cross-Age Peer Mentoring Programs

DuBois, Holloway, Valentine, and Cooper (2002) conducted a meta-analysis of 55 mentoring programs to: (a) assess the effectiveness of mentoring programs on youth; and (b) investigate how program design and implementation factors influence the impact of mentoring programs. To be included in this review, programs had to consist of one-to-one mentoring relationships between an older and more experienced mentor, and a younger and less

experienced mentee (i.e., the traditional definition of mentoring). Although peer-with-peer mentoring and tutoring programs were not included in this review, cross-age peer mentoring programs were as they involve older and more experienced youth mentoring younger and less experienced children, and are thus congruent with the traditional definition of mentoring (Rhodes, 1994). This review evaluated all youth mentoring programs that had been published through 1998. Further, to be included in this review, it was required that samples needed to involve mentees with a mean age of 18 or less. DuBois et al. (2002) did not provide specific information regarding the amount of studies involving youth-with-youth (i.e., mentors are 18 years of age or younger) or adult-with-youth (i.e., mentors are 18 years of age or older) samples in their review. This being the case, generalizations to cross-age peer mentoring programs are difficult and results should be interpreted with caution.

DuBois et al.'s findings (2002) indicated that mentoring programs promote moderately positive outcomes across five general categories: increased emotional and psychological well-being, increased social competence, reductions in problem and risky behaviour, increased academic performance, and increased career/employment opportunities. These positive effects were also found to generalize across youth from various backgrounds and demographic characteristics (i.e., males/females and youth in late childhood/early adolescence). On average, effect sizes across these five general categories of outcomes, were small ($d = 0.18$). The results of this review indicate that the typical child/youth participating in a mentoring program can achieve modest gains.

At the programmatic level, DuBois et al. (2002) discovered that there was no single feature or practice responsible for positive results across each of the five outcome categories. More likely, the combination of several "best practices" were sources of positive influence. Best

practices were identified to include: (1) external monitoring of mentor-mentee relationships; (2) providing expectations about the amount and frequency of contact between dyads; (3) pre-match and ongoing training for mentors; (4) providing structured activities; (5) parental support and involvement; (6) matching mentors and mentees based on common interests; (7) offering a support group for mentors; (8) screening of prospective mentors; and (9) supervision of dyadic meetings (DuBois et al., 2002). It is important to note, however, that among these nine best practices, only six emerged as significant moderators of program success (DuBois et al., 2002). These six significant best practices include: (1) providing mentors with ongoing training; (2) monitoring program implementation; (3) providing structured activities; (4) parental involvement and support; (5) discussing and providing expectations for frequency and amount of contact; and (6) offering ongoing support for the mentoring relationship. The authors note that effect sizes doubled when programs adhered to greater numbers of these six best practices ($d = .22$ for programs that implemented a majority of best practices), compared to programs that did not ($d = .09$). Although the remaining three best practices were not statistically significant moderators of effect size, their individual contributions to effect size were all in the direction towards larger and more positive effects (DuBois et al., 2002). Finally, programs involving mentees exposed to environmental disadvantage (e.g., low SES), either alone or in collaboration with individual risk (i.e., academic disengagement, behaviour issues), were more effective. DuBois et al. (2002) did not offer an explanation for this increased effectiveness.

The findings from this meta-analysis provide empirical support for the small/modest effectiveness of mentoring programs for youth (adult-with-youth and youth-with-youth). This review also highlights the importance of several factors that should be implemented to optimize benefits for participants. While making recommendations for improving future programs,

DuBois et al. (2002) pay particular attention to the provision of ongoing support for mentors and mentees (one of the six best practices that significantly moderated program success), as only 23% of the studies included in their review provided ongoing support once relationships had been formed.

Within the existing literature to date, at least three other meta-analytic reviews have been conducted to explore the effectiveness of mentoring programs for youth. Two of these reviews focused solely on mentoring programs designed to prevent juvenile delinquency and recidivism rates (Tolan, Henry, Schoeny, & Bass, 2008; Jolliffe & Farrington, 2007) and the third review focused solely on the effectiveness of school-based mentoring programs for youth (Wheeler et al., 2010). These three meta-analytic reviews synthesized and evaluated studies that were conducted during the same time frame as the Dubois et al. (2002) study (i.e., including studies up until 1998), and thus more current evaluations of the effectiveness of mentoring programs for youth are needed.

DuBois et al. (2011) addressed this issue in their meta-analytic review of 73 evaluations of mentoring programs designed for children and adolescents published between 1999 and 2010. To be included in this review, programs had to adhere to the following definition set forth by the authors: “A program or intervention that is intended to promote positive youth outcomes via relationships between young persons (18-years-old and younger) and non-parental adults or older youth who are acting in a non-professional helping capacity” (p. 66). This broad and flexible definition allowed this review to evaluate programs using a wide array of strategies and formats within different contexts (i.e., community-based, school-based). Programs that used older peers as mentors, were conducted over a short period (e.g., a few months), and were conducted in a group format were also included. Mentees ranged in age from pre-Kindergarten to grade ten and

mentors included high-school students and adults. Programs where mentors focused on the development of a single skill (i.e., tutoring) were not included in this review unless relational processes were part of the programs theory of change (e.g., mentors held a tutoring role primarily but were also encouraged to develop a supportive relationship with their mentee). Also, this analysis only included studies that included a comparison group of non-mentored youth. This was done to help address a key concern that researchers face while evaluating the effectiveness of mentoring programs for youth (i.e., improvement outcomes are simply a by-product of developmental change rather than a product of the mentoring program).

DuBois et al. (2011) were interested in how programs affected outcomes across the following categories: attitudinal/motivational (i.e., achievement motivation and prosocial attitudes), social/relational (i.e., social skills and peer relationships), psychological/emotional (i.e., depressive symptoms and self-esteem), conduct problems (i.e., drug use and bullying), academic/school (i.e., standardized test scores and absences) and physical health (i.e., repeat pregnancy and fat-free body mass). All effect sizes were coded so that increased values reflected a positive increase across outcomes (i.e., better grades, less conduct problems). The average effect size was positive for each outcome category, with no significant variation across categories (DuBois et al., 2011). Physical health was the only category to not achieve statistical significance. Results found that across all studies, the average post-program effect size was ($d = 0.21$), indicating a small but positive effect for participating children/youth. No information was provided as to how each individual study in this meta-analysis measured outcome categories. Additionally, due to the diverse sample of mentoring programs included in this review, generalization to specific types of mentoring (i.e., school-based, community-based) is difficult. Nonetheless, results of these two meta-analytic reviews suggest that mentoring programs for

children/youth, in general, can promote small to modest benefits for mentees ($d = .22$ for DuBois et al., 2002; and $d = .21$ for Dubois et al., 2011). In this next section, research on the various theoretical frameworks of the cross-age peer mentoring process are reviewed.

Theoretical Frameworks of Cross-Age Peer Mentoring

Within the cross-age peer mentoring literature to date, only a few theoretical perspectives exist attempting to explain both how and why cross-age peer mentoring programs promote positive outcomes for participating youth (DuBois & Karcher, 2005). Most programs are developed to target specific problems in a community and are less concerned with the theoretical explanation of their outcomes (DuBois & Karcher, 2005). This has resulted in a lack of research attempting to illuminate the process of mentoring and how mentors influence their mentees and vice versa (Rhodes, 2005; Deutsch & Spencer, 2009). Of the theoretical frameworks that have been developed, three are commonly cited and acknowledged in the mentoring literature: Connectedness Theory, Attachment Theory, and Socio-Cognitive Theory. These theories are now discussed.

Connectedness Theory

In Karcher's (2005, 2007, 2009) research, a theoretical explanation is provided as to why cross-age peer mentoring programs promote positive outcomes in participating youth. Karcher argues that by participating in mentoring programs, mentors and mentees gain a sense of connectedness to themselves, others, and society – thus experiencing positive outcomes. Connectedness refers to one's *interest towards* and *engagement with* significant others and institutions, including parents (and/or other significant adults), peers, and schools (Karcher, 2005).

Within Karcher's theoretical framework of cross-age peer mentoring, *connectedness-to-self*

represents an opportunity for youth to achieve a sense of identity. The idea is that by identifying their strengths and interests through structured activities, or interactions with their partner, youth help create and discover their identities (Karcher, 2005). Activities are designed to help youth make decisions about their futures or interests, irrespective of group or cultural norms (Karcher, 2005).

Connectedness-to-others is achieved within this framework when participants engage in dyadic conversations intended to teach them how to negotiate with others, discuss values openly, and discuss their partner's perspectives (Karcher, 2005). The idea is that participants learn valuable interpersonal skills while interacting with their mentor/mentee which will ultimately help them interact with their teachers, parents, and peers (Karcher, 2005).

Connectedness-to-society activities focus on participant's external environments, like their culture, school, family, and communities. Activities engage youth in public recycling initiatives, park clean-ups, and volunteerism. The intent is to teach participants about social responsibility and have them discover certain values in community involvement and altruism (Karcher, 2005).

In summary, Karcher (2005, 2007, 2009) proposes a theoretical framework suggesting that mentoring programs benefit both mentors and mentees by promoting their: (1) connectedness-to-self; (2) connectedness-to-others; and (3) connectedness-to-society. Additionally, for these three connectedness benefits to be achieved optimally, a strong connection between a mentor and their mentee must be formed (Karcher, 2005, 2009).

Attachment Theory

Attachment theory (Bowlby, 1969) is another dominant theoretical framework within the mentoring literature and suggests that mentoring relationships have the potential to provide youth with a *corrective experience*. This framework, most commonly applied to adult-with-youth

programs, suggests that mentors can help mentees reorganize their internal working models of relationships through positive relationships with older adults or peers (Bowlby, 1969). It is important to note, however, that secure attachments with peers can be beneficial regardless of whether a mentee has insecure, or secure attachments with other significant adults. In other words, mentees with experiences of both secure and insecure relationships with significant adults can always benefit from another secure relationship with an older peer in their community (i.e., someone to look up to receive support from). In this model, the role of the mentor is to provide their mentee with a sense of security whereupon they can explore their environment to grow and develop (Bowlby, 1969). That is, when stressful environmental threats are encountered, mentees are expected to go towards their mentors for protection and guidance. Alternatively, when environmental stress is absent, mentors are expected to provide a “secure base” from which mentees can explore their environments. The social context, however, is very important for the mentee as it dictates the type of attachment they will form with their mentor. For instance, if a mentor is unresponsive to their mentees needs for protection, or is unable to alleviate their stress, the mentee will be less likely to view them as a “secure base” and an insecure attachment may be formed (Bowlby, 1969). Therefore, the security of attachment, or the closeness of the relationship, is a pivotal mechanism for positive change within the Attachment Theory framework (Bowlby, 1969).

Socio-Cognitive Theory

Rhodes et al. (2002, 2006) propose that mentoring impacts participating children and youth through three complementary processes: (1) by improving their social relationships and emotional well-being; (2) by enhancing their cognitive skills through conversation and instruction; and (3) by promoting positive identity development through serving as role models.

Rhodes et al. (2002, 2006) also believe that the impact of these three processes are influenced by, and contingent upon, the relational quality between a mentor and their mentee.

Rhodes et al. (2002, 2006) suggest that the *relational and emotional well-being* of mentees arise when they are presented with: (1) opportunities for fun and escape from daily stress; (2) corrective emotional experiences that may generalize to and improve youth's other social relationships; and (3) assistance with emotion regulation. That is, mentors may be able to engage their mentees in positive relational interactions that will distract, or provide them with an escape from the potentially detrimental relationships they hold with other adults or older peers. Additionally, by being warm and supportive, mentors are more likely to produce conversations about emotions, through mutuality, that will hopefully teach mentees about emotions and how to deal with them (Rhodes et al., 2002, 2006).

Rhodes et al. (2002, 2006) further suggest that mentoring programs can improve mentees *cognitive skills* by: (1) exposing them to new opportunities for learning; (2) providing them with intellectual challenges and guidance; and (3) promoting their academic success. In this case, Rhodes et al. (2002, 2006) suggest that mentors can engage mentees in conversations about new ideas, challenge their mentees worldviews or opinions of themselves, and help them with homework and shaping their views towards school. Rhodes et al. (2002, 2006) suggest that if mentors are looking for teachable moments, they will be able to enhance and develop the cognitive skills of their mentees throughout the mentoring process.

Finally, while discussing how mentors can help mentees discover their *identities*, Rhodes et al. (2002, 2006) cite research exploring the beneficial impact of "possible selves" (Markus & Nurius, 1986). That is, mentors may be able to help mentees think about and discuss who they are now, and who or what they want to be in the future. Additionally, mentors can facilitate

discussions on education, employment opportunities, and community resources to help mentees navigate their environments and decide what they want for their futures (Rhodes et al., 2002, 2006).

In summary, Rhodes et al. (2002, 2006) propose a theoretical framework suggesting that mentoring programs can benefit mentees through three complementary mechanisms: (1) social and emotional well-being; (2) cognitive development and skills acquisition; and (3) identity development. While making recommendations for future research, Rhodes et al. (2002, 2006) recommend a continued investigation into the mentoring process to determine which key ingredients are needed for the development of close mentoring relationships (i.e., the mechanism, the authors argue, through which beneficial outcomes are produced).

Self-Determination Theory: A Complementary Framework

The theoretical frameworks above have generated useful information on the process and outcomes that peer mentoring can produce. A common thread linking these three theoretical frameworks is the recognition of relational quality and closeness as the mechanism through which these outcomes are achieved (Karcher, 2009; Bowlby, 1969; Rhodes et al., 2006). To complement these theories, recommendations have been made to continue examining the mentoring process to understand how positive mentor-mentee connections are formed (Rhodes et al., 2002, 2006; Deutsch & Spencer, 2009). Rhodes et al. (2002, 2006) make this recommendation as very little research has explored the process of how mentors form close and enduring relationships with their mentees. These authors argue that several other theoretical frameworks could help inform our understanding of the mentoring process and describe exactly how mentors can produce positive outcomes for their mentees (Rhodes et al., 2002, 2006). In

response to this recommendation, some scholars have begun to explore the potential of SDT to add value to the existing theoretical models.

SDT is a theory of human motivation, personal development, and well-being (Ryan & Deci, 2017). Of relevance for mentoring, SDT focuses on how social conditions can either encourage or discourage the psychological well-being and flourishing of individuals (Ryan & Deci, 2017). The theory identifies three basic psychological needs (BPN's) — autonomy, belonging, and competence. *Autonomy* refers to someone's sense of control over their thoughts and actions and reflects an internal locus of control or self-endorsement (Ryan & Deci, 2017). Autonomy is experienced when environments or social partners allow someone to feel a sense of agency or 'voluntariness' in their actions (Ryan & Deci, 2017; Reeve 2005). A sense of autonomy is not synonymous with independence however, as groups of individuals can work interdependently towards goals that they all self-endorse (Ryan & Deci, 2017). Belongingness is indicative of feeling accepted and connected with others, alongside feeling like an important or integral part of a group (Ryan & Deci, 2017; Baumeister & Leary, 1995). Belongingness is experienced both in being cared for, and taking care of others, as acting responsively and sensitively towards another enhances one's sense of connectedness (Ryan & Deci, 2017). Lastly, *competence* refers to someone's feelings of effectiveness while interacting with their social environment (Ryan & Deci, 2017). A sense of competence is supported when environments allow for the expansion and mastery of skills, as well as opportunities for people to show their capacities and capabilities (Ryan & Deci, 2017).

When social environments are constructed to support these three needs, human beings experience optimal functioning (intrinsic motivation) and happiness (Ryan & Deci, 2017). Conversely, when people experience the frustration of these needs in their social environments,

non-optimal functioning (extrinsic or introjected motivation) and unhappiness are likely to result (Ryan & Deci, 2017). Autonomy supportive environments offer choices, decision-making opportunities, and opportunities for people's perspectives to be heard, versus environments that are controlling and demanding (Ryan & Deci, 2017; Reeve, 2005). Belonging supportive environments are characterized by the caring involvement of others and opportunities to feel connected with a group versus environments that are impersonal or rejecting (Ryan & Deci, 2017). Competence supportive environments provide informative and encouraging feedback and structure, versus feedback that is critical and fosters competition and comparison of others (Ryan & Deci, 2017).

SDT has been applied to various areas of psychological research including sports, education, and healthcare. Due to its wide-spread adoption, Ryan and Deci (2017) have segmented SDT into six “mini-theories”, each exploring how psychological well-being can be supported in different contexts. The most recent mini-theory, *Relationships Motivation Theory* (RMT), focuses on the “ingredients” (autonomy, belonging, and competence) that foster close and happy interpersonal relationships (Ryan & Deci, 2017). RMT offers incremental value to the existing theories of cross-age peer mentoring (Connectedness theory, Attachment theory, Socio-Cognitive theory) as it focuses on what mentors and mentees need to experience, and provide to one another, for a close and happy relationship to develop. Research on how RMT can be used to understand the development of close relationships is now reviewed.

Relationships Motivation Theory

RMT focuses primarily on the need for belonging in relationships and its interrelations with autonomy and competence (Ryan & Deci, 2017). This primary emphasis on belonging is congruent with the focus of the three dominant theories in the peer mentoring literature and their

suggested mechanism of change (i.e., a close bond or connection between mentor and mentee). RMT also places emphasis on autonomy and competence, however, and argues they contribute to close connections between two people as well (Ryan & Deci, 2017).

In a commonly cited study, La Guardia et al. (2000) examined the role of each BPN and its association with attachment and well-being within relationships. In their study, La Guardia et al. (2000) recruited ($N = 152$) undergraduate students ($n = 119$ women and $n = 33$ men) from an introductory Psychology class. Participant attachment was measured using the Relationship Questionnaire (Bartholomew & Horowitz, 1991), a four-item measure consisting of four short paragraphs representative of the different attachment patterns in close adult peer relationships (secure, fearful, preoccupied, and dismissing). Respondents were asked to rate, on a 7 item Likert-type scale, how well each attachment style explained certain relationships they held (mother, father, romantic partner, best friend and roommate). Here, I focus on results for best friend and roommate relationships, as they represent the closest type of relationship while attempting to draw comparisons to mentoring relationships. The Basic Need Satisfaction in Relationships Questionnaire (BNSIRQ; La Guardia et al., 2000) was used to measure BPN satisfaction. The BNSIRQ is a 9-item scale that includes three items for each BPN — autonomy, belonging, and competence (La Guardia et al., 2000). Finally, to measure participant well-being, La Guardia et al. (2000) had participants complete the 10-item General Self-Esteem subscale of the Multidimensional Self-Esteem Inventory (O'Brien & Epstein, 1988).

La Guardia et al. (2000) found that overall BPN satisfaction mediated the relationship between attachment security and well-being. Specifically, results showed that the direct path of attachment security to participant well-being was statistically significant, $\beta = 0.33$, $F(1, 154) = 18.31$, $p < .001$. Additionally, when La Guardia et al. (2000) regressed BPN satisfaction onto

attachment security, the result was statistically significant, $\beta = 0.64$, $F(1, 154) = 106.33$, $p < 0.001$, suggesting a positive relationship between increased BPN satisfaction and overall security of attachment. Finally, participant well-being was regressed onto BPN satisfaction, controlling for security of attachment, and the result was also statistically significant, $\beta = 0.43$, $F(1, 153) = 21.32$, $p < 0.001$. These results suggest BPN satisfaction is one mechanism through which relational partners can experience well-being within secure relationships. That is, within this sample of participants, when relational partners supported each other's needs for autonomy, belonging, and competence, the resultant relationship was more likely to be considered a close relationship (secure attachment) that increased the well-being (self-esteem) of both partners. The results of these analyses, however, do not shed light on the importance of individual BPN's and their relationship to greater overall attachment.

To determine the relative significance of each BPN, La Guardia et al. (2000) performed further analyses where autonomy, belonging, and competence competed for variance in the prediction of attachment and well-being. Results of these analyses indicated the need for belonging was the strongest predictor of secure attachment. The need for autonomy was found to be the next strongest predictor of attachment security. Finally, competence was found to be the weakest predictor of overall attachment security relative to the other BPNs.

These results demonstrate the importance of BPN satisfaction in the formulation of close relationships (secure attachment) and resultant relational partner well-being (self-esteem). Additionally, congruence between SDT, RMT, and other theories of close relationships (Connectedness, Attachment, Socio-Cognitive) was found in the fact that belonging was the most influential factor for secure attachments and close relationships (the focus, and suggested mechanism of change, within these theories). However, La Guardia et al.'s (2000) findings also

indicate the additive value of an individual's sense of autonomy in relationships, further contributing to our understanding of close relationships and the mechanisms through which they are created.

In a related study, Patrick et al. (2007) examined the role of BPNs within established romantic relationships ($N = 1918$). The mean age of participants was 22 years, with the average romantic relationship being established for at least three years. To measure BPN satisfaction, participants completed the BNSIRQ (La Guardia et al., 2000). Self-report measures of self-esteem, emotional affect, vitality, attachment security, and dyadic relationship satisfaction were also administered. Findings supported the results of La Guardia et al. (2000) as overall BPN satisfaction was positively associated with self-esteem ($0.42, p < 0.001$), positive affect ($0.42, p < 0.001$), and vitality ($0.42, p < 0.001$). BPN satisfaction was also positively associated with high levels of relationship satisfaction ($0.72, p < 0.001$). Thus, Patrick et al. (2007) also found supportive evidence for the role of BPN satisfaction in close and satisfying relationships.

To further investigate the unique contribution of each BPN to relationship quality, Patrick et al. (2007) tested the predictive value of each individual BPN. Results showed that competence satisfaction was the most strongly associated BPN to *individual* well-being. That is, competence satisfaction was positively associated with self-esteem ($0.39, p < 0.001$), more so than autonomy ($0.14, p < 0.001$) and belonging ($0.04, ns$). Additional analyses however, showed that belonging satisfaction was strongly associated with *relationship* well-being. That is, belonging satisfaction was positively associated with relationship satisfaction ($0.65, p < 0.001$), more so than autonomy ($0.11, p < 0.001$) or competence satisfaction ($0.09, p < 0.001$).

In summary, Patrick et al.'s (2007) and La Guardia et al.'s (2000) results support the hypothesis that BPN satisfaction is associated with close interpersonal relationships. In their

study, Patrick et al. (2007) also demonstrated the importance of competence for individual well-being and self-esteem within romantic relationships, providing evidence for its importance alongside autonomy and belonging.

Relationships Motivation Theory and Reciprocal Relationships

In these two studies, the receipt of BPN satisfaction was shown to help develop close relationships that facilitated the happiness and satisfaction of partners. Since healthy relationships are mutually beneficial, La Guardia and Patrick (2008) argue researchers need to identify how providing BPN support in a relationship is reciprocal and mutually beneficial for partners. To help accomplish this goal, La Guardia and Patrick (2008) suggest future studies employ “dyadic designs” – studies that focus on the bi-directional interactions between two people. This is useful as it can illuminate how partners support one another’s BPNs (La Guardia & Patrick, 2008).

For example, Deci, La Guardia, Moller, Scheiner, & Ryan, (2006) examined the reciprocal benefits of autonomy support in close peer friendships. Participants included 98 friendship-dyads. Individuals were asked to complete several self-report questionnaires regarding their amount of perceived autonomy support and quality of their relationships. Friendship autonomy support was measured using an adapted version of the 10-item Health Care Climate Questionnaire (Williams et al., 1996). Sample items include: “I feel that my friend provides me with choices and options,” and “My friend tries to understand how I see things.” BPN satisfaction was measured using the previously discussed BNSIRQ (La Guardia et al., 2000). Self-report measures of emotional reliance, attachment security, and dyadic adjustment were also administered.

Results found further support for the benefits of receiving autonomy support, as it

significantly predicted the subsequent BPN satisfaction, emotional reliance, and attachment security between partners (Deci et al., 2006). In an extension of these findings, Deci et al. (2006) tested whether providing autonomy support to a friend would influence BPN satisfaction and psychological well-being. To examine this, participants completed an additional measure asking them to report how successful they felt they were in providing their friend with autonomy support. To measure these perceptions, participants responded to the previous 10-item measure of autonomy support, but with questions reworded. An example includes: “My friend believes that I provide them with choices and options.” Results found that *providing* autonomy support to a friend significantly predicted overall BPN satisfaction and psychological well-being, over-and-above the influence of *receiving* autonomy support from this friend (Deci et al., 2006).

It appears receiving, as well as giving autonomy support, has a unique and beneficial impact within dyadic relationships. However, there are two limitations of this study. First, Deci et al. (2006) generated results from peers in previously established friendships, limiting the generalizability to mentoring programs. In mentoring programs, mentors and mentees are often unfamiliar with one another at the start of the program and develop a relationship as time progresses (Karcher, 2005). Second, Deci et al. (2006) only examined the reciprocal benefits of autonomy support on overall BPN satisfaction. Taken together, there is an opportunity to extend the literature by investigating whether cross-age peer mentoring programs can facilitate reciprocal mentor BPN satisfaction (since they are in the *giving* role) in relation to all three BPN’s (belonging and competence, alongside autonomy).

RMT and Dominant Frameworks: Complements and Extensions

I have reviewed three studies highlighting the opportunity for RMT to both complement

and extend the dominant theories of cross-age peer mentoring (Connectedness theory, Attachment theory, and Socio-Cognitive theory).

First, I reviewed two large-scale studies demonstrating a sense of belonging as the strongest predictor of secure attachment (La Guardia et al., 2000) and relationship satisfaction (Patrick et al., 2007). These findings are congruent with the three existing theories of mentoring and their emphasis on a need for a close/secure relationship between mentors and mentees (i.e., feelings of belonging). The ability of RMT to extend these theories was also demonstrated through a discovery of how autonomy and competence add value, alongside belonging, to relationships. Specifically, La Guardia et al. (2000) found autonomy satisfaction to be the second strongest predictor of attachment security, lending evidence to its importance, relative to belonging. Additionally, Patrick et al. (2007) found competence satisfaction to be the strongest predictor of individual well-being and self-esteem, highlighting its importance alongside autonomy and belonging in relationships as well.

Secondly, Deci et al. (2006) demonstrated the reciprocal benefits of BPN support within friendships. Although two of the three dominant theories discuss the potential for reciprocal benefits to be produced for mentors, in terms of connectedness (Karcher, 2005) and identity development (Rhodes et al., 2006), reciprocal BPN satisfaction has not been investigated in the cross-age peer mentoring literature. Understanding whether acting as a mentor can produce reciprocal benefits, regarding feelings of autonomy, belonging, and competence, may help extend our understanding of how mentors, as well as mentees, can benefit from the cross-age peer mentoring process. Doing so may produce congruent findings between RMT and Connectedness Theory (reciprocal belonging satisfaction and connectedness), or help extend these theories by examining the role of reciprocal competence and autonomy satisfaction.

In conclusion, opportunities for RMT to complement and extend the dominant theories of mentoring have been identified. RMT complements the existing theories with its demonstrated importance of a sense of belonging in relationships. RMT offers opportunities to extend our understanding of relationships through its extended focus on autonomy and competence, and the potential for reciprocal benefits to be achieved for mentors.

The studies I have reviewed have limited generalizability to cross-age peer mentoring relationships, however, as they were conducted using participants in non-mentoring relationships (best friends and romantic partners). Studies exploring the impact of autonomy, belonging, and competence support on relational quality and satisfaction between mentors and mentees is now presented.

Autonomy Support in Cross-Age Peer Mentoring

To examine the role of autonomy support in cross-age peer mentoring, Karcher et al. (2010) analyzed the relational outcomes of 212 high-school mentors and their middle-school mentees. Although mentors engaged with their mentees individually, an adult was present to help structure the interactions if needed. Karcher et al. (2010) labeled autonomy support as “interaction authorship” as it involved the act of deciding what to do or talk about in mentoring sessions. Self-report measures were used to assess the degree of autonomy mentors and mentees felt in their relationships, as well as their perceptions of relational quality and satisfaction. Results found that dyads who authored their interactions collaboratively reported higher levels of relational satisfaction ($M = 3.79$, $SD = 0.76$), compared to dyads that authored their interactions unilaterally, meaning that mentors predominantly decided what to do or talk about ($M = 3.56$, $SD = 0.86$). These results provide evidence for the positive, although modest, impact of autonomy support on relational quality between mentors and mentees.

While making recommendations for future research, Karcher et al. (2010) suggest training high-school mentors to be collaborative during their interactions with their mentees, something their study did not do. Since a lack of mentor autonomy-support fostered lower quality relationships, future research could enhance benefits for mentees by training mentors to be autonomy supportive prior to mentoring sessions (Karcher et al., 2010). Karcher et al. (2010) also note that high-school mentors may need increased levels of support and structure to be autonomy-supportive with their mentees, compared to adult mentors. In this study, school-based personnel were available to help mentors during their interactions, a supportive resource that is not always available in one-on-one mentoring relationships (Karcher et al., 2010). High-school mentors may lack, the authors argue, the maturity and ability to navigate a collaborative mentoring relationship wholly on their own. Finally, although Karcher et al. (2010) discuss the importance of collaborative authorship in their study, they acknowledge the limitation of their quantitative design, as they were not able to identify how mentors went about collaborating with their mentees, only that it produced positive relationships.

In summary, there is an opportunity to extend the literature by providing high-school mentors with pre-match training on how to be autonomy supportive, providing them with structure or tools to do so during mentoring sessions, and examining how they support the autonomy of their mentees during mentoring sessions.

Belonging Support in Cross-Age Peer Mentoring

In a recent study, the role of self-disclosure within peer mentoring relationships was explored for its ability to develop high-quality relationships (Ryan, Kramer & Cohn, 2016). To do so, Ryan et al. (2016) analyzed recordings of interactions over the phone between nine mentors (18-36 years of age) and mentees (15-20 years of age), both of whom had intellectual or

developmental disabilities. Self-disclosure was defined as “the disclosure of inner-feelings and experiences that foster liking, caring and trust” (Reis & Shaver, 1988, p. 372). Mentors described relationship quality and strength after the program during interviews. Ryan et al. (2016) did not include the perceptions of mentees while assessing relational quality as previous research suggests they predominantly report positive aspects with little variance (Rhodes et al., 2014). Weak relational quality was identified when mentors self-reported feelings of frustration throughout the peer mentoring process. Moderate connections were revealed when mentors self-reported an “ok” relationship with their mentee. Finally, strong connections were characterized through mentors reported feelings of excitement in relation to their experience as mentors.

Findings revealed that within higher-quality relationships, mentors and mentees disclosed descriptive (facts) and evaluative (emotions) information more frequently to one another (Ryan et al., 2016). Additionally, the content of self-disclosure had an impact on relational quality, with more evaluative (emotion-related) disclosure leading to stronger connections (Ryan et al., 2016). These results provide evidence for the positive impact of belonging support on relational quality, from the perception of mentors.

Ryan et al. (2016) cite two limitations of their study. First, they did not assess the perceptions of mentees in relation to relationship quality (Ryan et al., 2016). Therefore, the impact of self-disclosure on mentees’ perceptions of relational quality is still to be understood. Second, mentoring interactions were conducted over the phone and may have lacked ecological validity (Ryan et al., 2016). Exploring how personal-disclosure is enacted between mentors and mentees, in person, would help address this gap. While making suggestions for future research, Ryan et al. (2016) recommend providing opportunities for mentors and mentees to disclosure personal information about themselves. Finally, although mentors were trained to support the

belonging of their mentees, the age of mentors in this study (18-36) precludes them from being categorized as high-school mentors. Therefore, there is an opportunity to train high-school mentors to support the belonging of their mentees, through self-disclosure, and examine its impact on relational quality.

Competence Support in Cross-Age Peer Mentoring

During my literature review, I was not able to find a study examining the impact of competence-supportive feedback on relational quality in cross-age peer mentoring programs. The provision of feedback and advice from mentors-to-mentees is a fundamental aspect of any mentoring relationship. Mentoring relationships exist in a vast array of contexts however, and appropriate feedback styles may differ from one environment to another. In my study, mentors provided feedback in a musical setting, a context that is often associated with the terms *talent* and *ability* (Austin & Vispoel, 1998). Relevant literature on feedback in musical environments will now be reviewed to understand how feedback operates within this context.

Scholars often use the terms competence and self-efficacy interchangeably as they both encompass an individual's confidence in being able to accomplish the goals they set for themselves and deal with the challenges of their environments (Deci & Ryan, 2000; Bandura, 1997). Bandura (1997) highlights four primary sources of information capable of influencing one's sense of competence. These four sources include: (1) past experiences of success and failure; (2) vicarious observational learning from others; (3) self-appraisals and attributions following the completion of a task; and (4) the feedback we receive from others after performing a task. This section will focus on only one of these sources; external feedback, as this area has received the most attention within the current literature on SDT and is most relevant to mentoring and the way mentors counsel their mentees (Deci et al., 2006). Studies on the

influence of feedback have illuminated two important findings. First, praise for *ability* can be harmful and lead to deteriorations in both well-being and intrinsic motivation (Dweck, 2000). Second, praise for *effort* is a much more beneficial approach and can facilitate enduring levels of motivation, challenge seeking, and well-being (Dweck, 2000).

Droe (2012) examined the effects of these two feedback-styles in a musical context on fourth grade students (N = 87) participating in a rhythm-tapping test. Prior to participation, each student was given a lesson on various strategies designed to help improve their rhythmic skills. Each student was then initially exposed to an easy rhythm test followed by one of three feedback styles: (1) effort-focused (e.g., “You must have focused hard on the strategies before you played”); (2) ability-focused (e.g., “You must be talented in music”); or (3) no feedback. Following the administration of feedback, students were given the opportunity to attempt a *learning goal* (e.g., “Challenging rhythms that I can learn from even if I don’t play them correctly”) or a *performance goal* (e.g., “Rhythms I think I’m pretty good at so I can show how good I am in music”). Next, each student responded to questions on a 5-point Likert-type scale designed to assess their levels of *task persistence* (e.g., “How much would you like to take these rhythms home to practice them until they are perfect?”) and *task enjoyment* (e.g., “How much did you enjoy playing the rhythms?”). Students were also asked to rate their *task performance* on a scale from 1 (poor) to 5 (perfect). Finally, a four-coloured wheel was used to measure students’ performance attributions. The four colours represented attributions of *effort* (e.g., “I focused hard on the strategies”), *talent* (e.g., “Music is my thing”), *time* (e.g., “I had enough time”), and *luck* (e.g., “I was lucky”). This measure allowed students to rotate the wheel and place it on the attribution that best represented their performance.

In the second half of the experiment, students were exposed to a more difficult rhythm test

and subsequently informed that they did not perform as well as they did on the first test. Participants then completed the same measures as the first test but with the attributions on the wheel being opposite (e.g., “Music is not my thing”, “I didn’t focus hard enough on the strategies”). The purpose of this second test was to expose children to a more challenging test after experiencing success to investigate how the various feedback groups responded to setbacks and hardship in a musical setting.

Results indicated that 90% of the students in the effort feedback group chose a learning goal after their performance compared to only 41% of the students in the ability feedback group (Droe, 2012). Students in the no feedback group were divided equally into either category of goal selection. Mean scores of task-persistence (i.e., willingness to practice rhythms at home) were also found to increase amongst the effort feedback group and decrease among the other two groups across the two rhythm tests. No significant between group differences were found for either task enjoyment or performance ratings. Additionally, no significant between group differences were found regarding the four attributions of success on the colour wheel. Finally, although ratings of task enjoyment declined across all groups after the unsuccessful performance, students choosing to pursue learning goals reported significantly higher amounts of both task persistence and enjoyment compared to students who selected performance goals (Droe, 2012).

The results of this study are relevant to my study as it is the first study to date to explore the influence of these two feedback styles on young students in a musical setting. Results indicate that feedback should focus on the effort of the music student as it increases their willingness to engage in learning goals, the amount of effort they expend after setbacks, and the amount of enjoyment they experience during learning (Droe, 2012). More importantly, feedback providers should make a concerted effort not to praise ability as this was shown to decrease

student's effort, enjoyment, and willingness to expand their learning through challenging tasks (Droe, 2012).

This section has highlighted the importance of effort-focused feedback, especially in a musical context, where the terms talent and ability are often used (Austin & Vispoel, 1998). Of interest in my study is how mentors can be trained to promote their mentees sense of competence while making music with one another. The results of this study demonstrate the importance of helping mentors to orient their feedback towards the amount of effort their mentees expend and not the amount of natural ability or talent they possess.

Relationships Motivation Theory and Cross-Age Peer Mentor Training

The previous section highlighted the influence of autonomy, belonging, and competence support individually, rather than collectively. The positive influence of autonomy support (Karcher et al., 2010) and belonging support (Ryan et al., 2016) on relational quality was demonstrated. Further, the positive impact of effort-focused feedback in musical contexts was demonstrated (Droe, 2012). These studies however, did not explicitly train, or prepare *high-school aged mentors* to support *all three* of their mentees BPN's. Therefore, there is a need to understand how a SDT and RMT-informed training protocol, that focuses on helping mentors support all three BPN's, influences the outcomes of mentoring. In the existing literature on cross-age peer mentoring, two studies have used SDT and RMT as their theoretical framework to train mentors and evaluate outcomes.

In the first study, Simoes and Alarcao (2013) examined the relationship between BPN satisfaction in mentoring relationships and subsequent mentee well-being. Simoes and Alarcao (2013) defined and measured well-being across three dimensions: (1) personal well-being (physical, psychological, and hope); (2) social well-being (peer relationships, parental

relationships, and autonomy); and (3) academic well-being (school environment and perceived competence in learning). The researchers hypothesized that mentored students perceiving an increase in the satisfaction of their BPN's would report significantly greater outcomes than mentored and non-mentored peers perceiving less or unchanged BPN satisfaction. To measure BPN satisfaction, the authors used the Portuguese version of the BNSIRQ (Simoes & Alarcao, 2013). Further self-report questionnaires were implemented in this study, including the Perceived Competence in Learning Scale, Children's Hope Scale, and the KidScreen-27. All self-report questionnaires were administered after two (Time 1) and eight (Time 2) months of mentoring.

Mentees were randomly assigned to an experimental group ($n = 157$) that received mentoring from one of their teachers, or to a non-mentored comparison group ($n = 160$). Mentees' ranged in age from 9 to 16 years of age ($M = 12.40$, $SD = 1.81$). No demographic information was provided for teacher-mentors. Before meeting with their mentees, mentors received 16 hours of training and were provided with ongoing support through email and phone conversations with the program coordinator. During skill-building sessions, mentors were informed about SDT and learned various promotion strategies related to each BPN. Mentors supported their mentees' needs for autonomy by discussing and modelling self-regulatory strategies related to school attendance or behaviour and provided information about upcoming important decisions about education and health. The need for belongingness was promoted by mentors in this program through conversations about peer and parental relationship difficulties and the provision of empathy, attention, and authenticity while doing so. Finally, the need for competence was supported in this program through discussions about learning strategies and test preparation as well as providing mentees with help on their assignments. Although mentors learned about the importance of balancing their efforts across all three needs, mentors were

ultimately given the freedom to focus upon and support whichever need(s) they wished during their sessions.

Results indicated that gains on all dependent measures of well-being were more positive among mentees perceiving increased satisfaction of their BPN's compared to mentees in the opposite group (personal, social, and academic). This study demonstrates the capacity for a SDT-informed training protocol, focusing on all three needs, to increase BPN satisfaction and well-being among mentees. While making recommendations for future research, the authors note that researchers should study how BPN satisfaction is promoted during mentoring sessions (Simoes & Alarcao, 2013). In their study, mentors were not monitored implementing the SDT curriculum, or asked to report how they supported the BPN's of their mentees. Therefore, investigating how mentors support the BPN's of their mentees, in real-time during mentoring sessions, could help advance our understanding of this process.

In the second study, researchers implemented an experimental design to assess the impact of the Young Women Leader's mentoring Program (YWLP), an after-school program that pairs "at-risk" seventh grade girls with college-aged women for one year (Hennenberger, Deutsch, Lawrence, & Sovik-Johnston, 2013). Seventh grade mentees were referred to this program by school staff who considered them to be "at-risk" academically, emotionally, and behaviorally. Mentees were then randomly assigned to an experimental group ($n = 79$) that received mentoring, or a comparison group ($n = 47$) that participated in a research project.

In the YWLP, mentors were trained to follow a curriculum based on SDT during a two-semester class at their university. The class followed a service-learning format, with mentors researching topics such as issues facing adolescent girls, cultural competency, and mentoring skills in the first half of the semester and a support component in the second half, where mentors

engaged in supervised group mentoring sessions. The curriculum is designed to generate group discussions about body image, sense of self, peer relationships, leadership, and healthy decision making skills (Hennenberger et al., 2013). In this study, mentors and mentees met one-on-one for one hour each week to engage in mutually agreed upon activities, such as tutoring and social outings. Dyads also participated in two-hour after-school group mentoring sessions once a week with 8 other mentor-mentee pairs. Trained graduate and senior undergraduate students facilitated discussions about the SDT curriculum.

Mentees completed self-report questionnaires in September-October (pre-test) and May-June (post-test). Autonomy was measured using a 5-item assertiveness scale as it measures how much one feels they can assert themselves with other people (e.g., “How good are you at voicing your opinions and desires?”; “How good are you at getting someone to agree with your point of view?”; Buhrmeister, Furman, Wittenberg, & Reis, 1988). Competence and Belonging were measured together using the Self-Esteem Questionnaire (SEQ; DuBois, Feller, Brand, Phillips & Lease, 1996).

Results indicated no significant between-group differences on self-reported measures of autonomy, belonging, or competence. The researchers did find however, that the experimental group did not experience the same amount of decline in global self-esteem over time compared to the control group, indicating that peer mentoring may buffer certain populations against this natural decline during adolescence (Wigfield & Eccles, 1994).

Hennenberger et al. (2013) cite a few limitations of their study. First, they implemented indirect measures of autonomy, belonging, and competence, making it unknown whether significant differences would have been found if measures were more closely aligned to the three BPN's. Second, they did not monitor mentor's fidelity of implementing the program and thus

were not able to assess how mentors adhered to the mentoring curriculum or what occurred in dyadic meetings.

In summary, both Simoes and Alarcao (2013) and Hennenberger et al. (2013) applied SDT and RMT to mentor training procedures. Although both studies demonstrated that this approach can produce positive benefits, they did not monitor what mentors said or did to produce these benefits. This is an important problem as future studies and programs looking to replicate these findings will not have the information needed to do so.

Problem Statement

In the cross-age peer mentoring literature, recommendations have been made to examine the process of how mentors and mentees can form close and happy relationships (Rhodes et al., 2002, 2006; Deutsch & Spencer, 2009). This recommendation was formed to help complement the existing theoretical frameworks in the literature and their contributions to the outcomes that cross-age peer mentoring produces. In response to this, some research has focused on RMT. The incremental value of RMT is that it focuses on factors mentors and mentees need to experience and provide to one another for a high-quality relationship to develop (La Guardia & Patrick, 2008). In support of this, several studies have demonstrated the positive associations between BPN satisfaction and several indicators of positive and healthy relationships among friends, roommates, and romantic partners (La Guardia et al., 2000; Patrick et al., 2007).

More relevant for my study, the cross-age peer mentoring literature indicates the beneficial impact of BPN support on relational quality and well-being outcomes for mentees (Simoes & Alarcao, 2013; Henneberger et al., 2013; Karcher et al., 2010; Ryan et al., 2016). These studies have not identified how mentors support the BPN's of their mentees, however, only that this type of support produces positive outcomes. This is an important problem, which needs addressing, as

the recommendation in the literature is to further identify how mentors can develop positive and close relationships with their mentees. Further, these studies did not train high-school mentors to be autonomy, belonging, and competence supportive, limiting our understanding of the applicability of SDT to the intended age of mentors (Karcher, 2005). The positive impact of BPN support could be enhanced if mentors are guided to support these feelings in their mentees before mentoring sessions begin.

Finally, there is a lack of research investigating the potential for reciprocal benefits (of BPN's) to be achieved in cross-age peer mentoring programs (i.e., how mentors and mentees alike have their BPN's satisfied). In the existing literature, no study has examined how high-school mentors can benefit by supporting the autonomy, belonging, and competence of their mentees. Understanding whether mentors benefit from a SDT-informed cross-age peer mentoring process is important as the intervention is designed to promote benefits for both mentees *and* mentors (Karcher, 2005; Rhodes et al., 2006). In my study, high-school youth mentored middle-school children while helping them learn to play various classical instruments. I developed a skill-building curriculum to help mentors support their mentees' autonomy, belonging, and competence during weekly mentoring sessions (discussed further in the "My Study" section below).

National Context: Indigenous Children and Youth in Canada

More than half of the participants in my study identified as Indigenous and female (See Table 1). For this reason, it is important to acknowledge the histories of Indigenous peoples in Canada, and Indigenous women in particular, and how my research connects to these histories. Indigenous Peoples in Canada encompass three main groups: First Nations, Inuit and Métis. Within these overarching groups, Indigenous Peoples in Canada constitute hundreds of different

communities with diverse languages and cultures (Indigenous and Northern Affairs Canada, 2018).

Historically, education has served as a colonizing force in the lives of Indigenous peoples (National Centre for Truth and Reconciliation, 2018). Alfred and Corntassel (2005) define colonization as the attempt of settler, or non-Indigenous societies to eradicate Indigenous populations – culturally, politically, and physically. As a cornerstone of many Indigenous societies, women have been particularly targeted by colonial agendas (Truth and Reconciliation Commission, 2015). Historically, colonization occurred in Canada within residential schools, where Indigenous languages, culture and spiritual practices were aggressively oppressed in favour of Euro-Christian beliefs and values (Truth and Reconciliation Commission, 2015). Contemporary education systems maintain the colonial agenda by continuing to privilege Western knowledge systems (Battiste, 2013), failing to acknowledge and respect Indigenous histories, geographies, and other cultural values and knowledge systems that are foundational to Indigenous cultures and identities (Alfred & Corntassel, 2005). For example, in the current Canadian education system, European principles and values (rational and objective thinking vs. holistic ways of knowing) are often emphasized within the curriculum, marginalizing Indigenous learners and their cultural values and ways of knowing (Battiste, 2013). For Indigenous youth, this Eurocentric curriculum creates a learning environment that lacks meaning and substance to their own lives, experiences, and cultural values (Battiste, 2013; Canadian Council on Learning, 2007; 2009). Thus, there is still a need to transform our education system to build on the strength of diversity and become better aligned with Indigenous ways of knowing.

Despite the barriers of historical and contemporary colonialism, Indigenous peoples living in Canada have maintained their cultural and personal identities (National Centre for Truth

and Reconciliation, 2018). For example, across Canada, many Indigenous peoples report feeling strongly connected to their communities and families and proud of their cultural identities (Neuman, 2011). Indigenous peoples in Canada also report, on average, a higher tolerance and respect for cultural diversity, compared to their non-Indigenous counterparts (Neuman, 2011). Also, in Canada, many Indigenous advocacy and rights organizations exist that focus on strengthening Indigenous communities, many of which are led by Indigenous women (e.g., Native Women's Association of Canada). All things considered, it would be short sighted to view Indigenous peoples in Canada as passive victims conceding to systemic forces, as they represent one of the most vital and resilient social demographics in Canada.

Self-Determination Theory and Indigenous Cultures

In light of Canada's history of colonization and the balance of Indigenous participants in my study, it is important to consider whether my theoretical framework connects with the cultural beliefs and values of these learners. This is an important consideration as SDT is rooted in Western psychology and colonization was driven by the belief that European values were superior to others and should be universally accepted and adopted. As previously discussed, SDT is a theory of human motivation, development, and well-being (Ryan & Deci, 2017). SDT strongly believes that human beings desire and deserve to feel autonomous, connected, and competent (Ryan & Deci, 2017). SD theorists also believe that three basic psychological needs—autonomy, belonging, competence—can predict happiness and well-being across cultures (Ryan & Deci, 2017). A growing body of cross-cultural research supports this claim. For example, research has connected BPN satisfaction with subjective well-being and happiness (Chen et al., 2015; Taylor & Lonsdale, 2010; Tian, Chen & Huebner, 2014) and BPN dissatisfaction with ill-being and unhappiness, across a wide range of cultural and ethnic backgrounds (Chen et al.,

2015; Soenens, Park, Vansteenkiste, & Mouratidis, 2012; Wang, Pomerantz, & Chen, 2007).

This research indicates that, across cultures, human beings experience feelings of happiness and self-determination when their social environments support their basic developmental right to feel in-control of their lives, accepted and valued by their families and communities, and capable of achieving their personal goals, whatever those may be.

In many Indigenous cultures around the world, the right to self-determination is highly valued (National Centre for Truth and Reconciliation, 2018). Indigenous self-determination is a belief system that honours Aboriginal ways of knowing and governance (Alcantara & Dick, 2017). At its most fundamental level, Indigenous self-determination efforts seek to restore the decision-making power of Indigenous peoples (Alfred & Corntassel, 2005). The goal is to create opportunities for Indigenous peoples to experience the human right to autonomy by being able to structure their own communities and take back control of their lives (National Centre for Truth and Reconciliation, 2018). This political self-determination may find its roots in personal experiences of self-determination. Scholars have also pointed out that Indigenous self-determination efforts value feelings of belonging (i.e., interconnectedness with others and nature) and competence (i.e., contributions of expertise from all members of a community, and nature; Deloria, 1999; Phillips, 2010; Marker, 2011).

Brokenleg and Long (2013) present an Indigenous perspective that may have significant connections to SDT. They suggest that children deserve the right to satisfy their four developmental needs for Belonging, Mastery, Independence, and Generosity. These four developmental needs are known as the “Circle of Courage” and are believed to help contribute to positive youth development (Brokenleg & Long, 2013; Brokenleg, 1996). Within this perspective, a child’s sense of belonging is encouraged through an extended kinship system that

surrounds them with caring peers and adults. Children's sense of mastery is encouraged through adult and peer-mentorship systems, and they are encouraged to take control over their own decisions and lives. Finally, generosity is supported by teaching children to value relationships over material-wealth and to show compassion for others. Brokenleg (1998) notes that although Indigenous communities differ in many respects, these four developmental needs may be culturally congruent enough to support the needs of Indigenous youth across cultures. Many aspects of Brokenleg's model connect with models of Indigenous learning created by Indigenous academics from diverse nations across Canada (Canadian Council on Learning; 2007; 2009). Although primarily focused on Indigenous children and youth, Brokenleg and Long (2013) believe the Circle of Courage represents "universal needs" that can be applied to children and youth across cultures.

In summary, the literature suggests good alignment between SDT and some Indigenous approaches to human development. Common ground is reflected in the deep respect both positions hold for human self-determination and happiness through the satisfaction of basic developmental needs. It is important to note that although feeling self-determined may universally benefit children and youth across cultures, individual agency and cultural diversity should always be respected. In other words, although basic developmental needs may be foundational within both SDT and Indigenous approaches to development, the process in which they are supported and satisfied is likely influenced by cultural and sociodemographic factors.

Local Community Context and Purpose

My study was designed in collaboration with the Executive Director (ED) and staff of an after-school music education program in the Downtown Eastside (DTES) of Vancouver, BC, which is one of Canada's most socially and economically diverse communities. Along with this

diversity, comes many significant challenges, including drug use, prostitution, homelessness, and mental health issues (City of Vancouver, 2018). Residents of the DTES have the lowest median income in the city, with more than 60% of the population dependent on income assistance and other charitable social services (National Household Survey, Vancouver, 2011). Indigenous females growing up in the DTES are particularly at risk. For example, Indigenous females living in the DTES are disproportionately victimized by violent crimes. In fact, the rate of violence against Indigenous women in the DTES is double that of any other female social demographic in Vancouver (Benoit, Carroll, & Chaudhry, 2013).

Despite these challenges, the DTES has been characterized as a community of strengths, including a rich cultural heritage, diverse languages, artistic talent, and an incredible ability to care for others (Newnham, 2005). It is estimated that 70% of the Indigenous peoples in Vancouver reside in this community (Benoit, Carroll, & Chaudhry, 2013). This concentration has created a community of Indigenous peoples with some of the highest levels of cultural pride and ancestral knowledge across Canada (Neuman, 2011). These strengths are due, in part, to widespread participation in cultural activities and social movements that help Indigenous Peoples living in the DTES retain their strong cultural identities and knowledge (Neuman, 2011). In particular, Indigenous women living in the DTES are recognized for their resilience and strength in the face of undue violence and discrimination. For example, Indigenous women are highly represented within agencies that fight against racism, colonialism, and discrimination, such as the Vancouver Native Health Society (Newnham, 2005). In many ways, Indigenous women represent a symbol of resistance in the DTES community, and are one of its most resilient and altruistic social demographics.

The ED of the after-school program is a non-Indigenous woman and a longtime resident of the DTES. She created the music program as a resource for children and youth in the community (including her own children) and to provide them with free music education during after-school hours. For over 10 years, the music program has provided a safe and caring space for children and youth in the DTES, helping them feel connected and proud of their community. The music program often hires local community members, parents, and previous students to support and teach the children to ensure these community connections remain strong.

My Study

To help support the social development of her students, the ED asked me to create and implement a cross-age peer mentoring program and evaluate its outcomes. Through peer mentoring, the ED wished to strengthen the sense of community among incoming students by matching them with older and more experienced students at the program. The ED also wished to strengthen the confidence and leadership abilities of her older students by having them act as role models. This desire to increase the sense of community among youth in the DTES is in alignment with the City of Vancouver's "Healthy Communities" and "Healthy People" initiatives, a 30-year plan designed to help strengthen the DTES community (Downtown Eastside Plan, 2011). One goal of these initiatives is to increase the sense of belonging among children and youth in the DTES through strong social relationships and support networks, which have been termed "Critical Connections" (Downtown Eastside Plan, 2011). These initiatives are focused on children and youth as this population (aged 5-19) is steadily increasing in the DTES, now representing 10% of the community, per the latest national census (Canadian Census, Vancouver, 2006). My study attempted to address a need that was identified by a community leader in the DTES (i.e., increasing the sense of community among students in an after-school

music program via cross-age peer mentoring), which aligns with the city's broader goal of strengthening the community at large through *Critical Connections*.

In my study, high-school youth mentored middle-school children while helping them learn to play various classical instruments. I developed a skill-building curriculum to help mentors support their mentees' autonomy, belonging, and competence during weekly mentoring sessions. This skill-building curriculum resulted in the creation of a supportive tool that mentors could use as a resource to help them support the BPN's of their mentees each week. Using audio-recorders, my study then investigated the mentoring process and how mentors went about supporting the BPN's of their mentees. After each mentoring session, I measured the perceptions of both mentors and mentees using weekly logs. Weekly logs asked mentors and mentees to rate their level of relational happiness satisfaction after interacting with their partner each week. Mentees were also asked to report their level of BPN satisfaction and explain their ratings during 'Mentee Support Meetings'. This allowed for an exploration of which BPN's mentees attributed to their high/low levels of relational happiness and satisfaction each week. To explore for reciprocal benefits, mentors completed a self-report questionnaire designed to measure their level of BPN satisfaction within their mentoring relationship. Finally, at the end my study, I interviewed each mentor and mentee to let them express how acting as a peer mentor or mentee impacted them.

Research Questions

Taken together, four research questions guided my study:

- (1) How did mentors support the basic psychological needs of their mentees?
- (2) Did mentees experience the satisfaction of their basic psychological needs?
- (3) Did mentors experience the reciprocal satisfaction of their basic psychological needs?

- (4) Did mentors and mentees experience happiness and satisfaction within their mentoring relationships

Chapter Two: Methodology

Overview

In this chapter, I first describe my research design and how it complements the purpose of my study. I then introduce my epistemological beliefs and position myself in the research context. Next, I introduce the context within which mentoring sessions occurred, detail recruitment procedures, and discuss the ethical considerations of my study. I then provide an overview of my measures, instructional materials, and procedures. I conclude with a description of how I analyzed my data.

Multiple Case Study Design

Data collected in my study were organized, analyzed, and synthesized using a descriptive multiple-case study design. My study includes five cases, each including a youth mentor and child mentee. One strength of case studies is their ability to explore the perceptions and experiences of individuals within relationships (Yin, 2003). I chose a case study design for my research as it allowed me to examine the bidirectional relationship between mentors and mentees. Dyadic designs are recommended in the mentoring literature (La Guardia & Patrick, 2008) as they focus on the perceptions of both mentees and mentors. My focus on dyads allowed me to understand how mentees benefitted from receiving BPN support and how mentors benefitted from providing BPN support (reciprocal benefits).

A second strength of case study designs is their ability to gather data from multiple sources and perspectives, often leading to a comprehensive understanding of the topic under investigation (Marshall & Rossman, 2016). My study used a combination of quantitative and qualitative measures to answer my research questions comprehensively. Quantitative measures helped me determine whether mentors and mentees experienced beneficial outcomes regarding

BPN satisfaction and relational happiness and satisfaction. Qualitative measures helped me to understand how participants experienced the mentoring process and outcomes by listening to their voices. Taken together, case study design fulfilled my study's purpose of examining the mentoring process, through the perceptions of both mentees and mentors, and identifying how and why positive outcomes were achieved.

My Epistemological Beliefs

I approached my study from a social-constructivist position. I believe that human development is socially situated and that meaning is created during interactions with others (Crotty, 1998; Marshall & Rossman, 2016). Drawing from this belief, I am interested in researching how the endogenous social capital of communities can be used to support the developmental and psychological well-being children and youth who face various kinds of adversities. In other words, I am interested in exploring how communities can enhance their own social and cultural environments by harnessing the strengths of their younger populations. This is an important focus as scholars have consistently found associations between impoverished contexts (peer, family, community) and experiences of developmental and psychological difficulties among school-aged youth (Bronfenbrenner, 1979; Bandura 1986; Leventhal & Brooks-Gunn, 2004). I found SDT to be a useful framework for my research goals as it proposes all children and youth are born with equal amounts of developmental potential, which can either be encouraged or discouraged by their sociocultural environments (Ryan & Deci, 2017). SDT is also useful for my goals as it offers ideas about how adult caregivers and peer mentors can support BPNs in sociocultural environments to both equalize and then optimize the developmental and psychological well-being of children and youth (Ryan & Deci, 2017).

Taken together, while analyzing and reporting my data, I operated under the belief that mentor and mentees' experiences were the basis for understanding and knowledge about the cross-age peer mentoring process, which was created during their interactions with others during my study (Crotty, 1998; Marshall & Rossman, 2016).

My Position in the Research Context

The goals and focus of my research surfaced through my role as a graduate research assistant for Dr. Nancy Perry, my research supervisor. For the past three years, I have helped to collect data for Dr. Perry's project at the after-school music program that became the context for my study. Her project was a collaboration between UBC researchers and the faculty/staff at the music program, and the goal was to advance understandings about how various teaching practices create classroom contexts that support self-regulation and self-determination among children and youth. I collected data from children and youth to help understand their personal "stories" and experiences at the after-school program and whether its broader cultural practices were supporting their feelings of autonomy, belonging, and competence. In this role, I gained experience at collecting and analyzing data using methods that I implemented in my study (e.g., participant observations, interviews, and participant-created documents).

Since my study involved qualitative components to data collection and analyses, it is important to acknowledge my position as the researcher within my study's context (Saldana & Omasta, 2017). Researcher subjectivity is an inherent aspect of the qualitative research process as the researcher is the primary instrument of analyses (Stake, 2005). Therefore, it is important to preface my findings and interpretations with an honest disclosure of my "positionality" to lend credibility to my results and create a more substantive thesis (Saldana & Omasta, 2017).

Throughout my study, I acted as both researcher and active participant (e.g., facilitator of mentor skill-building sessions/support meetings and interviewer). I also acted as a collaborator with the ED and other staff members of the after-school program to help design and create a framework for their peer mentoring initiative (i.e., an initiative they identified to meet a need they perceived in their community). Considering these roles, my research position brought various strengths and potential weaknesses to my investigative efforts (Saldana & Omasta, 2017). One possible shortcoming that this position creates is the potential for participants to engage in biased responding to satisfy the researcher's goals (i.e., participant compliance and social desirability; Saldana & Omasta, 2017). Similarly, researchers who are embedded in their research contexts may experience bias as well (e.g., seeing what they want to see; Saldana & Omasta, 2017). Conversely, my researcher-participant status could provide a more detailed and intimate understanding of the context and the people in it, hopefully allowing for a deeper understanding of the mentoring program and the experiences of each mentor and mentee (Saldana & Omasta, 2017). In other words, positioning myself as a researcher *and* participant during each research activity enabled me to see and reflect upon how mentors and mentees were interacting with one another and responding to their classroom context. This was an invaluable opportunity as it created a vantage point from which I could investigate the cross-age peer mentoring process to understand whether SDT provided a valuable framework to support mentors and mentees, which was the purpose of my study.

It is also important to reflect upon the differences between me and the participants, and the DTES community generally. Most participants in my study were Indigenous and female (all of the mentees and one of the mentors). As a Caucasian man of British-French descent, who has grown up and currently lives in an affluent community, it is important to acknowledge that I was

an “outsider” in my research community. I want to acknowledge the undue privilege and benefit I have received because I was born into a certain social demographic that actively worked to colonize Indigenous peoples. I would also like to acknowledge that prior to writing this thesis, I had little knowledge of Indigenous culture(s) and their experiences in Canada (historical and contemporary). Although I have always respected diversity and inclusiveness, by writing this thesis, and interacting with my participants, I have come to know that even with the best intentions, our actions and thinking patterns can sometimes be detrimental to disenfranchised or marginalized people. I have learned that there is *always* another perspective to acknowledge, and that as a researcher, focusing on local expertise and knowledge is always the better path to a richer understanding of community and individual life. I will take this knowledge with me into the future. I would like to thank my participants and everyone else who pushed my thinking towards a more inclusive and well-informed destination. While writing this thesis, I have tried to remain cognizant of this privilege, especially while reporting the experiences and voices of participants. To accomplish this, I received constructive feedback from external readers (both academics and community members) that challenged my interpretations and encouraged me to view them from alternative perspectives. This was a truly invaluable process and hopefully helped produce a more accurate and culturally-sensitive document.

Considering Canada’s history of colonization and the disproportionate amount of discrimination and violence Indigenous females have experienced in the DTES, another central concern of my positionality was the extent to which participants experienced a power differential between me and them and how this might impact their experience in my study, and the results of my study. I fear that some readers may inaccurately interpret the intentions of my study (i.e., a Caucasian male presuming to impart knowledge and values onto participants from a different

culture to benefit their development and well-being). To reiterate, the purpose of my study was to help support and facilitate (in collaboration with the ED and other staff members) the social development of children and youth at the after-school music program. Our intention was to create the opportunity for children and youth to empower one another by supporting each other's feelings of autonomy, belonging, and competence. It is also important to note that mentors and mentees were not specifically selected to participate in my study based on their cultural or ethnic backgrounds. Rather, participants were selected to participate in my study due to their availability/potential to be positive role models (mentors), and the fact that they were new students to the program who might benefit from having a supportive friend (mentees). This process is further detailed in my "Recruitment Procedure" section. Overall, my hope is that the community perceived me as someone who came to help co-create a framework to support children and youth to use skills and knowledge they already possessed. I hope this intention remains clear throughout my thesis.

Mentoring Context

In Chapter 1, I located my study on the grounds of an after-school music program in Vancouver's DTES community. This program aims to help children and youth become empowered through music by discovering their potential and increasing their self-esteem. In this program, students learn to read and play classical music and sing in choirs at no cost to their families. Typically, students are referred to the program from local public schools, but some families seek out the program on their own. Students come to the program after school. There is free transportation to and from the program (e.g., "the walking school bus" — staff at the program meet students at their schools and walk them to the program). The senior program (students in grade 3 through 12) meets on Mondays, Wednesdays and Fridays, and the junior

program meets on Tuesdays and Thursdays. Some students in the senior program attend five days a week. This created the context for the cross-age peer mentoring program.

As students arrive for the program, they are provided with a healthy meal full of fruits and vegetables to provide them with the necessary nutrients for learning. Most of these students also receive a meal service at school because of the food insecurities in their homes. After the meal, students attend various classes including Music Theory, Musicianship, Instrument Instruction (one of fourteen classical instruments), Vocal Instruction, and Collaborative Music (orchestra and ensembles), typically three to four blocks each day. The program also offers Musical Therapy sessions for students experiencing physical and/or emotional disharmony.

My study was part of a larger research-practice partnership between Dr. Perry and the after-school music program. The focus of that project was to support teachers in the program (who typically were musicians without formal teaching preparation) to develop and hone practices known to support self-regulation and self-determination. My study occurred for three-months (March through May of 2016). The mentoring sessions occurred once a week during a one-hour Instrument Instruction class, led by one of the musician-teachers who participated in Dr. Perry's research. The ED invited this musician-teacher to support the mentoring program as he was new to the after-school program and had experience in a mentorship/counselling role as a Recreational Therapist. The ED also felt this would be a good opportunity for this musician-teacher to meet both junior and senior students while supporting the after-school program by meeting one of its needs (i.e., supporting the peer mentoring program).

The teacher decided to focus the mentoring sessions around the composition of a song as he had experience composing and recording songs in a professional capacity. To achieve this goal, mentors were tasked with first teaching their mentees simple rhythms on their respective

instruments. Mentors then invited their mentees to co-compose a rhythm by adding various notes. Once all rhythms had been co-composed by each individual dyad, mentors and mentees came together as a class to integrate their rhythms into a cohesive song. The song was then professionally recorded during the last mentoring session and each participant received a copy (mentoring sessions are discussed in more detail in my “Procedures” section). There were ten mentoring sessions in total. The amount/duration (≥ 10 meetings) and frequency/consistency of contact between dyads (1 interaction/week) in the program adhered to the best practices identified in the mentoring literature (Deutsch & Spencer, 2009; Karcher, 2007).

Recruitment Procedure

The ED of the music program was responsible for recruiting mentors and mentees in my study (purposive sampling). As previously stated in Chapter 1, the ED wished to create a mentoring program to increase the sense of community amongst a group of incoming students, while building the leadership skills of older students. This being the case, the ED carefully considered mentors who she felt could be positive role models for mentees (i.e., youth who displayed positive pro-social behaviour and a commitment to the program generally). The ED also chose mentors who she felt would personally benefit from taking on a leadership role. Similarly, the ED chose mentees she felt would benefit from a mentoring experience. Specifically, she chose a group of five students who were entering the program part way into the school year and matched each of them with an older and more experienced peer mentor as a way of ensuring they felt welcome and could form an immediate and positive connection to the program. Prior to attending the after-school program, the mentees in my study were all attending another after-school program that focused on Indigenous cultures. At that time, both after-school programs were operating on the same schedule, so the children couldn't attend both programs.

To address this, the ED of the music program and the local Indigenous youth and family worker adapted the schedules of both programs to enable children to attend both programs, as they wanted. Following this change, a group of five Indigenous females enrolled in the after-school music program. This group became the mentees in my study. The hope was that both after-school programs would have complementary and additive benefits for students. One program focused on empowering Indigenous students by teaching them about their own culture, while the other focused on empowering students by teaching them music.

The Behavioural and Research Ethics Board at UBC and the Board of Directors at the music program approved my study and the consent forms before recruitment began (see Appendix A). I conducted two information sessions with mentees and mentors, separately. I provided each group with an overview of the mentoring program and specific information about what they would experience if they decided to participate. Once mentees and mentors knew what was involved in participating in the program (roles and responsibilities), those who were still interested were given an information letter and consent form to share with their parents/legal guardians (see Appendix B). Those students who returned signed consent forms became participants in my study.

Participants

Participating mentees ($n = 5$) were elementary-aged students ($M = 9.6$, $SD = 1.81$). All were female and of Indigenous descent. Participating mentors ($n = 5$) were high-school female students ($M = 15.8$, $SD = 1.48$). One of these students was of Indigenous descent, one was Asian Canadian, and three were European Canadian. The ED paired mentors and mentees, based on her perceptions of complimentary personalities, to create five dyads (labeled A, B, C, D and E). It is important to note that dyads were not matched using a formal personality scale, but rather the

ED's previous experience and knowledge of each participant during her interactions with them.

Participant demographics are presented in Table 1.

Table 1
Participant Demographics

<u>Mentoring Dyad</u>	<u>Age</u>	<u>Grade</u>	<u>Gender</u>	<u>Ethnicity</u>
A. <i>Stella</i>	18	12	Female	Canadian, German, Greek
Samantha	10	5	Female	Indigenous
B. <i>Bella</i>	16	11	Female	Canadian, Irish, Scottish
Brittney	10	5	Female	Indigenous
C. <i>Coralline</i>	16	11	Female	Indigenous
Catharine	12	6	Female	Indigenous
D. <i>Danielle</i>	14	10	Female	Canadian, Irish, Scottish
Dakota	8	5	Female	Indigenous
E. <i>Erica</i>	15	10	Female	Chinese, Canadian
Elise	8	5	Female	Indigenous

Note: Demographic information was obtained from the ED. All names represent pseudonyms. Mentor names are italicized and presented first for each dyad.

Measures

In my study, data was derived from five sources: (1) field notes I generated while conducting observations of mentoring sessions; (2) audio recordings of dyadic interactions between mentors and mentees during mentoring sessions; (3) weekly logs created by participants after dyadic interactions; (4) a 9-item self-report questionnaire that mentors completed twice during the program; (5) individual exit interviews with participating mentors and mentees; and (6) questionnaires completed by the ED and classroom teacher.

1. Field Observations and Notes

During weekly mentoring sessions, I created a “running narrative” of the activities being conducted within the classroom. I created this running narrative using a personal notebook that I

brought to every mentoring session. While observing mentoring sessions, I focused on the following aspects of the classroom: (1) the attendance of each participant and their time of arrival; (2) instructions from the classroom teacher and the purpose of the lesson; (3) which mentor-mentee pairs were working together; and (4) any information that spoke to participant attitudes or behaviours during mentoring sessions. To ensure that my field observations were accurate, I often spoke to the classroom teacher and participants after class to gain clarifications or elaborations for my observations. This information was used to create an overview of each weekly mentoring session (presented in my “Procedures” section below).

2. Dyadic Audio Recordings

I audio recorded two of the five dyads during each mentoring session. I did not audio record the entire one-hour class where mentoring sessions were occurring. Rather, once the teacher established what work students needed to do and asked students to separate into dyads to work together, I placed a separate audio recorder near two focal dyads. Prior to beginning my study, I developed a schedule to ensure that I would collect an equal number of audio recordings for each dyad. This predetermined schedule, however, had to be adapted during my study to accommodate mentors and mentees who came late or were absent on their scheduled recording date. My goal was to gather four recordings of each dyad. I achieved this goal for dyads A and B. Dyads C and E were recorded three times. Mentor D was not recorded due to their repeated absence and tardiness throughout the mentoring program.

Reliability and Validity of Dyadic Audio Transcriptions

To ensure that dyadic audio recordings were transcribed accurately, I employed a transcription agency to transcribe all audio records collected in my study. I used transcripts generated by the agency to supplement my own transcription efforts. Specifically, I used the

“Compare Documents” feature in Microsoft Word (Version 15.33), which allowed me to combine the two sets of transcripts while simultaneously highlighting the differences between them. This allowed me to catch certain words or phrases that I or the transcription agency missed and incorporate them into the transcription record. This was an invaluable process as audio recordings were gathered in a musical context, which sometimes distorted the spoken word of participants. By combining the efforts of two separate transcribers, I attempted to decrease this interference to ensure that all transcription records were as complete and accurate as possible. This procedure identified discrepancies on two instances, both times I had failed to incorporate the words “gym” and “rosin”, as in “*gym* class” and “this *rosin* helps the strings.” Both instances were mundane and did not alter my analysis or interpretation of each respective interaction.

3. Weekly Logs

Mentee Weekly Log #1 - Relationship Happiness and Satisfaction

Mentees’ perceptions of relational quality with their mentors were assessed using a weekly log that I created (see Appendix C). This log measures the degree of mentee’s satisfaction and happiness within the relationships they developed with their mentors on a 5-point scale. To complete this log, mentees responded to one item that I adapted from the satisfaction sub-scale of the Network of Relationships Inventory (NRI; Buhrmester & Furman, 1987). The wording of this question was adapted to fit more appropriately with the terminology of my study (i.e., mentors and mentees). After every mentoring session, this item asked mentees “How happy are you with the way things went today between you and your mentor?” Mentees responded on a five-point scale (Extremely Happy = 5, Very Happy = 4, Happy = 3, A Little Happy = 2, Not Happy = 1). A composite score of relational happiness and satisfaction was computed by

averaging participant's responses across all mentoring sessions, with higher scores indicating perceptions of higher relational qualities.

Qualitative attributions. The second section of this log was developed to assess correspondences between mentee happiness and satisfaction and their perceptions of autonomy, belonging, or competence support (see Appendix C). Conversely, this log was also designed to capture correspondences between mentees' happiness and satisfaction and their perceptions of autonomy, belonging, or competence discouragement.

In week 5 of my study, I conducted a preliminary review and analysis of the responses that mentees were providing in their Weekly Log's and concluded that a more specific probe was needed to capture more precise information. Specifically, in their original logs, mentees were often reporting that they enjoyed "everything" and disliked "nothing" about each mentoring session. This pattern of responding led me to create a second weekly log for mentees.

Mentee Weekly Log #2 – BPN Satisfaction

The second mentee log was developed to elicit specific information on whether mentees were perceiving the satisfaction of their BPN's during weekly mentoring sessions (see Appendix D). Synonyms were created for each BPN during a research meeting with Dr. Nancy Perry and my graduate student colleagues. These synonyms were then used to create questions designed to help mentees think about their level of BPN satisfaction during mentoring sessions (e.g., feelings of "control" and being able to "help" and make "decisions" for Autonomy; feelings of "friendship" for Belonging; and feelings of "success" for Competence).

This adapted version of the mentee weekly log was implemented after mentoring sessions seven through ten of my study. Additionally, to prevent the same response bias from occurring, I conducted mentee support meetings immediately after the completion of this log and invited

open and frank discussion about their mentoring session that day after they completed the mentoring logs (these mentee support meetings are described further below in my “Instructional Materials” section).

Mentor Weekly Log

Mentors were also asked to complete a weekly log after each weekly mentoring session (see Appendix E). Mentor logs were designed to elicit mentors’ reflections on how they attempted to promote the BPN’s of their mentee, their own perceptions of relational quality, and responses to what specifically they enjoyed and did not enjoy about the session, if anything. This log was developed to help mentors orient their efforts toward the satisfaction of their mentees BPN’s during mentoring sessions. By asking mentors to report on how they supported their mentees needs for autonomy, belonging, and competence, I hoped to remind mentors, on a weekly basis, of the purpose of their interactions with their mentees while making music together. Additionally, mentor logs were designed to elicit information on how mentors were supporting each BPN during weekly mentoring sessions. This information was used during mentor support meetings to help mentors reflect upon the strategies they had implemented during previous mentoring sessions with their mentees (reviewed further below in my “Instructional Materials” section).

4. Mentor Self-Report Questionnaire

The Basic Need Satisfaction in Relationships Scale (BNSIRQ) (La Guardia et al., 2000) was used to assess the degree of reciprocal BPN satisfaction amongst mentors. The BNSIRQ is a 9-item scale, assessing each BPN with three items. Each item is responded to on a 7-point scale ranging from (1 = not at all true) to (7 = very true). Sample items include: “When I am with my mentee, I have a say in what happens, and can voice my opinion” (autonomy); “When I am with

my mentee, I feel loved and cared about” (belonging); and “When I am with my mentee, I feel very capable and effective” (competence). Mentors’ average scores for each BPN were calculated by summing ratings within each subscale (some items are reverse-coded) and dividing by three. Higher scores were indicative of higher levels of BPN satisfaction within mentor-mentee relationships. Previous research using the BNSIRQ found that overall BPN satisfaction in friendships was positively correlated with well-being and happiness (Deci et al., 1996; La Guardia et al., 2000). The reliability of the total scale has also been demonstrated in several studies (alphas ranging from .65 to .94; La Guardia et al., 2000; Ozen et al., 2011), alongside the internal consistencies for the autonomy (.74), belonging (.80), and competence (.76) subscales (DeMir & Ozdemir, 2010). In my study, mentors completed the BNSIRQ after four weeks’ (Time 1) and ten weeks’ (Time 2) of mentoring to investigate whether the mentors were experiencing reciprocal BPN satisfaction. All mentors completed the BNSIRQ independently and immediately after these mentoring sessions in a quiet room.

5. Individual Exit Interviews

I interviewed all participating mentors and mentees after the mentoring program. Mentors were asked to respond to a set of questions designed to capture their perceptions of the mentoring program and experiences while acting as a peer mentor (see Appendix F). Mentees were asked to respond to a set of similar questions designed to assess how their mentor influenced them and what they learned through participating in a cross-age peer-mentoring program (see Appendix G). Prior to conducting these interviews, I explained to participants that I was a student myself who was interested in understanding how cross-age peer-mentoring influences children and youth. I explained to the participants that there were no right or wrong answers and that they were the experts on cross-age peer mentoring in their program (i.e., I would like to learn about

the process from them). Interviews were conducted in a quiet room on the grounds of the after-school program.

6. Executive Director and Classroom Teacher Questionnaires

The ED of the music program and the teacher of the mentoring class provided background information about each participant in a questionnaire (see Appendices H and I). The ED provided demographic and other information after participants were recruited and before the mentoring program began, which helped me to understand who the participants were and why the ED had chosen them to act as mentors or mentees. The classroom teacher provided information, from their perspective, about the development of mentors and mentees during the program, and how they perceived the mentors and mentees benefitted from the program once it was completed. I originally planned to interview the ED and classroom teacher to gather this information, but due to both of their availabilities, the interview questions were provided in a questionnaire format and were returned to me via e-mail in a password protected document.

Instructional Materials

In my study, various instructional materials were used prior to the mentoring program, and throughout the mentoring program, to help prepare mentors to support their mentees BPNs. Each of these instructional materials is now presented in chronological order.

1. “Mentoring Program Overview” Handout

This handout was designed to introduce mentors and mentees to the mentoring program and make them aware of the goals, expectations and commitments of the program. In brief, this handout detailed the purpose of the mentoring program, its time commitments, and the measures participants would be asked to complete (see Appendix J). This handout was created to fulfill the

recommended best practice of providing participants with expectations about the amount and frequency of contact between mentors and mentees (DuBois et al., 2002).

2. “Who Is My Mentor?” Handout

This handout was designed to have mentors think about some of the mentors they may have had, or currently have in their lives (see Appendix K). To help mentors complete this handout, I provided them with an example of a mentor that I previously had in my life. On this handout, I detailed: (1) who my mentor was; (2) what they did for me; (3) how they made me feel; and (4) three words that describe them.

3. “What is a Mentor?” Handout

This handout was designed to highlight the behaviours and attitudes that a mentor should adopt and avoid (see Appendix L). Mentors were asked to respond as a group to several question prompts (e.g., A mentor is... A mentor is not... A mentor provides... A mentor does not provide...). During this exercise, mentors were encouraged to draw on their answers from their “Who Is My Mentor” Handout.

5. “Autonomy, Belonging, and Competence” Handout

This handout asked mentors to work independently to generate definitions for the three basic needs using their own vocabularies (see Appendix M). Specifically, mentors were asked to respond in writing to three questions asking them to define what “Autonomy is... Belonging is ... and Competence is...” After working on this task independently, mentors were asked to share their ideas during a group discussion.

6. “ABC in Action” Handout

This handout was designed to have mentors think about how they could promote the three BPN’s while interacting with their mentees. To accomplish this, I created three mentoring

scenarios (shown in Appendix N) in which mentees were experiencing some type of difficulty and needed support. Mentors were asked to read these scenarios and brainstorm ways they might support their mentees' needs for autonomy, belonging, and competence while solving the problem described in the scenario.

7. ABC Companion

The ABC Companion was a resource that served as a reference to the three BPN's (i.e., Autonomy, Belonging, and Competence, the "ABCs") and provided mentors with "Go-To-Strategies" and "Go-To-Statements" designed to help promote each BPN (see Appendix O). The ABC Companion accompanied each mentor during their interactions with their mentee to help them support their mentees BPN's. I kept the ABC Companions in the classroom to ensure that mentors had one during every mentoring session.

4. Mentor Contract

The mentor contract was designed to formalize my orientation and preparatory procedures and make mentors aware of the commitment they were about to make as mentors (see Appendix P). The contract detailed the requirements and responsibilities of each mentor and detailed what they could expect in the way of support from me, the ED, and the classroom teacher.

8. Mentor Support Meeting Templates

Following DuBois et al.'s (2002) recommendations, I provided mentors with ongoing support and skill-building opportunities throughout the mentoring program. To adhere to this best practice, I conducted two mentor support meetings. These meetings were designed to help mentors reflect upon their relationships with their mentees and think about the various ways in which they were attempting to support the autonomy, belonging and competence of their mentee.

Mentor templates asked mentors to respond to four questions designed to elicit information regarding: (1) how they attempted to support the BPN's of their mentees (*What Did You Try?*); (2) what strategies worked well, or didn't work well (*What Happened?*); (3) what they learned from their experiences during previous mentoring sessions (*What Did You Learn?*); and (4) what they would try in upcoming mentoring sessions (*What Will You Try?*) (see Appendix P). These two meetings were held after the fourth and eighth mentoring sessions, respectively.

9. Mentee Support Meetings

Mentee support meetings were designed to clarify and elaborate data collected from the adapted version of mentee weekly logs (i.e., Mentee Weekly Log #2 – BPN Satisfaction). Mentee support meetings began in Week 7 and were designed to elicit more extended explanations from each mentee about their mentoring experiences and how they perceived their mentors were supporting their BPNs during mentoring sessions. Mentee support meetings were conducted immediately after mentoring sessions in a separate room. First, mentees were given time to complete their weekly logs. Then mentees met as a group with me. I began each meeting by inviting mentees to share their responses (happy face, neutral face, or sad face) for each log question (reflecting their sense of autonomy, belonging, and competence) and provide an explanation for their responses.

Procedures

In my study, research procedures involved preparing mentors to support the BPNs of their mentees, collecting data during and after mentoring sessions from both mentors and mentees, and conducting mentor and mentee support meetings. A chronological overview of the research activities is presented in Table 2.

Table 2
Overview of Research Activities in Chronological Order

Research Activities:	Data Collected:
Mentor Skill-Building Sessions	N/A
Social Outing #1	ED Questionnaire
Mentoring Session #1	Weekly Logs and Dyadic Audio Recordings
Mentoring Session #2	Weekly Logs and Dyadic Audio Recordings
Mentoring Session #3	Weekly Logs and Dyadic Audio Recordings
Mentoring Session #4	Weekly Logs and Dyadic Audio Recordings
Mentor Support Meeting #1	Mentor Support Meeting Templates
Mentoring Session #5	Weekly Logs and Dyadic Audio Recordings
Mentoring Session #6	Mentor Self-Report Questionnaire (BNSIRQ)
Mentoring Session #7	Weekly Logs and Dyadic Audio Recordings
Mentee Support Meeting #1	Mentee Weekly Logs #2 (BPN Satisfaction)
Mentoring Session #8	Weekly Logs and Dyadic Audio Recordings
Mentor Support Meeting #2	Mentor Support Meeting Templates
Mentee Support Meeting #2	Mentee Weekly Logs #2 (BPN Satisfaction)
Mentoring Session #9	Weekly Logs and Dyadic Audio Recordings
Mentee Support Meeting #3	Mentee Weekly Logs #2 (BPN Satisfaction)
Mentoring Session #10	Weekly Logs, Dyadic Audio Recordings, and Mentor Self-Report Questionnaire (BNSIRQ)
Mentee Support Meeting #4	Mentee Weekly Logs #2 (BPN Satisfaction)
Spring Recital Performance	Mentor and Mentee Exit Interviews, Teacher Questionnaire

Mentor Skill-Building Session #1

After participant recruitment and orientation, I conducted two 1-hour skill-building sessions with mentors on the grounds of the after-school music program. The first session was designed to introduce mentors to the concept of mentoring, identify healthy mentoring behaviours, and make them aware of the goals and expectations of the program, as well as the commitment required of them. To accomplish these goals, I provided mentors with the “Mentoring Program Overview” handout. After allowing mentors to discuss this handout with one another and ask me any questions they had, I moved onto the first exercise of the session.

Activity 1: Who Is My Mentor?

In this activity, mentors individually completed their “Who Is My Mentor?” handouts. After reading my example aloud to the group, I asked mentors to share their responses so that we could engage in a conversation about what a mentor is, what their role is, and how they make people feel. As an example, during this exercise, one mentor identified their elementary school teacher as a mentor in their life. The mentor stated that this teacher “taught me how to count, read, [and] write” and “showed me friendship, teamwork, [and] fair play.” This same mentor reported that their elementary teacher made them feel “calm” and “trustworthy” and described their teacher as “nice, smart [and] understanding.” Once all mentors had completed this exercise, we used their various responses to complete the second activity of this skill-building session as a group.

Activity 2: What Is a Mentor?

In this second activity, mentors completed the “What Is a Mentor?” handout as a group. During this activity, mentors reported that a mentor is “determined, loving, hardworking, creative, kind, [a] leader, passionate, dedicated, funny, nice, smart, understanding, [and]

responsible.” Mentors also reported that a mentor is not “a bully, a boss, a dictator, a one-women show, [or] a poor sport.” Mentors then discussed that a mentor provides “support and encouragement, patience, friendship, lessons about school and life, [and] invitations to events.” Finally, mentors discussed that a mentor does not provide “criticism, judgment, poor friendship, [or] directions.” Once this activity had been completed, mentors were asked to read and sign their Mentor Contracts, which concluded the first skill-building session.

Mentor Skill-Building Session #2

The second skill-building session was conducted a week later and was designed to introduce mentors to concepts from SDT and promote an approach to mentoring that was oriented towards the satisfaction of mentees’ BPN’s. This session engaged mentors in collaboratively generating vocabulary to define the BPNs. Mentors were also provided with opportunities to practice supporting each BPN through various role-playing situations.

Activity 1: Defining Autonomy, Belonging and Competence

To begin the second skill-building session, mentors worked together to create the ABC Companion. First, I asked mentors to independently generate definitions for the three basic needs using their “Autonomy, Belonging, and Competence” handout. After working independently, mentors were asked to share their ideas in a group discussion and come to a consensus on a single definition for each BPN. Mentors created the following definitions for each BPN: (1) “Autonomy is ... when someone feels self-reliant and independent;” (2) “Belonging is... when someone feels welcomed, loved, and accepted;” and (3) “Competence is... when someone feels effective and that they understand what they are doing.” Based on the SDT literature (Ryan & Deci, 2017), I clarified that autonomy is not synonymous with independence, but rather stems from a sense of choice and voluntariness in one’s actions. After discussing this as a group, the

mentors refined their definition for Autonomy: “Autonomy is... when someone feels acknowledged and in-control of what they do.” I used these mentor-generated definitions to fill in the “What Is It?” section of the ABC Companion. This section served as a reference point for each mentor if they forgot the definition and/or meaning of a certain BPN during mentoring sessions. These definitions were also written on a white-board for all mentors to see during the second activity in this skill-building session.

Activity 2: Role-Playing Scenarios

In this second activity, mentors were asked to think about how they could promote the three BPN’s while interacting with their mentees. To accomplish this, mentors completed their “ABC in Action” handouts. Mentors were given ten minutes to read and report, in written form, how they would address these various scenarios (shown in Appendix Q). Mentors could read and respond to whichever scenario(s) they wished to answer. Mentors were asked to write down any *strategies* or *statements* they thought would help support their mentee. To give the reader a sense of how the ABC Companion was created by mentors, I present examples from one scenario for each BPN.

Autonomy Support: Scenario #1

In this scenario, mentors were asked to support the autonomy of a nervous mentee by helping them decide which song they wanted to learn. To support the autonomy of their mentee in this scenario, mentors reported the following *strategies*: “Ask about some of their ideas,” and “ask them what songs and parts they want to do instead of choosing everything.” Additionally, mentors reported the following *statements*: “Do you have anything you want to try/learn?” and “That’s an awesome idea! ... what else should we do?”

These strategies aligned well with the existing literature on SDT and the ways in which

contexts and social partners can be autonomy supportive. Specifically, mentors reported that they would attempt to support their mentees' needs for autonomy by: (1) acknowledging their perspective (i.e., "Ask about some of their ideas", "That's an awesome idea!"); and (2) involving them in the decision-making process (i.e., "ask them what songs and parts they want to do instead of choosing everything", "what else should we do?", "Do you have anything you want to try/learn?"). These are two commonly cited strategies for supporting an individual's need for autonomy (Deci et al., 2006; Patall, Dent & Oyer, 2013). Using these responses, I informed mentors that their strategies aligned with the existing literature on SDT and wrote these two strategies (i.e., "Acknowledge your mentee's perspective" and "Involve your mentee in the decision-making process") under the "Go-To-Strategies" section on our rough draft of the ABC Companion. I also wrote their responses on the ABC Companion if they were in the form of statements. These responses were used to complete the "Go-To-Statements" section of the ABC Companion.

Belonging Support: Scenario #1

To support the belonging of their mentee in this scenario, mentors reported the following *strategies*: "Tell your mentee some things about yourself so they can see that you are opening up to them", and "Try to make them feel welcome." Mentors also generated *statements* that reflected these strategies: "I am so happy I'm your mentor", "You have improved so much since last week!" and "You're getting the hang of this!". Noticing some confusion between belonging support and competence support, I addressed this issue by asking mentors to think about each need and the difference between them. After discussing this issue, mentors agreed that "You're getting the hang of this" and "You have improved so much since last week" were more appropriate for competence-support strategies and statements. Mentors reported wanting to make

their mentee feel “welcomed, loved and accepted” by stating how well the mentee was performing during their session. I informed mentors that this was a well-intentioned and appropriate strategy, although we should label them as competence-support strategies, rather than belonging-support strategies.

Using these responses, I wrote some of the strategies and statements on our rough copy of the ABC Companion. Specifically, I wrote down “I am so happy I’m your mentor” under the “Go-To-Statements” section and “Tell your mentee something about yourself” under the “Go-To-Strategies” section of the ABC Companion. Upon reviewing these responses, I again informed mentors that these strategies were in alignment with the existing literature on SDT and the ways in which contexts and social partners can be belonging-supportive (Ryan et al., 2016).

Competence Support: Scenario #1

To reiterate, all mentors decided to respond to the first scenario, which was a situation where they were meeting their mentee for the first time and their mentee was nervous. To support the competence of their mentee in this scenario, mentors reported the following *strategies*: “Identify their strengths” and “Even if they’re being quiet, tell them it’s great that they are here and you’re excited to work with them.” I again used this instance to help mentors differentiate between competence support and belonging support. Mentors also reported the following competence-supporting *statements*: “Thanks for trying so hard, we’re really going places”, “Don’t be afraid to make mistakes” and “Do you have any questions or anything you don’t understand?” Upon reviewing these responses, I informed mentors that their strategies and statements aligned with the existing literature on SDT and research on competence-support. Specifically, I informed mentors about the importance of effort-focused feedback and its ability to help support growth mindsets in individuals (Dweck, 2000). I then briefly discussed Droe’s

(2012) study and the beneficial impact of effort-focused feedback on grade four students learning simple rhythms. I then wrote the strategy “Identify your mentees strengths” under the “Go-To-Strategies” section on our rough draft of the ABC Companion.

Creation of ABC Companion

After the second mentor skill-building session, mentors had created their ABC Companions. The ABC Companion accompanied each mentor during their interactions with their mentee to help them support their mentees BPN’s. As previously stated, I kept the ABC Companions in the classroom to ensure that mentors had one during every mentoring session.

Social Outing #1

Before beginning the mentoring program, proper, the ED and I took mentors and mentees to a local pizza and board game restaurant. The purpose of this event was to have mentors and mentees become acquainted with one another in a fun environment. These opportunities to socialize outside of the mentoring context are recommended in the mentoring literature as research indicates that engaging in social activities is strongly associated with mentee self-reports of relationship quality and closeness (Karcher, 2005; Herrera et al., 2000). During this event, mentors were asked to sit beside their mentees and engage in conversation with them while playing board games.

Mentoring Sessions

During the first five mentoring sessions, the teacher asked mentors to simply get to know their mentees while teaching them simple chords and notes on their respective instruments. Mentors were also tasked with teaching their mentees simple beginner songs on their instruments and how to take care of their instruments at home. Mentoring sessions often began with the teacher asking dyads to find a quiet spot in the classroom or in the hall to work together. After

approximately 30-45 minutes of working time, the teacher often asked mentors and mentees to report back to the larger group and either explain or play what they learned together.

During the sixth mentoring session, when all mentees were absent due to a Spring Festival at their school, the teacher tasked mentors with co-composing a short rhythm. He explained that they would teach this rhythm to their mentees and it would be recorded on the last day of the mentoring program. To accomplish this goal, three mentors who played the violin composed a rhythm together. Then, the mentors who played cello and piano composed additional rhythms to complement the violins. During the next two mentoring sessions (mentoring sessions 7 and 8), mentors helped their mentees (working in individual dyads) to learn the rhythms they created while looking for opportunities for mentees to contribute to each rhythm.

Then, during the ninth mentoring session, dyads worked together to integrate their complementary rhythms and finalize the composition. This was accomplished by repeatedly playing as a group until each member felt comfortable with the composition. On the last day of class, a professional recording company recorded the song that the mentoring class created together. During this mentoring session, mentees also decided on a name for their band, the cover art for their album, and the title of their first debut song, “Spring Paradise.” Mentors and mentees performed Spring Paradise for their parents, friends, and community members during the after-school program’s Spring Recital the following week.

Mentor Support Meetings

Once the mentoring sessions began, I conducted two support meetings with all participating mentors. These meetings were designed to help mentors reflect upon their relationships with their mentees and think about the various ways in which they were attempting to support the autonomy, belonging and competence of their mentee. These meetings were held

after the fourth and eighth mentoring sessions, respectively. To begin each meeting, I provided each mentor with the weekly logs that they each completed during the previous four mentoring sessions. This allowed mentors the opportunity to reflect upon how they had attempted to support the BPN's of their mentee's in previous sessions, rather than attempting to reconstruct what they said and/or did in each session. Using this information, mentors were then asked to complete their templates (shown in Appendix Q). These meetings began immediately after mentoring sessions and were limited to 15 minutes so mentors could attend their next class at the after-school music program.

Mentee Support Meetings

I conducted four support meetings with all participating mentees. As previously stated, these meetings were designed to elicit more extended explanations from each mentee about their mentoring experiences and how they perceived their BPNs were being supported by their mentors during mentoring sessions. These meetings began after mentoring sessions and lasted approximately ten minutes. All mentee support meetings were audio recorded for later transcription and analyses.

Social Outing #2

Approximately two weeks after the mentoring program ended, the ED and I took the mentors and mentees to a high-ropes course and botanical garden. The purpose of this event was to help maintain the friendships that mentors and mentees formed during the mentoring program.

Data Analysis

In this final section, I detail how the various measures were analyzed within my study. I begin first by discussing how I analyzed my data using a method of Provisional and In-vivo coding. I then discuss how I analyzed weekly logs and self-report questionnaires using

descriptive statistics (Table 3 provides an overview of my data analysis. Figure 1 presents a flow-chart depicting my analysis process).

Table 3
Data Analysis Overview

<u>Research Question:</u>	<u>Data Sources:</u>	<u>Coding Methods:</u>
1. How did mentors support the basic psychological needs of their mentees?	Dyadic Audio Recordings	(1) Provisional
	Mentor Weekly Logs	(2) In-Vivo
	Mentor Support Meeting Templates	
2. Did mentees experience the satisfaction of their basic psychological needs?	Mentee Weekly Logs #2 (BPN Satisfaction)	(1) Provisional
	Mentee Exit Interviews	(2) In-Vivo
	Audio Recordings of Mentee Support Meetings	(3) Descriptive Statistics
3. Did mentors experience the reciprocal satisfaction of their basic psychological needs?	Mentor Weekly Logs	(1) Provisional
	Mentor Exit Interviews	(2) In-Vivo
	Mentor Self-Report Questionnaire (BNSIRQ)	(3) Descriptive Statistics
4. Did mentors and mentees experience happiness and satisfaction in their relationships?	Mentor Weekly Logs	(1) Provisional
	Mentee Weekly Logs #1 (Relational Happiness and Satisfaction)	(2) In-Vivo
		(3) Descriptive Statistics

Coding Method #1: Provisional Coding

Provisional coding is a deductive technique for analyzing qualitative data that requires the researcher to generate a predetermined list of codes prior to engaging in iterative cycles of coding and analyses (Saldana, 2009). This list of predetermined codes is often developed from

the theoretical framework and research questions of the study and is used to search for explanations within the data set (Saldana, 2009). I generated a list of provisional codes to be explored in my data that pertain to each BPN and how they can be supported in sociocultural contexts (see Table 4). These predetermined codes reflected my interests in identifying how mentors supported these needs during mentoring sessions (research question 1), whether mentees and mentors experienced the satisfaction of their BPN's (research questions 2 and 3), and whether mentors and mentees attributed their relational happiness and satisfaction to their BPN's (research question 4).

I implemented a provisional coding method, using my list of predetermined codes, during my *first cycle of coding* to collate data excerpts that exemplified: (1) mentor-initiated support for their mentees BPN's (research question 1); (2) mentee experiences of BPN satisfaction (research question 2); (3) mentor experiences of BPN satisfaction (research question 3); and (4) participant experiences of relational happiness and satisfaction due to support for their BPN's (research question 4). Through this first cycle of provisional coding, I created a collection of data excerpts pertaining to each BPN within each of my research questions. In other words, once this procedure was accomplished, I had a Microsoft Word document with four headings for each research question and three sub-headings for each BPN, with supporting data excerpts. Once I had collated all relevant data excerpts for my research questions, I began analyzing the collated sections of data using the in-vivo coding method.

Table 4
Operational Definitions of Provisional Codes

Provisional Code:	Operational Definition:
<i>(1) Autonomy</i>	Frequency of instances where participants reflected on and/or reported feeling a sense of control over their thoughts and actions and/or feelings of voluntariness and self-endorsement (Ryan & Deci, 2017)
<i>Involved Mentee in Decision Making Process</i>	Frequency of questions or instances where mentors invited their mentees to participate in the decision-making process (Ryan & Deci, 2017; Reeve, 2005; Reeve & Jang, 2006)
<i>Acknowledged Mentees Perspectives</i>	Frequency of questions or statements where mentors inquired about their mentees feelings, opinions, or perspectives during mentoring sessions (Ryan & Deci, 2017; Reeve, 2005; Reeve & Jang, 2006)
<i>Provided Choices</i>	Frequency of questions or instances where mentors offered their mentees a choice during mentoring sessions (Ryan & Deci, 2017; Reeve, 2005; Reeve & Jang, 2006)
<i>Provided Rationales for Decisions</i>	Frequency of instances where mentors provided their mentees with a rationale or explanation for the decisions they made during mentoring sessions (Ryan & Deci, 2017; Reeve, 2005; Reeve & Jang, 2006)
<i>(2) Belonging</i>	Frequency of instances where participants reflected on and/or reported feeling accepted and connected with others and/or feeling like an important or integral part of a group (Ryan & Deci, 2017)
<i>Made Personal Disclosures</i>	Frequency of statements where mentors told their mentees something about themselves during mentoring sessions (Ryan et al., 2016; Reis & Shaver, 1988)

<u>Provisional Code:</u>	<u>Operational Definition:</u>
<i>Demonstrated Personal Interest</i>	Frequency of instances where a mentor asked about a mentees day at school or life in general (Ryan et al., 2016; Reis & Shaver, 1988)
(3) Competence	Frequency of instances where participants reflected on and/or reported feeling a sense of effectiveness and/or the expansion of their skills (Ryan & Deci, 2017)
<i>Gave Effort-Focused Feedback</i>	Frequency of statements where mentors commented on their mentee's effort, practice, and improvement during mentoring sessions (Dweck, 2000; Reeve & Jang, 2006)
<i>Gave Encouraging Feedback</i>	Frequency of statements where mentors commented on and encouraged their mentees successful outcomes during mentoring sessions, such as "Good job!" (Dweck, 2000; Reeve & Jang, 2006)
<i>Accepted Mistakes</i>	Frequency of statements where mentors accepted the mistakes of their mentees in a warm and supportive manner (Dweck, 2000; Reeve & Jang, 2006)

Note: References indicate where operational definitions were sourced.

Coding Method #2: In-Vivo Coding

The in-vivo coding method focuses on the specific language and words that participants use within the data set (Saldana & Omasta, 2017). In-vivo coding allows researchers to illuminate and code the various words and terms that participants use in their natural everyday lives, as opposed to the professional terms and words of academic disciplines (Saldana & Omasta, 2017). In-vivo coding has been particularly useful in studies that prioritize the voice of participants (i.e., inductive coding) and within educational research with youth (Saldana &

Omasta, 2017). In-vivo coding was selected for my study as I intended to explore the experiences of both mentees and mentors during mentoring sessions and honour their voices.

I used in-vivo coding to present the reader with original data excerpts that speak to each of my four research questions. These codes, or raw data extracts, are presented through a method of *triangulation*. Triangulation is a strategy researchers use to enhance the validity and reliability of their findings by collecting data from multiple data sources (Mathison, 1988). To achieve a sense of triangulation in my data, I present the reader with various forms of data while reporting on each of my research questions (see Table 4). In summary, in-vivo coding complements the provisional coding method by highlighting what participants said in relation to my predetermined list of codes. Using this hybrid of coding methods, I could first filter my data to focus on my research questions (provisional coding), and then allow participants experiences, in their own words, to be heard and analyzed within the filtered data (in-vivo coding).

Finally, it is important to note that while collating and analyzing data extracts that exemplified *BPN support and/or satisfaction*, I also collated and analyzed data extracts believed to be inconsistent with tactics and strategies for supporting each BPN. That is, I used provisional and in-vivo coding to identify data that pertained to BPN satisfaction in *general*, without discriminating between positive and negative examples.

Descriptive Statistics: Mentee and Mentor BPN Satisfaction

Means and standard deviations were also used to analyze mentee weekly logs and mentor self-report questionnaires, in relation to BPN satisfaction. A composite score of mentee BPN satisfaction was calculated by averaging mentee responses (sad face = 1, neutral face = 2, happy face = 3) across all mentoring sessions for each BPN. A composite score of mentor BPN satisfaction was computed by generating the mean rating of items (3-point scale for each BPN)

in each respective sub-scale of the BNSIRQ (some items are reverse-coded). Higher scores were indicative of higher levels of BPN satisfaction within mentor-mentee relationship.

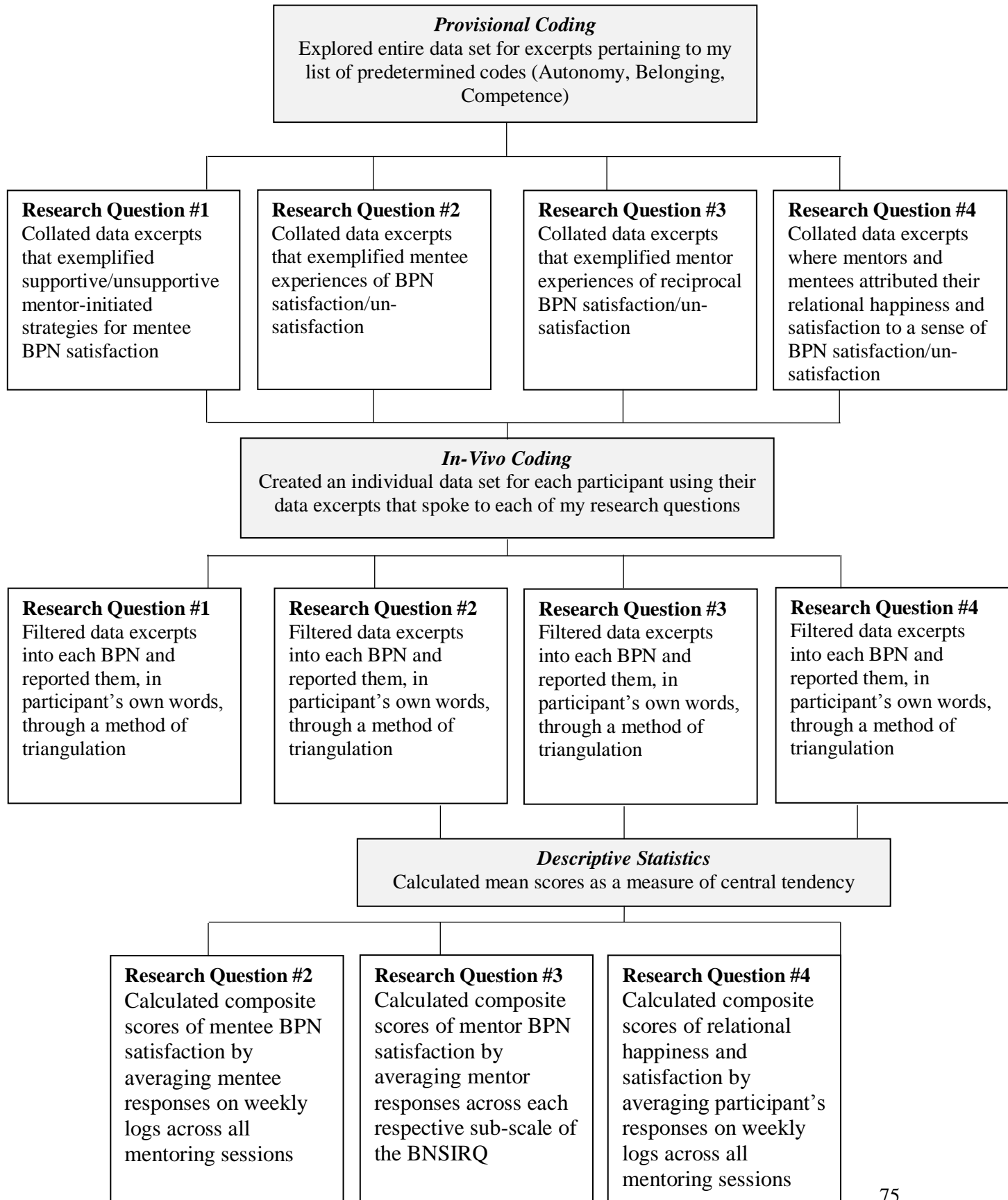
Descriptive Statistics: Relationship Happiness and Satisfaction

Means and standard deviations were also used to analyze mentor and mentee weekly logs. A composite score of relational happiness and satisfaction was calculated by averaging participant's responses across all mentoring sessions.

Figure 1
Flow Chart of Data Analysis

First Cycle Coding

Second Cycle Coding



Chapter Three: Results

My results chapter is organized in five sections. The first section presents case descriptions of participants in each mentoring dyad. Sections 2-5 present the results of the study in relation to each research question. Section 2 examines how mentors supported their mentees' BPNs during mentoring sessions (research question #1). Section 3 examines whether mentors' support satisfied their mentees BPNs (research question #2). Section 4 explores whether mentors experienced the reciprocal satisfaction of their BPNs (research question #3). Finally, Section 5 examines the extent to which mentors and mentees experienced happiness and satisfaction in their relationships (research question #4) and whether these feelings were associated with their BPN satisfaction in the mentoring program.

Section 1: The Cases

Dyad A: Stella and Samantha (Violin)

Stella

Stella was an 18-year-old mentor in grade 12, making her the oldest mentor in the program. Stella identified as Canadian, German, and Greek. When asked to detail what they knew about Stella, the ED (hereafter referred to as "Hannah") replied that Stella was a "long-time student at the after-school program." Hannah explained that she invited Stella to become a mentor because "she is a talented musician and, as a long-time student, it is good for her to have an opportunity to give back to the community by encouraging and supporting newer students." Hannah described Stella as a "kind, confident, and charismatic" young woman with a "passion for music and an ability to make others feel comfortable and confident."

After interacting with Stella on a weekly basis for three months, the teacher (hereafter referred to as "Henry"), offered the following to describe her strengths: "very natural leader,

excellent communicator, exceptional attitude (positive), has capacity to lead a group, always has ideas/solutions to problems, very inclusive with all mentees, [and] a very talented singer and violinist.” When asked to list the first three words or phrases that come to mind while thinking about Stella, Henry responded, “welcoming, a motivator, [and] solid.”

Samantha

Samantha, Stella’s mentee, was ten-years-old at the time of the study and in Grade 5. Hannah provided that Samantha was an “Indigenous girl ... from a single mother-led home [who] lives in transitional housing” and that her “Mom is struggling to support her family because of addiction.” Hannah invited Samantha to participate in the mentoring program “to support her and her family and to help her become a part of the community at the after-school program.” Furthermore, Hannah felt the mentoring program would help Samantha “find her own creativity and strength.”

When asked to describe what strengths he saw in Samantha, Henry volunteered, “she has a very positive attitude and is always eager to try new things. She is open minded and brings a wonderful dynamic/energy/spice to the group.” Henry further described Samantha as “very imaginative, peaceful, and up for anything.”

Dyad B: Bella and Brittney (Violin)

Bella

Bella was a mentor who, at the time of the study, was in Grade 11 and was 15-years-old, making her the second oldest mentor in the program. Bella identified as Canadian, Irish, and Scottish. Hannah described Bella as a “long-time student at the after-school program” who was invited to be a mentor due to her “obvious skills in welcoming new people and being a friend.” Hannah further described Bella as “sensitive and caring” with “a passion for music, a sense of

humour, [and] a strong commitment to community life and supporting other children and youth in crisis.”

After teaching Bella for three months, Henry offered the following to describe her strengths: “Great patience and confidence with her mentee and in a teaching role. Gets-the-job-done kind of attitude and musically very strong.” Henry further described Bella as “reliable, decisive, [and] easy to work with.”

Brittney

Brittney was Bella’s mentee. She was ten-years-old at the time of the study and in Grade 5. Hannah informed me that Brittney was an Indigenous young girl from “a single mother-led home [whose] Mom is struggling to support her family because of addiction.” Hannah invited Brittney to participate as a mentee “to support her and her family and to help her become a part of the community at the after-school program.”

Henry described Brittney as a “strong negotiator [who is] very determined and confident expressing her thoughts.” Henry further described Brittney as “authoritative, team supportive, and cheeky.”

Dyad C: Coralline and Catharine (Cello)

Coralline

Coralline was 16-years-old and in Grade 11 at the time of the study. She is Indigenous. When asked to detail what they knew about Coralline, Hannah replied, “[Coralline] is a quiet but strong girl who is stable, committed, and [someone who] carefully pursues her goals. She grew up with her older sisters raising her.” Coralline was invited to be a mentor because “she is a young Indigenous girl who shows leadership and strength and will be a great role model for the new young Indigenous girls entering this program.” Hannah also believed that through her

participation, Coralline “will learn to extend herself even though she is timid and will hone her leadership skills.” Hannah further described Coralline as “patient, consistent, [and] resilient.”

After interacting with Coralline for three months, Henry described her strengths this way: “follows instructions well, excellent team supporter, brings balance to a group and adds input only when she feels it’s needed.” When asked to list the first three words or phrases that come to mind while thinking about Coralline, Henry responded “reliable, punctual, [and] supportive.”

Catharine

Catharine, Coralline’s mentee, was 12-years-old at the time of the study and in Grade 6. Hannah informed me that Catharine is Indigenous. Hannah also provided that she did not know much about Catharine. Hannah stated, “I know nothing about [Catharine] except that she is in foster care and was keen to join the after-school program.” Hannah invited Catharine to participate as a mentee in the mentoring program “to support her and help her to become a part of the community at the after-school program.”

After having Catharine as a student in his classroom for three-months, Henry offered the following to describe her strengths: “very happy-go-lucky attitude, rolls with the flow, has lots of creative ideas, [and] is comfortable voicing her thoughts.” Henry further described Catharine as “positive, energetic, [and] aware of others.”

Dyad D: Danielle and Dakota (Guitar/Piano/Violin)

Danielle

At the time of the study, Danielle was 14-years-old and in Grade 10, making her the youngest mentor in the program. Danielle identified as Canadian, Irish, and Scottish. When asked to describe what she knew about Danielle, Hannah replied that “[Danielle] has struggled with feeling low and anxious. She is a very gifted musician and very committed to her life at the

after-school music program.” Hannah invited Danielle to become a mentor “to encourage her to step out of her own struggles and support other children who may struggle with similar issues.” Hannah further explained that Danielle was invited to become a mentor “to build her confidence and help her see that she has so many qualities to share [and] develop the ability to be self-directed.” Hannah further described Danielle as “inquisitive, anxious, [and] capable.”

After teaching Danielle, Henry offered the following to describe her strengths: “very strong at solving problems and figuring out alternatives” and that she “has [the] capacity to be a strong teacher, but [her] attitude and tone sometimes impacts her delivery.” Henry further described Danielle as “creative, improvisational, and headstrong.”

Dakota

Dakota, Danielle’s mentee, was nine-years-old at the time of the study and in Grade 5. Hannah informed me that Dakota was an “Indigenous [young girl] ... being raised by a single father [because] her mom is gravely ill.” Hannah invited Dakota to participate as a mentee in the mentoring program to “support her and her family and to help her become a part of the community of the after-school program.” Hannah further explained that she hoped the mentoring program would help Dakota “find her own creativity and strength.”

Henry described Dakota as a “perfectionist” who is “independent [and] very driven once she feels she is good at what she is doing.” Henry also described Dakota as being “very insightful, [with] an amazing ear for music.” When asked to list the first three words or phrases that come to mind while thinking about Dakota, Henry responded “sensitive, unpredictable, [and] curious.”

Dyad E: Erica and Elise (Violin)

Erica

Erica was a 15-year-old mentor in Grade 10 who identified as Chinese and Canadian. Hannah described Erica as “quiet but steady and quite musically gifted. She is probably not aware of her skills.” Hannah invited Erica to be a mentor because “[Erica] has so much to give and offer a younger child; her strength in academic life, and her skill in music.” Hannah further described Erica as “bright, capable, [and] grounded.”

After interacting with Erica during the mentoring program, Henry described her as “reliable, shy, [and] consistent [with] solid musical abilities.” Henry further described Erica as “always [the] first one to show up [and] someone you can count on.”

Elise

Elise was Erica’s mentee. She was eight-years-old at the time of the study and in Grade 4. Hannah informed me that Elise was Indigenous and provided that Elise was “... outgoing and keen to learn new things [and] has a strong and involved mom in her life.” Hannah invited Elise to participate as a mentee in the mentoring program to “support her and her family and to help her become a part of the community at the after-school program.”

When asked to describe what strengths he saw in Elise, Henry listed: “humour/creativity, [and] a passion for improving her skills.” Henry further described Elise as “silly, comedic, [and] laid back.”

Section 2: Mentor BPN Support

Data collected from audio recordings of the mentoring sessions, mentors’ weekly logs, mentor support meeting templates, and mentor exit interviews were used to address my first research question: How did mentors support the basic psychological needs of their mentees?

Table 5 summarizes mentors' efforts across time and dyads, using data from audio recordings of mentoring sessions.

Table 5

Mentor Support for Autonomy, Belonging, and Competence Across Mentoring Sessions

<u>Support Strategies</u>	<u>Dyad A</u> (N = 4)				<u>Dyad B</u> (N = 4)				<u>Dyad C</u> (N = 3)			<u>Dyad E</u> (N = 3)			
Autonomy Support															
Involved Mentee in Decision Making Process	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓
Acknowledged Mentees Perspective	✓	✓	✓	✓									✓	✓	✓
Provided Choices		✓			✓		✓		✓				✓		✓
Provided Rationales for Decisions			✓	✓											
Belonging Support															
Demonstrated Personal Interest	✓	✓		✓	✓	✓			✓	✓	✓		✓	✓	✓
Made Personal Disclosures	✓	✓			✓				✓				✓		✓
Competence Support															
Gave Effort-Focused Feedback	✓	✓		✓		✓	✓		✓				✓	✓	✓
Gave Encouraging Feedback	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Accepted Mistakes		✓	✓			✓									

Note: N indicates the number of times each dyad was audio recorded during the mentoring program.

Table 5 indicates high-school aged mentors were capable of using language and practices associated with BPN support. Some mentors appeared more adept and reported a higher level of comfort in supporting their mentee's BPN's. Mentors also reported that their support was influenced by the classroom context (i.e., the tasks they were assigned) and by personal characteristics of their mentees (e.g., shyness/learning interests).

Mentors supported mentees' autonomy by *involving them in the decision-making process, acknowledging their perspectives*, and providing them with *choices and rationales for their* (the mentors') *decisions*. All mentors reported that it was sometimes difficult to support the autonomy of their mentee during mentoring sessions. Three mentors (Stella, Bella and Erica) were challenged to balance their support for autonomy with the structure they felt they needed to provide to complete their assigned tasks. This was particularly true once the dyads began working on the composition for recording. Of the remaining two mentors, Coralline felt challenged to support her mentees autonomy due to characteristics of the mentoring program (i.e., she felt unprepared to support autonomy and teach her instrument at the same time) and her mentees personal interests (i.e., she wanted to learn advanced songs she was not capable of learning). Danielle also reported challenges to support autonomy due to the personal characteristics and interests of her mentee (i.e., she wanted to learn an instrument Danielle was not capable of teaching).

Mentors supported mentees' belonging by showing *personal interest* in the mentees' school days and weekends (i.e., things they did away from the music academy). Mentors also told their mentees about themselves (i.e., *made personal disclosures*) to support a sense of connectedness within their relationships, although they used this strategy less frequently. Four of the mentors (Stella, Coralline, Danielle and Erica) reported an initial sense of challenge to

establish a sense of belonging and connection in their relationships. They described how their mentees were initially shy and withdrawn, making it difficult to establish rapport. Over time, however, these four mentors indicated that by demonstrating a personal interest in their mentee and asking about their days at school, they were successful at “breaking-the-ice” and developing a sense of belonging with their mentee. Conversely, the fifth mentor (Bella) felt that a sense of belonging was easy to support as their mentee was often outgoing and eager to engage in conversations with them during mentoring sessions.

To support their mentees’ competence, mentors mainly provided their mentees with *encouragement* after successful performances and outcomes (e.g., “Awesome!” and “Good Job!”). Mentors also commented on their mentees’ effort, whether and how they practiced, and *accepted their mistakes*, although they engaged in these forms of *effort-focused feedback* less frequently. All mentors felt that competence was the easiest BPN to support as their mentees were eager to learn during mentoring sessions. Despite this reported ease, results indicate that mentors struggled to support their mentees competence. Specifically, mentors often provided their mentees with encouragement without providing specific information that either identified what was good about a performance or what could be improved upon for the future.

Below I elaborate on the reported experiences of each individual mentor. These individual case descriptions provide examples of the specific language and practices each mentor used to support their mentee’s BPN’s throughout the mentoring program.

Dyad A: Stella and Samantha

How did Stella support Samantha’s sense of autonomy?

Especially at the beginning of the mentoring program, Stella supported Samantha’s autonomy by inviting her to decide which song they would learn together. Specifically, in the

second session, when mentors and mentees were tasked with learning simple songs while getting to know one another, Stella invited Samantha to pick their song of focus and Samantha chose Happy Birthday. I observed Stella using this strategy (Audio Record; Session 2) and Stella wrote about using this strategy in her weekly log, saying: “I asked and encouraged what [Samantha] wanted to do” (Mentor Weekly Log; Session #2). Similarly, in Session 4, after Samantha had successfully learned Happy Birthday, Stella invited Samantha to decide what their second song of focus would be:

44 *Stella:* Okay and if we have time, we can pick a new song or if we run out of time, over
45 the long weekend you can think of any song you wanna play and you just tell me and we
46 will learn it – any song! It can be a pop song on the radio, it can be a classical song
47 you’ve heard before – a camp song that you sung at camp – or even something you
48 wanna make up – if you can sing it to me, I can teach it to you – so whatever you want!
49 It’s up to you!

In the latter half of the mentoring program (i.e., Sessions 5-10), Henry asked mentors to create a rhythm, first themselves, and then teach it to their mentees. With this less open task, Stella needed to adapt her pattern of autonomy support. Specifically, Samantha had less choice about what they were learning, so Stella relied more heavily on her “count us in” strategy. Stella first recounted using this strategy after Session 3, indicating that she supported Samantha’s autonomy by “asking [Samantha] to lead and count us in so she felt like she was in control and was comfortable at her own pace” (Mentor Weekly Log; Session #3). Below are excerpts from Stella’s mentoring logs in Sessions 6, 7, and 8, which suggest she often used this “count us in” strategy as a way of giving Samantha influence in these later mentoring sessions:

“Like usual, I got [Samantha] to count us in so she felt in control and comfortable with leading” (Mentor Weekly Log; Session #6)

“I asked her to count us in like usual cause it helps her feel in control” (Mentor Weekly Log; Session #7)

“I got her to count us in so she could go at her own pace” (Mentor Weekly Log; Session #8)

Research indicates opportunities to participate in the decision-making process are more meaningful for students when they offer latitude to express one’s preferences and interests (Patall, Dent, Oyer & Wynn, 2013). Inviting Samantha to choose a song she wanted to learn is an example of decision-making with a lot of latitude. Specifically, this form of autonomy support is congruent with Patall et al.’s (2013) definition of high-quality autonomy support as it allowed Samantha to pursue a learning goal (learning a new song) that was aligned with her musical preferences and interests (e.g., “... any song ... if you can sing it to me, I can teach it to you.”). The “count us in” strategy is an example of autonomy support with less latitude. It seems important to consider how Stella’s use of autonomy supportive strategies may have been influenced by the instructions she received from Henry about tasks and instructional goals. In the first half of the mentoring program, Henry asked mentors and mentees to get to know one another while learning simple rhythms together. He offered more latitude at that time about what rhythms the Dyads played, so Stella invited Samantha to make decisions that aligned with her preferences (i.e., picking which songs she wanted to learn). In the second half of the mentoring program, the goal was to compose a song for the group to play together. Therefore, Henry asked mentors to compose a rhythm, first together, and then teach it to their mentees. This task was more structured for Stella, which may account for the decrease in latitude in decision-making opportunities she subsequently offered to Samantha.

In her exit interview after the mentoring program concluded, Stella commented that, all-in-all, she felt comfortable supporting Samantha’s autonomy during mentoring sessions:

I found it pretty-easy with my mentee. She didn’t struggle. Like she never really struggled with like taking control and stuff or with like following, she was good either way. So that was helpful with getting her to be autonomous.

Stella's interview response highlights the bidirectional influence that mentees can exert on mentors while they are attempting to support their BPNs. Specifically, Samantha's ability and confidence to make decisions during mentoring sessions helped Stella's efforts to support autonomy. Other mentees appeared not to feel as confident making decisions, and their mentors reported feeling more challenged to support their autonomy within mentoring sessions (see for example Coralline's experiences with Catharine below).

How did Stella support Samantha's sense of belonging?

At various points during the four sessions in which Dyad A was recorded, Stella implemented each of the belonging-supportive strategies in her ABC Companion. Mainly, Stella supported Samantha's sense of belonging by asking about her day (e.g., demonstrating personal interest) and telling her something about herself (e.g., making personal disclosures). For example, Stella began the second mentoring session by asking about Samantha's Spring Break and birthday party:

- 29 *Stella*: What did you do for Spring Break?
30 *Samantha*: Uhm, I had a sleep over and I had my birthday party.
31 *Stella*: Wow! How old are you?
32 *Samantha*: Ten.
33 *Stella*: Ten! Double digits – exciting!

In the same exchange about Samantha's birthday, Stella shared something about herself (i.e., using the strategy of making personal disclosures):

- 40 *Stella*: I just had my birthday – well I feel like I just had it but it was back in February. I
41 just turned 18. It doesn't feel like I'm 18 though. I still feel like I'm like 16. [*Stella and*
42 *Samantha share a laugh.*]

Stella consistently implemented these two belonging-supportive strategies while meeting with Samantha and Stella's reflections in her mentoring logs suggest this was intentional. She wrote:

“I asked [Samantha] questions about herself and responded excitingly” (Mentor Weekly Log; Session #2)

“I asked [Samantha] how her day was” (Mentor Weekly Log; Session #5)

In contrast to the ease with which she gave autonomy support, Stella described feeling challenged to support Samantha’s sense of belonging. For example, during our first mentor support meeting, Stella reported that one of the challenges of mentoring was that she felt she had not yet established a sense of belonging with Samantha, explaining: “It was a little challenging at first because I didn’t know my mentee yet. But overall it’s been going pretty well” (Mentor Support Meeting Template #1). Stella continued to focus on the importance of belonging in this meeting while reflecting on what she had learned about herself and supporting Samantha’s sense of belonging: “[I learned that] the more I get to know someone, the more comfortable and effective I am at teaching and instructing” (Mentor Support Meeting Template #1). Realizing the importance of “relationships” for teaching and learning provided a focus for Stella’s future interactions with Samantha. Specifically, Stella decided to focus on this BPN and formulated a plan for the next four mentoring sessions: “I will try to get [Samantha] to open up with me more” (Mentor Support Meeting Template #1). Four mentoring sessions later, while reflecting on her plan to increase the sense of belonging between herself and Samantha, Stella reported: “My plan went great! [and that] ... Asking how her day was” was a useful strategy to support Samantha’s sense of belonging (Mentor Support Meeting Template #2).

In her exit interview, Stella maintained that she was comfortable supporting Samantha’s sense of belonging during mentoring sessions:

I found it pretty-easy. [Samantha] is very gentle and soft – and kind of quiet but not like a sad quiet but a happy quiet. [Samantha] was joyful. I never saw her sad or with a frown, she was always joyful and happy.

Stella’s interview response further highlights how Samantha’s personal characteristics (e.g., “gentle and soft and kind of quiet”) interfered with Stella’s initial attempts to establish a sense of

belonging within their relationship (e.g., “It was a little challenging at first”). Over time, however, it appears Stella learned to support Samantha’s belonging by asking about her days at school and demonstrating a personal interest in her life outside of the mentoring program.

How did Stella support Samantha’s sense of competence?

Stella implemented each of the competence-supportive strategies in her ABC Companion. Most often, Stella supported Samantha’s sense of competence by encouraging her success while playing her instrument during mentoring sessions. For example, after Samantha played a rhythm for Stella during the fourth mentoring session, Stella provided her with encouragement (e.g., “Okay that was really-good! That was really-good!”; Audio Record; Session 4). In the SDT literature, a distinction is often made between feedback used to “control” students (i.e., feedback that places pressure on students to achieve a specified outcome) and feedback that serves “informational” purposes (i.e., feedback that informs learners of how and why they produced positive outcomes, to help support their developing competencies and knowledge; Ryan & Deci, 2017; Reeve & Jang, 2006). In the above example, Stella provided Samantha with encouragement, but did not “inform” Samantha of what was “really-good” about her performance. A more comprehensive approach to supporting competence may have involved a conversation about the specifics of Samantha’s performance and the steps she could take to improve her skills going forward. Further, on one occasion, Stella also referred to Samantha’s innate musical ability (e.g., “That’s great, you’re a *natural* at that!”; Audio Record, Session 4). According to Dweck’s (2000) research on implicit theories, this form of praise, which suggests success is the result of natural and inherent qualities, rather than hard work, can lead to decreased levels of intrinsic motivation and risks fostering fixed-mindsets in young learners (Dweck, 2000).

During the remainder of mentoring sessions when Stella was audio recorded, however, there is evidence that she also supported Samantha's sense of competence by focusing on her improvement and progress (i.e., effort-focused feedback; Audio Record; Sessions 7 and 8). Stella also described how she supported Samantha's competence in several of her mentoring logs, writing:

"I tried to make her feel like all her hard work has paid off and I made sure to compliment and encourage all the progress she's made" (Mentor Weekly Log; Session #4)

"I encouraged and complimented all the great things she accomplished, especially the tricky stuff. I told her how well she's been improving." (Mentor Weekly Log; Session #5)

"I complimented all the hard work [Samantha] did and kept encouraging them" (Mentor Weekly Log; Session #7)

Stella's mentoring log responses can be substantiated with excerpts of audio recordings during mentoring sessions. For example, during the first mentoring session, Stella engaged Samantha in a discussion about the effort it takes to learn an instrument:

90 *Stella:* ... if you know how to sing something, you'll know how to play it – just with a
91 little bit of practice. So don't feel like you're never going to get it. And once you start
92 playing more and more your fingers are going to start to become more relaxed and you
93 are going to be a lot more used to it!

Similarly, during the fourth mentoring session, Stella continued to focus on Samantha's effort:

165 *Stella:* Hey! You did it! That's a really good note! How do you feel!?
166 *Samantha:* Fun but tired.
167 *Stella:* Yeah, it's really exhausting. It's really hard work and you just worked really
168 hard so you should be proud! Good job!

Finally, when appropriate, Stella supported Samantha's sense of competence by accepting her mistakes and using them as opportunities to focus on the learning process. In the

fourth mentoring session, Stella enacted this strategy after Samantha played a rhythm for her and made a mistake:

258 *Stella*: Great! And don't worry about the missed notes, it's okay to play funky notes. I
259 play them sometimes as well!

Reflecting on her mentoring practice during our first mentor support meeting, Stella summed up her efforts to support Samantha's sense of competence in this way:

In the last four weeks, I got to work privately with my mentee. I taught her the violin and I found that "Great Job!" was very encouraging and telling her how well she's been improving was also very encouraging. And whenever I noticed her making mistakes I felt it was important to tell her that mistakes are what help you improve.

Finally, when asked if she was comfortable supporting Samantha's sense of competence during mentoring sessions, Stella replied: "Yep! [Samantha] was very focused and was very encouraged about practicing" (Exit Interview; Stella). This response again highlights how Samantha's response to Stella's mentoring supported Stella's sense of efficacy too. Particularly, Stella perceived it was "easy" to support her mentee's competence, because Samantha was very focused during mentoring sessions and was eager to learn and practice the violin. In other words, Samantha's engagement during mentoring sessions seems to have aided Stella's ability to support her competence.

Dyad B: Bella and Brittney

How did Bella support Brittney's sense of autonomy?

Across the four sessions that Bella was audio recorded, she implemented two of the four autonomy-supportive strategies in her ABC Companion. Specifically, Bella involved Brittney in the decision-making process and provided her with choices in three of the four mentoring sessions when Dyad B was recorded.

At the beginning of the mentoring program, Bella involved Brittney in the decision-

making process by inviting her to decide which song they would learn together. Specifically, during the second mentoring session, Bella asked Brittney whether she wanted to learn Twinkle-Twinkle Little Star, which she did (Audio Record; Session 2). After practicing the song a few times, however, Brittney voiced her discontent with the song choice after Bella invited her to learn a few more notes (e.g., “I don’t want to!”; Audio Record; Session 2). This exchange highlights the bidirectional influence that Brittney often exerted in her relationship with Bella and supports Henry’s observation that Brittney is a “strong negotiator and confident expressing her thoughts.” After taking a quick break, Bella invited Brittney to decide which song the dyad would learn, this time without offering any suggestions:

- 117 *Bella:* What do you wanna do now?
118 *Brittney:* I don’t know...
119 *Bella:* Are there any songs that you like that you think I might know?
120 *Brittney:* I just learned Ode to Joy on the piano?
121 *Bella:* Ode to Joy! Okay!

This early interaction set the course for Bella’s approach to supporting Brittney’s autonomy. That is, while reflecting on which strategies worked well to support Brittney’s autonomy during our first mentor support meeting, Bella wrote: “giving [Brittney] a chance to decide what she wants to do” but also commented that “she likes to take lots of breaks, which is ok, but we should have more time to play” (Mentor Support Meeting Template #1). It appears Bella was struggling to balance supporting Brittney’s participation in the decision-making process (i.e., a strategy she viewed as effective) and providing her with structure to accomplish the tasks set out by Henry. This perceived challenge is reflected in the quality of choice-opportunities that Bella provided Brittney during mentoring sessions. For example, while inviting Brittney to make choices during mentoring sessions, Bella often limited her choices to two options:

- 57 *Bella:* Do you wanna play that again or do you wanna talk about tuning?
58 *Brittney:* Uhm, talk about tuning.

In the SDT literature, scholars often focus on the quality of choices that learners are invited to make (Assor, Kaplan, & Roth, 2002). In this example, Bella provided Brittney with a choice that offered limited amounts of latitude. Below are excerpts from Bella's mentoring logs, which further suggest she sometimes felt the need to provide Brittney with structure while supporting her autonomy:

"I let her decide what she wanted to do but gave her a few ideas" (Mentor Weekly Log; Session #4).

"I let her decide what to do with some help" (Mentor Weekly Log; Session #5)

Similarly, in the second half of the mentoring program, when Henry asked the mentors to invite their mentees to contribute to their composition, Bella did so in a semi-structured manner:

20 *Bella:* So how many times do you think we should do it for the D string and A string?

21 *Brittney:* Uhm, four for the D string and then for the A string two times.

22 *Bella:* Okay and then should we switch back to the D or do you wanna just end it there?

23 *Brittney:* Then switch back!

24 *Bella:* Okay! You can count us in!

In summary, Bella reported difficulties supporting Brittney's autonomy and sometimes limited the latitude in the choices she gave Brittney as a response. On balance, however, Bella learned to tailor her mentoring practice to ensure she was supporting Brittney's sense of autonomy while ensuring they were achieving the tasks of the classroom. While reflecting on her mentoring practice in her exit interview, Bella continued to focus on the balance she needed to achieve during mentoring sessions to ensure she was supporting Brittney's autonomy while also achieving the broader task set by Henry:

I thought it was pretty easy [to support Brittney's autonomy]. There were some moments when I felt like I needed to decide something or like choose – but for the most part I think [Brittney] was really good at making decisions and stuff like that so I found it pretty easy.

Bella's interview response highlights the bidirectional influence that Brittney exerted on

Bella while she was attempting to support her autonomy. Specifically, Brittney's willingness to voice her opinion during mentoring sessions caused Bella to reflect upon her mentoring approach to better suit her practices to Brittney's preferences and interests.

How did Bella support Brittney's sense of belonging?

At various points during the four mentoring sessions in which Dyad B was recorded, Bella implemented each of the belonging-supportive strategies in her ABC Companion. Bella mainly supported Brittney's sense of belonging by demonstrating a personal interest in her life. For example, during the second mentoring session, Bella began the session by asking Brittney about her day at school:

- 48 *Bella:* What did you do in school today?
49 *Brittney:* I had two tests.
50 *Bella:* Two tests! How was it?
51 *Brittney:* The one was kind of hard and the other one I had at the end of the day.
52 *Bella:* What were the tests on?
53 *Brittney:* One of my tests was Social Studies and the other was Math.
54 *Bella:* What school do you go to?
55 *Brittney:* [name of school]
56 *Bella:* Who's your teacher?
57 *Brittney:* [name of teacher].
58 *Bella:* Oh, she wasn't there when I went there. Do you know who [name of teacher] is?
59 *Brittney:* No. I know [name of teacher].
60 *Bella:* Oh okay, I never had miss [last name].
61 *Brittney:* Did you have [name of teacher]? [*Mentee is laughing while asking this question*]
62 *Bella:* I don't even think he was there. I don't think there was a teacher named that! Is he
63 nice? [*Mentor is laughing as well*]
64 *Brittney:* Mhmm!

In a later mentoring session, Bella also shared something about herself (e.g., made a personal disclosure):

- 99 *Bella:* What's your favourite season?
100 *Brittney:* My favourite season is summer!
101 *Bella:* I drove to Manitoba last summer! It took us three days and my dad drove his
102 motorcycle, that's a long time to drive a motorcycle!
103 *Brittney:* Just imagining it sounds long!

104 *Bella:* This summer I am going to be working at a summer camp all summer, do you ever
105 go to summer camp?
106 *Brittney:* Yeah!
107 *Bella:* Yeah, they are super fun! You should talk to your mom and come to my camp this
108 summer! We have kayaking, a rope swing, a high-ropes course and the sun!
109 *Bella:* If you want I can get you forms for the camp?
110 *Brittney:* Okay!

In these examples (Audio Record; Sessions #2, 7), Bella was demonstrating a personal interest in Brittney while also sharing some information about herself, two strategies she often implemented to support Brittney's sense of belonging. Bella's weekly logs suggest these efforts were intentional:

"I asked [Brittney] things so we could get to know each other" (Mentor Weekly Log; Session #2)

"I braided her hair during a break and just asked about her day" (Mentor Weekly Log; Session #5)

In her exit interview, Bella reported a sense of ease and enjoyment while supporting Brittney's sense of belonging:

I found it really easy [to support Brittney's sense of belonging] because she really enjoyed engaging in conversations about outside of the music aspect, but also inside the music aspect – so it was really nice to get to know her because she really wanted to get to know me as well, so I thought that was really cool!

Taken together, Bella felt comfortable establishing a sense of belonging and friendship with Brittney due to her willingness to engage in conversations. It is interesting to consider how Brittney's characteristics, from Bella's perspective, differentially influenced Bella's ability to support her feelings of autonomy and belonging. That is, Brittney's outgoing personality sometimes interfered with the Dyads productivity, which led Bella to increase the amount of structure in their relationship. However, this very same characteristic helped Bella hone her support for autonomy and foster a sense of connection with Brittney during conversations about their days and lives outside of the music academy. Within other relationships, conversations

between mentors and mentees were sometimes quite terse and abbreviated, which often resulted in mentors feeling challenged to support their mentees belonging during mentoring sessions (see for example Coralline's conversations with Catharine below).

How did Bella support Brittney's sense of competence?

Bella implemented each of the competence-supportive strategies in her ABC Companion. Most often, Bella supported Brittney's sense of competence by encouraging her successful performances and outcomes during mentoring sessions. For example, after Brittney successfully performed a rhythm during the second mentoring session, Bella said: "That's really good! You are doing really well!"; Audio Record; Session 2). This feedback, although encouraging, did not explicitly inform Brittney of what she did "well", making it hard for her to reproduce this success in the future. Bella also attempted to provide Brittney with effort-focused feedback during mentoring sessions. For example, during the fifth mentoring session, Bella asked Brittney whether she had been practicing after she successfully played a rhythm on her violin:

- 49 *Bella:* Have you been practicing? You are doing so good!
50 *Brittney:* I practice it sometimes! I can't practice it all the time though.
51 *Bella:* Yeah? You are sounding so good though! It seems like you have been practicing
52 all the time!

This example is clear evidence of Bella's attempt to provide Brittney with effort-focused feedback by linking practice with improvement. However, telling Brittney that her playing sounded like she had "been practicing all the time," although well-intentioned, may convey the message that just a bit of practice is all that is required to successfully develop a skill, which is a fixed mindset message (Dweck, 2000). Bella might have encouraged additional practice by saying, "Yeah? You are sounding so much better though. Imagine if you could practice just a bit every day," or something similar. Bella's mentoring logs indicate, however, that on average, she

attempted to support Brittney's competence by focusing on her improvement and progress on the violin:

"I let [Brittney] know how well she was doing" (Mentor Weekly Log; Session #2)

"I let [Brittney] know that she was sounding really good and she was improving" (Mentor Weekly Log; Session #5)

"I let her know that she was really improving" (Mentor Weekly Log; Session #7)

"I let her know that her practicing is really working and she's improving a lot" (Mentor Weekly Log; Session #8)

"I let her know that her hard work and practicing was really paying off" (Mentor Weekly Log; Session #9)

Finally, while reflecting on her mentoring practice in her exit interview, Bella commented that she felt comfortable supporting Brittney's competence throughout the mentoring program:

I found it pretty easy. [Brittney] really loves to learn new things. I have lots of siblings so it's kind of something that I've been used to growing up – so I found that pretty easy.

Bella's response further indicates that Brittney's characteristics aided her efforts to support her competence. Specifically, Brittney's engagement and "love" of the learning process, increased Bella's perceived sense of efficacy while supporting this BPN.

Dyad C: Coralline and Catharine

How did Coralline support Catharine's sense of autonomy?

During the mentoring program, Coralline was recorded implementing one of the four autonomy-supportive strategies in her ABC Companion. Specifically, Coralline involved Catharine in the decision-making process in each of the three mentoring sessions that Dyad C was recorded.

At the beginning of the mentoring program, Coralline involved Catharine in the decision-making process by inviting her to decide which song they would learn together (Audio Record;

Session #2):

- 16 *Coralline*: What do you feel like doing today?
17 *Catharine*: I don't know, what do you wanna do?
18 *Coralline*: Do you have any songs you wanna learn? Who is your favourite singer or
19 band?
20 *Catharine*: Well my favourite band is One Direction and my favourite singer is Justin
21 Bieber.
22 *Coralline*: Hmm, do I know any One Direction songs? I know "Drag Me Down!"
23 *Catharine*: Yeah! Yay!
24 *Coralline*: Okay let's try and work on the chorus because that's the only part I know.
25 *Catharine*: Okay!

After successfully inviting Catharine to decide which song she wanted to learn on the cello, Coralline's audio recording suggests she was not really prepared to teach Catharine "Drag Me Down" by One Direction (e.g., "Hmm, I'm trying to find the note..."). Because of this challenge, Coralline and Catharine were unable to learn the song during this mentoring session and instead discussed the various members of One Direction and their respective ages and talents. Speaking on this, Coralline reflected in her mentoring log, "It was a bit awkward because I didn't know what to teach", while explaining whether she supported Catharine's autonomy during this mentoring session. Learning from this experience, during the fourth mentoring session, Coralline invited Catharine to learn a more suitable song for a beginner:

- 6 *Coralline*: Do you know what you wanna do today? Any ideas?
7 *Catharine*: Uhm...
8 *Coralline*: Do you wanna learn any songs? Easy songs – like Twinkle-Twinkle?
9 *Catharine*: Okay... [*voiced non-enthusiastically*]

These two exchanges highlight the challenges that Coralline experienced while attempting to provide Catharine with "high-quality" autonomy support (i.e., lessons that focused on her preferences and interests; Patall et al., 2013). That is, Coralline often reported a sense of confusion, in terms of "what to teach" during mentoring sessions, as she often struggled to teach Catharine the songs she was interested in learning. Coralline commented on this while reflecting

on the challenges she faced to support Catharine's autonomy, explaining: "It was awkward because I've never really taught anyone an instrument before and I didn't know what to teach." (Mentor Support Meeting Template #1). It is also important to consider Catharine's age (i.e., the oldest mentee in the program at 12 years of age) and how her more sophisticated interests in music may have made Coralline's task of supporting her autonomy more challenging. Catharine's musical interests and preferences were more advanced than some of the other mentees and the songs they were interested in learning (e.g., Samantha was excited to learn "Happy Birthday" and Brittney was interested in learning "Ode to Joy"). Without prior experience with the cello, however, Coralline often reported challenges while attempting to teach Catharine these more sophisticated songs. Speaking on this, Catharine stated in her exit interview that she "... didn't have any choices [during mentoring sessions, because] all the music that I listen to would be hard to play." To reiterate, during the first half of the mentoring program (i.e., Sessions 1-5), Henry asked mentors to teach their mentees simple songs while developing their mentoring relationships. It appears Coralline and Catharine were uncomfortable with these instructions and could have benefitted from increased levels of support and structure (e.g., perhaps a few recommendations of more sophisticated songs that an older mentee may be interested in learning that would still be appropriate for a beginner skill-set).

However, in the second half of the mentoring program, when the task was more structured, excerpts from Coralline's mentoring logs indicate she continued to face challenges while supporting Catharine's autonomy. Specifically, when asked to describe how she supported Catharine's autonomy during these mentoring sessions, Coralline explained:

"I forgot about asking what she wanted to do" (Mentor Weekly Log; Session #5)

“I didn’t really ask if [Catharine] had any suggestions to the song” [referring to the song mentors were tasked with co-composing with their mentees] (Mentor Weekly Log; Session #7)

“I didn’t get a chance” (Mentor Weekly Log; Session #8)

“I didn’t get a chance but I feel she was good at being independent” (Mentor Weekly Log; Session #9)

As the classroom context became more structured and focused during these latter mentoring sessions, it appears Coralline struggled to balance her new teaching demands (i.e., co-composing a song) while simultaneously supporting Catharine’s autonomy (e.g., “I forgot” and “I didn’t really ask if [Catharine] had any suggestions to the song”). It is important to note that Coralline’s difficulties are most likely a reflection of the abbreviated training and support that mentors received. In support of this, during her exit interview, Coralline reflected that a more extensive training experience may have increased her capacity to support Catharine’s autonomy:

It was kind of cool because I’ve never done anything like that before [referring to mentor skill-building sessions] but it was a bit short I think. I think we could have done a little more. I couldn’t really remember what it was the whole time [referring to the concept of autonomy]. I kept forgetting. I got like the gist of it.

Taken together, Coralline felt challenged to support Catharine’s autonomy throughout the mentoring program. Coralline encountered difficulties for three reasons. First, she felt unprepared to teach the cello to a beginner for the first time (e.g., “I didn’t know what to teach”). Second, her mentee was interested in learning songs that were beyond her current capabilities, making it difficult for Coralline to align her lessons with Catharine’s interests. Third, Coralline felt underprepared and supported by the mentoring program, in terms of how to successfully support autonomy (e.g., “I think we could have done more. I got like the gist of it”). Coralline’s findings indicate that she, and most likely all mentors, could have benefitted from a more extensive training experience.

How did Coralline support Catharine's sense of belonging?

At various points during the three mentoring sessions in which Dyad C was recorded, Coralline implemented one of belonging-supportive strategies in her ABC Companion. That is, Coralline supported Catharine's sense of belonging by demonstrating a personal interest in her day and life outside of the music program.

For example, during the second mentoring session, Coralline began the lesson by inviting Catharine to share something about her day:

- 1 *Coralline:* So how was your day?
- 2 *Catharine:* Good!
- 3 *Coralline:* Do anything fun at school?
- 4 *Catharine:* Uhm, yeah. Is that tight enough? [*referring to the strings on her cello*]
- 5 *Coralline:* Uhm, yeah. If you look at it like this, there should be like a bigger space so
- 6 you can fit your finger.

In this example, Coralline demonstrated a personal interest in Catharine's day to help establish a sense of belonging and connection in their relationship (i.e., showing that she cares about Catharine and the quality of her day outside of their mentoring sessions). This exchange was brief, however, as Catharine redirected the focus of the conversation to her cello, rather than the specifics of her day at school (e.g., "Is that tight enough?"). This interaction influenced Coralline's sense of efficacy to establish a connection with Catharine. Specifically, after this mentoring session, Coralline reflected in her mentoring log, "The introduction was a bit awkward, but I asked about her day" (Mentor Weekly Log; Session #2). Coralline and Catharine engaged in a similar interaction while being audio recorded during the fourth mentoring session:

- 1 *Coralline:* How was your day?
- 2 *Catharine:* It was good!
- 3 *Coralline:* Did you do anything fun in school?
- 4 *Catharine:* Not really.
- 5 *Catharine:* It looks black! [*referring to her rosin*]
- 6 *Coralline:* Oh, did you need rosin? [*noticing Catharine was looking for rosin in her cello case*]
- 7

8 *Catharine*: Yeah! It's in the right pocket.

After helping Catharine apply her rosin [*a substance that musicians use to treat their bows*], the Dyad began their lesson without any further discussion about their personal lives or days. After this mentoring session, Coralline reflected, “connecting with [Catharine] is sort of harder than I thought it would be. Asking about school helps [to support belonging]” (Mentor Support Meeting Template #1). Despite Coralline's early struggles to establish a sense of belonging and connection with Catharine, she continued to show a personal interest in Catharine's day and life outside of the music program to help improve their friendship. Below are excerpts from Coralline's mentoring logs demonstrating this consistent effort:

“We both talked about our schools and how we both had the same Grade 3 teacher. I think this helped [to support Catharine's belonging]” (Mentor Weekly Log; Session #5)

“I like to ask about what she does in school and about her day. I think that helps” (Mentor Weekly Log; Session #7)

“We said goodbye this time which happens rarely, so now I feel we really connected” (Mentor Weekly Log; Session #9)

Coralline's responses indicate she became more comfortable supporting a sense of belonging and connection with Catharine over time. Coralline reflected on this improvement during our second mentor support meeting, “I learned that [Catharine] can be shy at first, but once you get to know each other it's very easy to connect with her” (Mentor Support Meeting Template #2). Further, in contrast to the difficulties she experienced while giving autonomy support, Coralline described feeling comfortable while supporting Catharine's sense of belonging in her exit interview: “I think that was the best one! [referring to the three BPN's] It was the easiest to think about the whole time.”

It is interesting to consider how Catharine influenced Coralline's ability to foster a sense of connection and belonging in their relationship. For instance, compared to Dyads A and B, the

conversations between Coralline and Catharine were quite abbreviated and terse. Further, Coralline felt that Catharine was often “shy” during mentoring sessions, which stands in contrast to Henry’s description of Catharine as someone who is “comfortable voicing [their] thoughts.” Catharine may have been reluctant to engage in personal conversations during mentoring sessions that were audio recorded. For instance, after the fifth mentoring session, Coralline reported that she and Catharine spoke about their shared Grade 3 teacher, a type of personal conversation that never surfaced in the Dyad’s audio record. While recruiting participants for my study, Catharine’s social worker expressed concerns about audio recorded conversations and interviews, due to Catharine’s sensitive housing situation (i.e., Catharine was living in foster care at the time). This concern (for which the specific reasons were never disclosed to me) may have been communicated to Catharine and subsequently impacted her willingness to engage in conversations about her personal life while being audio recorded. This would help explain why Catharine didn’t take up Coralline’s invitations to talk about her personal life while being audio recorded. Future mentoring programs should consider the risk profiles, personal preferences, and cultural and familial background/values of their mentees. What’s going on for learners outside the program may influence their response to the program. Mentors might be sensitized to this potential and supported to develop knowledge and strategies for responding to them (e.g., how to recognize and respect a mentee’s need for privacy; letting mentees lead the conversation). Mentors might also be sensitized to cultural differences in responding and be prepared to respond in kind. These considerations are further discussed in my final chapter.

How did Coralline support Catharine’s sense of competence?

Coralline implemented one of the three competence-supportive strategies in her ABC Companion. Specifically, during each of the three mentoring sessions that Dyad C was recorded,

Coralline supported Catharine's sense of competence by encouraging her success during mentoring sessions. For example, during the second mentoring session, Coralline provided Catharine with support for her sense of competence after playing a note on the cello:

- 40 *Coralline*: Good! Do you wanna try playing it again?
41 *[Catharine is playing the cello]*
42 *Coralline*: Good job!

As a second example, during the fourth mentoring session, Coralline again provided Catharine with encouragement after a successful performance on her cello:

- 58 *Coralline*: Okay, how about we try the whole thing?
59 *Catharine*: Okay!
60 *[Catharine is playing the song]*
61 *Coralline*: *[clapping]* Good job!

Coralline was also recorded providing Catharine with this type of encouraging feedback during the seventh mentoring session (e.g., "Okay, good job!"). Excerpts from Coralline's mentoring logs, however, indicate that she attempted to support Catharine's competence on an intermittent basis during mentoring sessions she was not audio recorded:

"I didn't really get a chance [to support Catharine's sense of competence] because I came late" (Mentor Weekly Log; Session #5)

"I didn't really remind her that she was doing well but I did notice she practiced the first part of the song" (Mentor Weekly Log; Session #8)

"I was telling [Catharine] she was learning well" (Mentor Weekly Log; Session #9)

"I tried to tell [Catharine] she did a good job but I think she didn't hear me so I should probably speak up" (Mentor Weekly Log; Session #10)

Taken together, Coralline was observed to primarily support Catharine's sense of competence by providing her with encouragement after successful performances on the cello. It appears Coralline felt a sense of uncertainty while supporting Catharine's competence, however, as she often reported "not getting a chance" to support this BPN or not knowing whether her

support was positively received by Catharine (“I think she didn’t hear me”). Coralline reflected on this sense of ambivalence during her exit interview. Specifically, when asked whether she felt comfortable supporting Catharine’s competence during mentoring sessions, Coralline replied: “Sometimes, but not all the time. It was different every time we met.” As a “shy” and “timid” young woman who “only adds input when she feels it’s needed”, Coralline may have struggled to assert herself and feel confident supporting Catharine’s competence during mentoring sessions (e.g., “I should probably speak up”). Despite her reported challenges, it is important to note that Coralline was recorded to successfully provide Catharine with support for her competence, even though she may have done so intermittently.

Dyad D: Danielle and Dakota

Due to her repeated absences and tardiness throughout the mentoring program (e.g., absent for 3 sessions and 30 minutes late for another 3 sessions), I was unable to audio record any of Danielle’s interactions with her mentee, Dakota. During her absences, Dakota often worked with Henry or Stella and Samantha (Dyad A). This section will therefore discuss how both Danielle and Stella intermittently supported Dakota’s BPN’s throughout the mentoring program.

How did Danielle support Dakota’s sense of autonomy?

Danielle’s entries in her mentoring logs and templates during support meetings help establish how she supported Dakota’s autonomy. On balance, Danielle often approached her mentoring relationship with an attitude of frustration and disengagement. Danielle was frustrated because she was matched with Dakota, who preferred to learn the piano and violin during mentoring sessions, rather than the guitar (Danielle’s instrument of expertise). Danielle reflected on this frustration during her exit interview. Specifically, while reflecting on the challenges she

encountered to provide autonomy support, Danielle stated, "... we played different instruments." Despite this challenge, Danielle attempted to support Dakota's autonomy to the best of her ability. For instance, during the first half of the mentoring program, Danielle invited Dakota to learn parts of "Black Bird" by the Beatles – a song that Dakota was interested in learning. Danielle spoke of this effort during our first mentor support meeting: "The first week [Dakota] played the violin. I [also] taught her some notes to play alongside Black Bird and she whistled and sang along" (Mentor Support Meeting Template #1). Further, while reflecting on which strategies worked well to support Dakota's autonomy, Danielle wrote: "Listening to what [Dakota] wanted to do and playing music she likes. She was really excited I knew Black Bird" (Mentor Support Meeting Template #1). To help overcome the barrier of playing different instruments, it appears Danielle invited Dakota to whistle and sing along while she played her guitar during mentoring sessions. This strategy may not have been effective, however, as it didn't further Dakota's learning and progress on the piano and/or violin. Danielle's mentoring logs help illustrate this point:

"I tried [to support Dakota's autonomy] but it was difficult as she plays the violin" (Mentor Weekly Log; Session #6)

"I let [Dakota] fool around by herself while I played guitar" (Mentor Weekly Log; Session #7)

"I let [Dakota] play the piano. I think she liked playing by herself, knowing that she didn't need anyone to help her because she knew it" (Mentor Weekly Log; Session #9).

It appears the incongruity between Danielle's expertise and Dakota's preferences interfered with Danielle's ability to provide autonomy support. Mentors and mentees were matched according to their personality characteristics (girls Hannah felt would relate well to one another). In the existing mentoring research, it is often recommended to match mentors and mentees according to common interests, rather than personality traits or other demographic characteristics, as this

approach ensures that mentors and mentees share more nuanced and meaningful commonalities (DuBois et al., 2011). It is important to note, however, that Danielle was both willing and able to support Dakota's sense of autonomy, even though it may have been difficult. For example, Danielle tailored her autonomy support to both Dakota's preferences (e.g., "picking a song she really likes") and skill-set ("maybe she might be open to whistling or singing along to the song") to ensure they could make music together. Danielle's flexibility and creativity during mentoring sessions supports Henry's description of her as a young woman who is "very strong at solving problems and figuring out alternatives." On average, however, it appears Danielle was disengaged during mentoring sessions as she and Dakota were interested in different instruments.

In her exit interview, Danielle continued to report a sense of difficulty while supporting Dakota's autonomy:

Sometimes I forgot and told [Dakota] to do stuff but then I remembered about it and started to ask her opinion and stuff and talk about her ideas.

Danielle's interview response supports Henry's second observation that Danielle could be "headstrong" during mentoring sessions and that her "attitude and tone sometimes impacted her delivery." As previously mentioned, research indicates that mentors and mentees experience optimal benefits, in terms of relationship quality and longevity, when they are matched according to similar interests (DuBois et al., 2011). Without a consideration of the musical interests of each participant, Danielle was unable to help Dakota learn the instruments she was interested in learning (piano and violin). This most likely explains, and to some degree excuses, Danielle's disengagement during the mentoring program. Alternatively, it could be argued that even though it may have been challenging, Danielle did not fully commit to her responsibilities as a peer mentor by providing Dakota with a consistent support system throughout the mentoring program.

Future mentoring programs can avoid this challenge by matching mentors and mentees according to more meaningful factors, outside of their personality characteristics.

How did Stella support Dakota's sense of autonomy?

When Danielle was absent from the program, Dakota often worked with Stella and Samantha. This occurred during sessions 7 and 8 and their interaction was recorded during session 8. During this recording, Stella provided autonomy support to both Samantha and Dakota. For example, Stella involved Dakota in the decision-making process by inviting her to create an acronym for her violin strings:

43 *Stella:* Okay so one of the first things that I taught [Samantha] was the notes of the
44 strings. So, I want you to make up something so that you can remember the notes.

At the end of the same mentoring session, after Dakota created an acronym for her violin strings (e.g., Good Dogs All Eat), Stella also acknowledged the perspectives of her mentees to help support their autonomy:

224 *Stella:* Okay, you guys feeling good? Any questions? Need any help?

In summary, Stella supported Dakota's sense of autonomy at various points during the mentoring program by involving her in the decision-making process and acknowledging her perspective.

How did Danielle support Dakota's sense of belonging?

Like her reported difficulties supporting autonomy, Danielle also felt challenged to establish a sense of belonging and connection with Dakota. Danielle described that it was difficult to get to know Dakota as she was often shy during mentoring sessions. While reflecting on this challenge, Danielle stated: "[Dakota] is pretty shy. I want her to feel more comfortable around me and open up a bit." (Mentor Support Meeting #1). Over time, Danielle described that she could establish a friendship and connection with Dakota by demonstrating a personal interest

in her life outside of the music program. That is, during our second mentor support meeting, Danielle explained, “When I started talking about things [Dakota] liked and asked about her school and her sister and her parents, she opened up a lot more and got super excited” (Mentor Support Meeting #2). Danielle’s entries in her mentoring log indicate she attempted to implement this strategy at least twice:

“I asked [Dakota] if she had siblings and she told me about a music teacher she really liked” (Mentor Weekly Log; Session #4)

“I asked [Dakota] about her sports day and what her favourite game was” (Mentor Weekly Log; Session #9)

Taken together, Danielle initially found it challenging to establish a sense of belonging between her and Dakota as she was often shy during mentoring sessions. Over time, however, Danielle reported that her efforts to support Dakota’s sense of belonging were successful as Dakota was responding to her strategy during their conversations. Danielle summarizes these observations in her exit interview:

I think [Dakota] felt comfortable around me. But I think that one [referring to belonging] was a bit harder [to support]. [Dakota] was very shy and kind of closed off more, so I couldn’t really talk about too much with her.

Danielle’s interview response foreshadows my discussion of how Stella was able to successfully support Dakota’s belonging and invite her to discuss personal matters during mentoring sessions. The background information that Hannah provided about Danielle may help to further explain why she struggled to engage with the mentoring program and demonstrate a commitment to her friendship with Dakota. Particularly, Hannah informed me that she invited Danielle to become a mentor to “step out of her own struggles [and] develop the ability to be self-directed” as she sometimes struggled with feeling “anxious [and] low” at the time of my study. While this intention seemed to serve Danielle’s needs, it may not have been the best assignment for Dakota.

Research indicates that the cognitive beliefs and perceptions of high-school mentors can sometimes interfere with their ability to empathize, support, and engage with their mentees (Karcher et al., 2010). Research has also found that mentors with internalizing issues (e.g., anxiety and depression) and other forms of psychosocial problems sometimes struggle to support their mentees because of their own internal challenges (Grossman & Rhodes, 2002; Herrera, DuBois & Grossman, 2013). From this perspective, Danielle's frustration (i.e., her perception and beliefs) of being mismatched with Dakota and internal struggles (i.e., feeling "low" and "anxious") may help explain her absences and reported challenges to establish a close friendship with her mentee. Future mentoring programs could learn from Danielle's experience and, perhaps, exclude mentors with internalizing issues from participating in their programs, or provide them with increased levels of ongoing support (e.g., host open discussions about their relationships and invite them to provide explanations as to why they may be disengaging from the mentoring program and their relationships).

How did Stella support Dakota's sense of belonging?

Stella also supported Dakota's sense of belonging intermittently during the mentoring program. For example, during the eighth mentoring session, Stella expressed a personal interest in Dakota's life after noticing that she looked upset:

- 3 *Stella:* Dakota are you feeling sad? Do you wanna tell me why? Any reasons?
- 4 *Dakota:* Someone told me today that I wasn't very good.
- 5 *Stella:* That you weren't very good?
- 6 *Dakota:* Yeah.
- 7 *Stella:* At what? Someone said you're not very good at what?
- 8 *Dakota:* At playing.
- 9 *Stella:* At playing the violin? Well that's not very nice.
- 10 *Stella:* Look at me Dakota, that person, whoever said that, they don't know what
- 11 they're talking about!
- 12 *Samantha:* Yeah, they slapped someone.
- 13 *Stella:* Well that person sounds like they are unhappy, right?
- 14 *Samantha:* Yeah, once they got mad at me.

15 *Dakota:* They always say bad stuff to people.
16 *Samantha:* Yeah.
17 *Stella:* Well some people, when they say that, maybe they are feeling sad inside and
18 they don't know how to say it so the only way they can is by putting down other
19 people, right? So just remember that when people say those things, don't take it to
20 heart because they don't know what they are talking about and they're just sad.
21 *Stella:* While we are in this room guys we don't have to think about any mean people,
22 okay? We are just going to focus on making good music and having fun and feeling
23 better. Okay? No mean people. How does that sound Dakota?
24 *Dakota:* Okay!

In this mentoring session, Stella was demonstrating a personal interest in Dakota's emotions and teaching her about emotional awareness. First, Stella took the time to listen to Dakota and understand her experience with the "bully". Next, Stella prompted Dakota and Samantha to try and empathize with their classmate and understand why they were behaving negatively towards Dakota (i.e., to not take it personally). Stella then provided a strategy for dealing with this negative experience by focusing on the separation between school and bullies, and the after-school program and friends. This interaction highlights Rhodes et al.'s (2002, 2006) suggestion that mentors can benefit their mentees' relational and emotional well-being by providing them with opportunities for fun and escape from daily stress and the provision of emotion regulation strategies. As previously discussed, Danielle may not have been able to provide Dakota with this level of sensitivity during their interactions. This observation may help explain why Dakota felt comfortable disclosing personal information to Stella, rather than Danielle.

How did Danielle support Dakota's sense of competence?

During the mentoring program, Danielle reported that she felt most comfortable supporting Dakota's sense of competence. Danielle's entries in her mentoring logs and templates during support meetings indicate she primarily supported Dakota's competence by providing her with encouragement during mentoring sessions.

For example, in our first mentor support meeting, Danielle reflected, "The first week I

encouraged [Dakota] a lot and complimented her on her playing. [Dakota] is really eager to learn music but is very self-conscious about singing in front of people so I hope I can help her open up a bit” (Mentor Support Meeting Template #1). Danielle’s mentoring log responses also help illustrate how she supported Dakota’s sense of competence using encouraging feedback:

“I complimented [Dakota] a lot on her playing and encouraged her when she was struggling” (Mentor Weekly Log; Session #4)

“I complimented [Dakota] on her piano playing and told her she should keep playing it. She seemed really excited” (Mentor Weekly Log; Session #9)

Finally, in her exit interview, Danielle reported that she felt comfortable supporting Dakota’s competence during the mentoring program:

That was easy – just complimenting [Dakota]. She was good at a lot of stuff! I like that when I taught her something and she got it, she got really excited and wanted to do it over and over again.

Taken together, it appears Danielle felt a sense of efficacy while supporting Dakota’s sense of competence, due to her eagerness to learn and engage with the piano and violin during mentoring sessions. Danielle’s interview response also further highlights mentor’s challenges to support their mentees competence in an “informational” manner while also “complimenting” and encouraging their performances.

How did Stella support Dakota’s sense of competence?

During the seventh mentoring session, Stella provided Dakota with effort-focused feedback:

27 *Stella:* You are really good at playing the violin! And you are going to just keep getting
28 better and better and then no one will be able to say you’re bad, because that’s not true!

The following week, Stella continued to focus on Dakota’s progress as a musician (Audio Record; Session #8):

- 59 *Stella:* Have you been practicing Dakota? It sounds like you have been practicing, it
60 sounds good!
61 *Dakota:* I practice at school, that's why.
62 *Stella:* Oh, that's good! You can tell!

Taken together, these two examples illustrate how Stella supported Dakota's competence while filling in for Danielle. Specifically, Stella provided Dakota with feedback that conveyed the importance of practice and its association with improvement and progress. This type of messaging is capable of developing growth-mindsets as it focuses on Dakota's improvement and progress, rather than her innate musical talents and abilities (Ryan & Deci, 2017; Dweck, 2000).

Dyad E: Erica and Elise

How did Erica support Elise's sense of autonomy?

During the mentoring program, Erica implemented three of the four autonomy-supportive strategies in her ABC Companion. Specifically, Erica involved Elise in the decision-making process and acknowledged her perspective in each of the three mentoring sessions that Dyad E was recorded. Erica also provided Elise with choices during two of these sessions.

At the beginning of the mentoring program, Erica involved Elise in the decision-making process by inviting her to decide which song they would learn together. Specifically, during the third mentoring session, Erica asked Elise whether she would like to learn Twinkle-Twinkle Little Star, which she did. In the second half of the mentoring program, Erica also invited Elise to contribute to their composition (i.e., the song they would record together). Prior to inviting Elise to co-compose their song, however, Erica informed her of the purpose of the mentoring program (Audio Record; Session #7):

- 42 *Erica:* At the end of this whole mentorship thing we are all going to combine and play a
43 song and record them. Everyone is going to have a part and we have the first part written
44 out and today I am going to teach you the first part.
45 *Erica is modelling the song.*
46 *Erica:* So that is going to be our part! And everyone's is going to be a little bit different

47 but when you combine them it's going to be really nice!

After taking the time to explain the new focus of the mentoring program and what they would be learning in the next few sessions, Erica began teaching Elise the first part of their composition. In the next mentoring session, although Dyad E was not audio recorded, Erica reported that she invited Elise to contribute to their song, "I asked how [Elise] felt about playing our song [and] asked if she had any ideas to add" (Mentor Weekly Log; Session #8). These two exchanges illustrate Erica's approach to supporting autonomy. Specifically, Erica made a consistent effort to ensure that Elise understood the focus of each mentoring session and what she was being taught (i.e., providing a rationale and acknowledging her perspective). For example, during the ninth mentoring session, Erica began by discussing the focus of their lesson and ensuring that Elise understood how to play their song:

- 12 *Erica:* Okay, so today we are probably going to focus on playing that song that we all
13 composed and that we will be recording on May 26th, like [Henry] said. So, you ready?
14 Do you remember the things we did last week?
15 *Elise:* I forgot some of the chords.
16 *Erica:* Okay, that's fine! So, D-3, D-1, D-3 is like the first part and then its D-3 and then
17 A and then A-1. Remember it?
18 *Elise:* Yeah!

After practicing the song a few times, Erica checked-in with Elise a second time to ensure she understood the first part of the song before moving onto the second half of their composition:

- 61 *Erica:* You think you mastered that? You think you got it? Thumbs up? Do you wanna
62 try the next part?
63 *Elise:* Yeah!
64 *Erica:* Do you remember the fingerings for it?
65 *Elise:* Mhmm.
66 *Erica:* Can you tell me what they are?
67 *Elise:* Uhm, D-3, A, A-1
68 *Erica:* Yep – you got it!

In her weekly logs, Erica provided further evidence that she acknowledged Elise's perspective during mentoring sessions she was not audio recorded:

“I acknowledged my partner’s perspective and encouraged her creative ideas” (Mentor Weekly Log; Session #3)

“[I] acknowledged [my] mentee’s perspective and concerns” (Mentor Weekly Log; Session #4)

“[I] asked if she was tired and if she understood” (Mentor Weekly Log; Session #10)

In summary, Erica implemented three of the four autonomy-supportive strategies in her ABC Companion while interacting with Elise. She consistently attempted to support Elise’s autonomy by involving her in the decision-making process and acknowledging her perspective. Erica also provided Elise with choices, although on a less consistent basis. Erica corroborated these observations during her mentor support meeting reflections. Specifically, during our second meeting, Erica wrote that “Acknowledging [Elise’s] perspective and involving her in the decision-making process” were useful strategies while attempting to support Elise’s autonomy (Mentor Support Meeting Template #2). Elise further reflected on the importance of these two strategies in her exit interview. Specifically, when asked whether she felt it was easy to support Elise’s autonomy, Erica replied:

Yeah! Sometimes I feel like my teachers don’t exactly know what I struggle with. Then when I am mentoring I really saw that – Oh I’ am the teacher now and I always have to like ask my mentee what she thinks about that? And if she feels comfortable with that? Or if she understands that? So yeah, I kind of understand what [Elise] feels like [as a student]

Erica’s interview response further highlights her focus on acknowledging Elise’s perspective and checking-in with her during mentoring sessions to ensure she understood what she was being taught and was comfortable moving forward. It appears Erica’s previous experiences as a student helped her improve upon her own mentoring practice by acknowledging Elise’s perspective during mentoring sessions.

How did Erica support Elise’s sense of belonging?

Despite feeling comfortable supporting autonomy, Erica felt challenged to support

Elise's belonging at the outset of the mentoring program. Erica described that her discussions with Elise were often brief as they were both shy during mentoring sessions. Erica's reflections during mentor support meetings, however, indicate she overcame this challenge by inviting Elise to discuss her days at school. That is, Erica reported that "Asking about her weekend and school" was a useful strategy to support belonging because "... [Elise] was glad to share her activities at school" (Mentor Support Meeting Template #2). Recordings of Erica and Elise's interactions indicate that although their interactions were brief, Erica attempted to show an interest in Elise and her days at school. For example, during the third mentoring session, Erica began the session by asking Elise what school she attended:

- 8 *Erica:* Do you go to [Name of school]?
9 *Elise:* Yeah!

In this same exchange about Elise's school, Erica shared something about herself (e.g., personal disclosure):

- 10 *Erica:* Who is your teacher? I went there you know!
11 *Elise:* [Name of teacher].
12 *Erica:* Okay, let's work on violin stuff.

In a later mentoring session, Erica continued to show personal interest in Elise and share some information about herself as well (Audio Record; Session #5):

- 86 *Erica:* Did you have a long day at school today?
87 *Elise:* Yeah.
88 *Erica:* What did you do?
89 *Elise:* We played a game called Octopus and I had to run a lot.
90 *Erica:* I used to love playing Octopus!
91 *Elise:* Yeah! And we did a lot of writing today!
92 *Erica:* Yeah that can hurt your hands when you are writing a lot! Okay, ready? So,
93 second part is D-3, A, and A-1.

In these examples, Erica was demonstrating a personal interest in Elise while also sharing some information about herself, two strategies she often implemented to support Elise's belonging.

Erica confirmed this observation in several of her weekly logs, writing:

“I asked about her day” (Mentor Weekly Log; Session #2)

“I asked about her day and interests” (Mentor Weekly Log; Session #3)

“I asked about her school” (Mentor Weekly Log; Session #5)

“I asked about her week and day” (Mentor Weekly Log; Session #8)

In her exit interview, Erica continued to reflect on her initial struggles to establish a connection with Elise:

[Elise] was a bit shy. Especially in the beginning. Well I guess both of us didn’t really talk much, so it took a while. Then I thought it was easy. Being nice to [Elise] and like talking to her about her school or her friends, her life.

In summary, Erica often attempted to support Elise’s sense of belonging by asking about her day at school (i.e., demonstrating a personal interest) and telling her something about herself (i.e., making a personal disclosure). Both Hannah and Henry described Erica as a “quiet” and “shy” young women which helps explain why she felt challenged to form a connection with Elise. Over time, however, Erica learned to support Elise’s belonging by tailoring her discussions to Elise’s interests and life outside of the music program, which she enjoyed discussing.

How did Erica support Elise’s sense of competence?

During the mentoring program, Erica was recorded implementing two of the three competence-supportive strategies in her ABC Companion. Erica supported Elise’s sense of competence by encouraging her and providing her with effort-focused feedback during each of the three mentoring sessions that Dyad E was audio recorded.

For example, Erica supported Elise’s sense of competence by encouraging her after she successfully played a rhythm during the fifth mentoring session:

103 *Erica:* Yeah! That’s really nice. I love that sound!

In a second example, Erica encouraged Elise's successful performance during the eighth mentoring session:

28 *Erica:* Okay that's really good! Okay so that was the first half! And you are doing really
29 good!

Erica also provided Elise with effort-focused feedback during mentoring sessions. For example, during the third mentoring session, Erica commented on Elise's learning process after she successfully played a rhythm:

105 *Erica:* Wow! You remember it, that's awesome! You're getting it! Did you practice at
106 home?
107 *Elise:* Yeah!

Erica's consistent implementation of these strategies is supported in several of her mentoring log responses:

"I told her she was learning" (Mentor Weekly Log; Session #3)

"I gave encouraging-to-improve comments" (Mentor Weekly Log; Session #4)

"I encouraged her progress" (Mentor Weekly Log; Session #5)

"I complimented [Elise] on her hard work" (Mentor Weekly Log; Session #10)

In summary, Erica's audio records and mentoring logs demonstrate her consistent support for Elise's competence by focusing on her improvement and progress. Finally, in her exit interview, Erica reported a perceived sense of ease while supporting Elise's competence:

I thought it was easy. Encouraging them to practice more, or focusing on their learning instead of how other people see them.

Erica's interview response highlights her accurate understanding of the benefits of effort-focused feedback (e.g., "focusing on their learning") and the detrimental impact of ability-focused feedback (e.g., "instead of how other people see them").

Section 3: Mentee BPN Satisfaction

Data collected from mentee weekly logs (BPN Satisfaction), audio recordings during the mentee support meetings, and mentee exit interviews were used to address my second research question: Did mentees experience the satisfaction of their basic psychological needs? Table 6 shows mentees' mean ratings of perceived BPN satisfaction in their weekly logs.

Table 6
Mentee Autonomy, Belonging, and Competence Satisfaction

<u>Mentee</u>	<u>Autonomy Satisfaction</u> <u>M (SD)</u>	<u>Belonging Satisfaction</u> <u>M (SD)</u>	<u>Competence Satisfaction</u> <u>M (SD)</u>
A. Samantha	2.50 (0.57)	3.00 (0.00)	2.75 (0.50)
B. Brittney	3.00 (0.00)	2.75 (0.50)	3.00 (0.00)
C. Catharine	1.75 (0.50)	2.50 (0.57)	2.25 (0.50)
D. Dakota	2.75 (0.50)	2.75 (0.50)	2.00 (0.00)
E. Elise	2.67 (0.57)	2.67 (0.57)	3.00 (0.00)
Range	1.75 – 3.00	2.50 – 3.00	2.25 – 3.00
Total Satisfaction	2.53 (0.47)	2.73 (0.18)	2.60 (0.45)

Note: Weekly ratings of BPN satisfaction were derived by asking mentees to rate their perceived levels of satisfaction on a three-point scale.

In general, mentees reported moderate-to-high amounts of BPN satisfaction (i.e., ratings above the midpoint of the three-point scale). Mentees reported the least amount of satisfaction for their autonomy. During the mentoring program, four mentees (Samantha, Brittney, Elise, and Dakota) often explained that they perceived “just enough” or “a little bit” of support for autonomy. The remaining mentee (Catharine) described feeling that her mentor could not support her autonomy as she was interested in learning more sophisticated and advanced songs. These perceptions parallel mentors reported difficulties to support autonomy during the latter

part of the mentoring program when features of the mentoring task and classroom became more structured and focused. Although mentors adapted their autonomy support to focus on different strategies/approaches, mentees did not appear to notice this accommodation.

Consistent with existing research, mentees reported the greatest satisfaction of their need for belonging (i.e., connectedness; Karcher, 2005). All mentees often attributed these feelings to interacting with both their individual mentor and other mentors and mentees in the classroom. This finding indicates that although mentors reported belonging was the most difficult BPN to support, their efforts and presence during mentoring sessions were positively perceived by their mentees.

Competence was the second most satisfied BPN among mentees. Although mentors reported that this BPN was the easiest to support, results indicated that mentees did not always benefit from the support they received. Specifically, mentees often focused on the quality of their performances (positive or negative), as opposed to the feedback they received from their mentors, while explaining whether they felt competent during mentee support meetings. Interestingly, although some mentees often reported feelings of “incompetence” during mentoring sessions, all mentees spoke about developing their identities as competent musicians after the mentoring program (i.e., they all learned that they could play an instrument).

The section below explores the experiences of each individual mentee to understand whether and how mentors’ support influenced mentees BPN satisfaction.

Dyad A: Stella and Samantha

Did Samantha experience the satisfaction of her need for autonomy?

Stella supported Samantha’s autonomy by inviting her to decide which songs she wanted to learn during the first half of the mentoring program (e.g., they learned Happy Birthday

together). Stella's support became more structured during the latter part of the mentoring program when she needed work with Samantha on the group composition. At that time, she relied more often on her "count us in" strategy. Samantha perceived this as a decrease in her opportunities to be autonomous. That is, during mentee support meetings, Samantha described receiving moderate amounts of autonomy support from Stella during the last four weeks of the program:

"I put the medium face for question one [a rating of 2.00 out of 3.00] because we didn't really make decisions. We had to stick to the thing" [referring to the composition] (Session #7)

"Not really. But I still liked it. [Stella] did a bit!" [responding to whether Stella supported her autonomy during this mentoring session] (Session #8)

"I felt happy even though I didn't do it [referring to being able to make decisions] because we did do some control!" (Session #9)

"I got to make a little part!" [referring to being able to co-compose the rhythm Stella created] (Session #10)

It appears that despite receiving limited support for her autonomy, Samantha still recognized Stella's efforts to provide her with "some" and "a bit" of support, which was enough to make her "happy" during mentoring sessions. In her exit interview, when asked to reflect on her relationship with Stella and whether she felt autonomous, Samantha replied:

I got to pick a couple of songs before! [referring to before mentors were tasked with creating a rhythm for their mentees] Like I wanted to do Happy Birthday for my sister. It was our birthday a while ago, so it was all good!

Samantha's interview response suggests the autonomy support she received from Stella during the first half of the mentoring program was more meaningful and impactful on her sense of autonomy (i.e., learning Happy Birthday). This finding is consistent with research highlighting the importance of aligning opportunities for autonomy with learners' preferences and interests (Patall et al., 2013; Reeve & Jang, 2006).

Did Samantha experience the satisfaction of her need for belonging?

Stella struggled to support Samantha's belonging at the beginning of the program (e.g., "It was a little challenging at first because I didn't know my mentee yet"; Mentor Support Meeting Template #1). Conversely, at the end of the program, Stella described becoming more comfortable supporting Samantha's belonging by asking about her days at school and telling Samantha about her own life (e.g., "I found it pretty-easy"; Exit Interview). Samantha reported the highest belonging satisfaction among all mentees. During mentee support meetings, Samantha often attributed her feelings of belonging to interacting with Stella, her friends (the other mentees), and the other mentors in the program:

"I felt extremely happy because I got to work with [Stella] and talk and stuff, it was fun!" (Session #8)

"I like working with everyone! I got to be with the other mentors!" (Session #9)

"I felt so happy because I got to meet other people, not just my mentor. I got to be with my friends and other people" (Session #10)

Samantha's response during the eighth mentoring session indicates she benefitted from Stella's efforts to support belonging by demonstrating a personal interest in her life. Further, when asked whether she felt like her and Stella were friends during her exit interview, Samantha replied:

Yes! Because she would help me [and] she would tell me stuff! She was always kind, friendly, and happy because she was always filled with joy, she was always like yay!

Samantha's interview response further indicates she appreciated when Stella made personal disclosures during mentoring sessions (e.g., "... she would tell me stuff!"). This finding complements Ryan et al.'s (2016) findings that self-disclosure fosters close relationships among mentors and mentees. Taken together, Samantha experienced a strong sense of belonging due to Stella's consistent effort to establish a connection with her. Samantha's findings also indicate that she benefitted, in terms of belonging, through her interactions with the other mentees and

mentors in the program. On balance, Samantha's experiences support SDT's definition of belonging (e.g., feelings of connection and belonging to both an individual and/or other's in a group; Ryan & Deci, 2017).

Did Samantha experience the satisfaction of her need for competence?

In general, Stella supported Samantha's competence by encouraging her successful performances on the violin and focusing on her improvement and progress (e.g., "... you just worked really hard ... Good Job!"; Audio Record; Session 4). Stella also felt comfortable supporting Samantha's competence because she was often engaged and excited to learn the violin during mentoring sessions (e.g., "[Samantha] was very focused and was very encouraged about practicing"; Exit Interview). Samantha often described feeling competent during mentee support meetings. When given the opportunity to explain these feelings, Samantha often spoke about performing well on the violin and receiving support from Stella:

"I just like it! [Stella's] very nice. She's helpful and she teaches me lots of stuff and its awesome!" (Session #8)

"I am very happy because I did very well!" [referring to her performance with the violin] (Session #9)

"I kind of felt successful because I did lots of mistakes" (Session #10)

It is interesting to note that although Samantha attributed her feelings of competence to the support she received from Stella, she often focused on her performances during mentoring sessions while explaining whether she felt competent. This finding indicates that Samantha's self-attributions and appraisals may have been more impactful on her sense of competence, compared to the verbal feedback she received from Stella. In support of this, Samantha continued to focus on the impact of her performances during her exit interview. That is, when asked whether she felt a sense of competence throughout the mentoring program, Samantha replied:

“Sometimes, if I got it wrong, I would be, like, ‘Awe.’” Despite this, while reflecting on what she learned about herself by participating in the mentoring program, Samantha reported a newfound identity as a musician, explaining:

My experience was awesome! I never knew I could do the violin so awesome! I like how we learned so much songs and I am so happy to have a mentor!

Samantha’s interview response suggests that although she sometimes felt incompetent during mentoring sessions, overall, she felt as though she developed her skills as a musician and was happy for the experience.

Dyad B: Bella and Brittney

Did Brittney experience the satisfaction of her need for autonomy?

In Section 2, I described how Bella learned to tailor her language and practices to better support Brittney’s interests and preferences (i.e., learning Ode to Joy instead of Twinkle-Twinkle Little Star). At the end of the mentoring program, Bella described that she felt comfortable supporting autonomy because Brittney was willing to voice her opinion and make decisions during mentoring sessions (e.g., “I thought it was pretty-easy ... [Brittney] was really good at making decisions”; Exit Interview). Brittney reported the highest autonomy satisfaction among all mentees. During mentee support meetings, Brittney often described an appreciation for the autonomy support she received from Bella:

“We barely made decisions. But it was just like [Bella] wasn’t too controlling so it was just like really happy” (Session #7)

“[Bella] let me make a lot of decisions so I am extremely happy!” (Session #9)

“I did get to have a little bit of control. Like me and [Bella] decided we were going to do two D’s and two A’s and repeat it” (Session #10)

Brittney’s responses indicate that although she was not always provided with flexible autonomy support, the support she received was enough to make her happy during mentoring sessions. In

her exit interview, Brittney continued to describe an appreciation for the autonomy support she received from Bella. That is, when asked if she felt autonomous during mentoring sessions with Bella, Brittney replied:

Yes! Because in the recording I got to choose. I had lots of choices. She asked me like how much D's and A's do you wanna do and stuff so I had lots of choices with the song.

Brittney's interview response indicates she appreciated the choices she was offered while co-composing her song with Brittney. Taken together, Bella's willingness to involve Brittney in the decision-making process benefitted her feelings of autonomy.

Did Brittney experience the satisfaction of her need for belonging?

To support Brittney's belonging, Bella consistently invited her to talk about her days outside of the music program while also telling her about her own life. Bella felt comfortable supporting belonging since Brittney was outgoing and talkative during mentoring sessions (e.g., "I found it really easy ... she really enjoyed engaging in conversations"; Exit Interview). During mentee support meetings, Brittney often attributed her feelings of belonging to her friendship with Bella, as well as interacting with her friends during class:

"I was extremely happy because my friendship with [Bella] is really good!" (Session #7)

"I was extremely happy because [Bella] was asking me a whole bunch of nice questions. She was showing me a lot of her things and it just made me extremely happy about our friendship!" (Session #8)

"I felt a little bit of friendship because I wasn't really working with [Bella] but I was working with [Elise]" (Session #9)

"I was extremely happy because I got to work with everyone!" (Session #10)

Brittney's responses indicate she benefitted from Bella's efforts to demonstrate a personal interest in her days and life. Bella's responses also indicate she felt a sense of belonging with Bella, as well as the with the other members of the mentoring class. Just like Samantha, this

feeling is in alignment with SDT's definition of belonging (e.g., a sense of belonging to an individual and/or other's in a group; Ryan & Deci, 2017). In her exit interview, Brittney continued to describe feelings of belonging and connection with Bella. That is, when asked if she felt a sense of friendship and belonging with Bella during mentoring sessions, Brittney replied:

Yes! Because [Bella] is just like really friendly. And, like a friend, would be really nice to me and like help me!

Taken together, it appears Bella felt like she belonged within her individual mentoring relationship and within the larger mentoring group.

Did Brittney experience the satisfaction of her need for competence?

Bella supported Brittney's competence by primarily encouraging her success during mentoring sessions (e.g., "That's really good! You are doing really well!"; Audio Record; Session 2). Bella also felt comfortable supporting competence due to Brittney's engagement during mentoring sessions and willingness to learn the violin (e.g., "I found it pretty easy ... [Brittney] really loves to learn new things"; Exit Interview). Brittney reported the highest competence satisfaction among all mentees (alongside Elise). During mentee support meetings, Brittney often attributed her sense of competence to performing well on the violin and receiving support from Bella:

"[Bella] taught me lots of things, like Twinkle-Twinkle!" (Session #7)

"I put extremely happy because [Bella] made me feel like a pro! She kept on saying that's very, very good! Oh my gosh you are getting so much better!" (Session #8)

"I felt successful! I made some mistakes but I still felt like I was good!" (Session #9)

Brittney's responses during mentee support meetings indicate she interpreted Bella's support for her competence in a positive manner. That is, Bella's consistent effort to comment on and encourage Brittney's effort and improvement helped Brittney "... feel like a pro". Brittney

continued to focus on Bella's influence on her competence during her exit interview. Specifically, when asked if she felt competent during mentoring sessions with Bella, Brittney replied: "Yeah! She taught me lots and lots! I never knew like I would be able to learn so much!" Finally, while reflecting on what she had learned about herself by participating in the mentoring program, Brittney spoke about discovering her identity as a musician, explaining:

I learned that I could do stuff that I never did before. Like the violin. I never knew I could. So now I am happy that I can, and I know I can! [Bella] helped me so much during [Henry's] class because like, before I didn't even know how to play one string on the violin. But when [Bella] came and she started teaching me, then I finally like knew more stuff and it made me feel like I liked having a peer helper!

Taken together, Brittney's experiences indicate her competence was satisfied due to the support she received from Bella and performing well on the violin during mentoring sessions. Further, just like Stella, Bella also developed an identity as a competent musician by participating in the mentoring program.

Dyad C: Coralline and Catharine

Did Catharine experience the satisfaction of her need for autonomy?

Coralline struggled to support Catharine's autonomy for three reasons. First, she felt unprepared to teach the cello for the first time (e.g., "I didn't know what to teach"; Mentor Support Meeting Template #1). Second, Catharine was interested in learning sophisticated songs that were beyond her current capabilities (i.e., she wanted to learn "Drag Me Down"). Finally, Coralline felt unprepared by the mentoring program to support autonomy (e.g., "I think we could have done more ... I got like the gist of it"; Exit Interview). Coralline's challenges to support autonomy are reflected in Catharine's reported autonomy satisfaction (i.e., the least satisfied among all mentees). During mentee support meetings, Catharine often reported receiving low amounts of support for her autonomy:

“We just stuck with the actual notes [referring to the notes of the rhythm that Coralline created] but it was fun!” (Session #7)

“We stuck to the same song that we did” [again referring to the rhythm that Coralline created] (Session #8)

“We didn’t do any control. I listened and I didn’t do anything so.” (Session #9)

In her exit interview, Catharine explained why she often felt like Coralline could not satisfy her autonomy during mentoring sessions. Specifically, when asked if she felt autonomous during the mentoring program, Catharine replied:

I don’t know. I didn’t have any choices because I didn’t have anything to do. Like I didn’t know what else to do other than make the music that we were doing. All the music that I listen to, it would be hard to play.

It appears Coralline was unable to satisfy Catharine’s autonomy due to Catharine’s limited experience with the cello (i.e., her current skill-set limited her ability to learn the songs she wanted to play). Catharine’s experience supports the focus within pedagogical research on the benefits of scaffolding (e.g., teacher/mentor competence support) to help students first acquire the skills and knowledge (competence) they need before completing tasks independently and successfully (Perry & Drummond, 2002). Future research could avoid this challenge by providing high-school mentors with both pedagogical and relationship skills training to help them develop the musical skills of their mentees prior to inviting them to make decisions during mentoring sessions.

Did Catharine experience the satisfaction of her need for belonging?

Coralline felt challenged to support Catharine’s belonging as she was often “shy” during mentoring sessions, which often make things “awkward” between them. The conversations that were audio recorded between Coralline and Catharine were also very brief with Catharine often avoiding any personal discussions. As previously discussed, Catharine’s sensitive and

challenging living situation may help explain her reluctance to talk about personal information while being audio recorded. These brief and awkward exchanges are reflected in Catharine's reported belonging (i.e., the least satisfied among all mentees). Despite this, during mentee support meetings, Catharine attributed her belonging satisfaction to interacting with Coralline and her friends during mentoring sessions:

“[Coralline] really helped me” [in response to whether she felt a sense of belonging after this mentoring session] (Session #8)

“I got to play with everybody not just my mentor. But I like playing with my mentor!” (Session #9)

In her exit interview, when asked if she felt like Coralline was her friend during mentoring sessions, Catharine replied: “Yeah! [Coralline] was fun and really nice.” Despite the challenges Coralline faced to support Catharine's belonging, it appears Catherine perceived this dyad's relationship positively.

Did Catharine experience the satisfaction of her need for competence?

Whenever possible, Coralline supported Catharine's competence by encouraging her successful outcomes during mentoring sessions (e.g., “Okay, good job!”; Audio Record; Session 7). On average, however, Coralline supported Catharine's competence intermittently as she often “forgot” to support this BPN during mentoring sessions. This perceived challenge is also reflected in Catharine's competence satisfaction (i.e., the second lowest among all mentees). During mentee support meetings, Catharine often attributed her low sense of competence to internal causes (i.e. making mistakes on the cello):

“I put the middle face because I wasn't really good at it. I got better than last time though.” (Session #7)

“I wasn't very good at playing the cello and I messed up a couple times” (Session #8)

“I kept making mistakes on the notes” (Session #10)

Conversely, Catharine believed she received competence support from Coralline:

“When I made a mistake [Coralline] helped me. She made me feel better all the time!”
(Session #9)

Catharine continued to focus on Coralline’s influence on her sense of competence during her exit interview. That is, when asked if she felt competent during mentoring sessions with Coralline, Catharine stated: “Yeah! It seemed like it because she seemed really happy when I got everything right.” Catharine’s interview response indicates she was encouraged by the praise she received for her performances during learning tasks. Finally, while reflecting on what she learned about herself by participating in the mentoring program, Catharine reported a newfound identity as a musician, explaining: “I found out that I could play [the cello]. The other instruments I can’t really play!”

Taken together, although Catharine struggled to learn the cello during mentoring sessions (e.g., “I kept making mistakes”), she appreciated the support she received from Coralline and felt as though she developed her skills as a musician by participating in the program.

Dyad D: Danielle and Dakota

Did Dakota experience the satisfaction of her need for autonomy?

Danielle struggled to support Dakota’s autonomy because they did not share a common instrument (e.g., “I tried but it was difficult as she plays the violin”; Mentor Weekly Log; Session #8). Conversely, Stella, who stepped in to mentor Dakota when Danielle was absent, involved Dakota in the decision-making process. Perhaps this was easier for her because she and Dakota were both interested in the violin. It appears Dakota recognized this lack of support from Danielle, referring to only Stella’s support during one mentee support meeting:

“I put a smiley face because [Stella] did let me have some choices so I felt happy”
(Session #7)

In her exit interview, Dakota continued to report a perceived sense of autonomy satisfaction. That is, when asked if she felt autonomous during mentoring sessions with Danielle, Dakota briefly replied: “Yeah!” Taken together, it appears Danielle’s challenge to support Dakota’s autonomy impacted her willingness to enthusiastically describe why she felt autonomous in her relationship. In other words, Dakota’s response may reflect her willingness to report positive outcomes (social desirability), rather than a true reflection of her autonomy satisfaction.

Did Dakota experience the satisfaction of her need for belonging?

Danielle also felt challenged to establish a sense of belonging and connection with Dakota because Dakota was often shy during mentoring sessions. As previously discussed, Danielle was frequently absent and/or late to mentoring sessions, often leaving Dakota without her mentor. Dakota appeared to recognize this seeming lack of commitment. Specifically, during mentee support meetings, Dakota attributed her feelings of belonging to interacting with her friends and Danielle, when she was present:

“I like all my friends and my teachers like [Henry] and you! [referring to me]”
(Session #7)

“[Danielle] doesn’t usually come but I was happy because she did come!” (Session #9)

Dakota continued to report a perceived sense of belonging satisfaction during her exit interview. That is, when asked if she felt a sense of belonging and friendship with Danielle during mentoring sessions, Dakota replied: “Yeah! I did feel like friends with her!” It appears Dakota appreciated when Danielle attended the mentoring program, but also benefited, in terms of belonging, through her interactions with the larger mentoring group. This finding is consistent

with SDT's definition of belonging (e.g., a sense of belonging to an individual and/or other's in a group; Ryan & Deci, 2017).

Did Dakota experience the satisfaction of her need for competence?

On average, Danielle supported Dakota's competence by encouraging her successful performances and outcomes during mentoring sessions feedback. Danielle felt comfortable supporting competence as Dakota was often engaged and excited to learn during mentoring sessions (e.g., "That was easy ... she was good at a lot of stuff!"; Exit Interview). Despite Danielle's reported ease supporting competence, Dakota reported the lowest competence satisfaction among all mentees. During mentee support meetings, Dakota often attributed her low sense of competence to making mistakes during mentoring sessions:

"I wasn't very good at it and I kept playing the wrong stuff. It didn't sound very good. I was just getting frustrated" (Session #7)

"I put the neutral face because I kept making mistakes" (Session #8)

"I kept making mistakes!" (Session #9)

Dakota continued to focus on the detrimental impact of her mistakes during her exit interview.

That is, when asked if she felt competent during mentoring sessions, Dakota stated:

No, I didn't really feel like I was good at it because I kept making mistakes and I kept getting upset about it.

Dakota's findings further highlight the influence of mentees self-appraisals following mentoring sessions. Dakota's temperament and experiences outside of the mentoring program may have also influenced her sense of competence. Dakota was described by Henry as a "perfectionist" who is also "sensitive [and] unpredictable." Further, Dakota was bullied/teased at school for her violin skills during the mentoring program. These two factors most likely contributed to Dakota's feelings of "incompetence" during mentoring sessions. In support of this,

research has found that mentees who have been bullied and/or experienced rejection from peers, either before or during mentoring programs, are often more sensitive during their interpersonal interactions with their mentor (Downey, Lebolt, Rincón, & Freitas, 1998). Finally, despite Dakota's frustration during mentoring sessions, in her exit interview, she reported a new identity as a developing musician. Specifically, while reflecting on what she learned about herself by participating in the mentoring program, Dakota explained: "[I learned] that I can do the piano. I never knew that I could!" Dakota's interview response echoes the responses of each other mentee presented so far (e.g., learning that they could play an instrument).

Dyad E: Erica and Elise

Did Elise experience the satisfaction of her need for autonomy?

Erica consistently supported Elise's autonomy by involving her in the decision-making process and acknowledging her perspective. Erica relied upon her previous experiences as a student to ensure that Elise was comfortable during mentoring sessions and understood what she was being taught. During mentee support meetings, Elise often described receiving "some" support for her autonomy:

"I put the middle face because she wasn't really that controlling. We did get to make decisions so that makes me happy. She wasn't that much controlling" (Session #7)

"I did give some help and make some decisions and it was enough to make me happy!" (Session #8)

Elise's responses indicate a sense of ambivalence regarding Elise's autonomy support. Despite this, Elise also reported that she could make some decisions and that these opportunities were "... enough to make [her] happy!" Taken together, it appears Erica's sometimes inflexible autonomy support (due to the context of the classroom) was recognized as such by Elise, but also satisfied her as she could make some decisions.

Did Elise experience the satisfaction of her need for belonging?

Erica felt challenged to support Elise's belonging as conversations between her and Elise were often brief. Erica overcame this challenge, however, by inviting Elise to discuss her days at school. During mentee support meetings, Elise often attributed her belonging satisfaction to being with Erica and her other friends during class:

“It's fun because my friends are there” (Session #7)

“It's really fun to have an older buddy because I grew up with older siblings and stuff!” (Session #8)

“It's awesome because my friends are playing with me!” (Session #9)

In her exit interview, Elise continued to report a perceived sense of belonging satisfaction. Specifically, when asked if she felt a sense of belonging and friendship with Erica during mentoring sessions, Elise replied:

Yes! Because I have a big buddy. I don't have a sister, an older one. And she feels like an older sister to me. That's mostly why!

Elise's interview response clearly indicates that she felt a strong sense of belonging with Erica. Therefore, despite Erica's reported challenges to foster a sense of belonging with Elise, due to shyness, her strategy of demonstrating a personal interest in her life and disclosing personal information seems to have satisfied this BPN.

Did Elise experience the satisfaction of her need for competence?

Erica supported Elise's competence by focusing on her improvement and progress (e.g., “I thought it was easy. Encouraging them to practice ... focusing on their learning”; Exit Interview). Elise reported the highest competence satisfaction among all mentees, alongside Brittney. During mentee support meetings, Elise often attributed her sense of competence to performing well on the violin:

“I put the smiley face because I think we did the whole song well and it made me very happy” (Session #7)

“I felt very successful because I got to do the whole song and not forget it!” (Session #8)

Elise’s sense of competence seems to have been primarily influenced by her positive self-appraisals of her performances on the violin. Elise continued to report a perceived sense of competence satisfaction in her exit interview. That is, when asked if she felt competent during mentoring session with Erica, Elise replied:

Yes! [Erica] showed me that I am really good at music, and music is art, right? And when I do that, when I do music, it just feels happy to me!

Taken together, Erica’s consistent support for Elise’s competence, through both effort and performance-focused feedback, appears to have benefited Elise’s sense of competence and identity as a competent musician.

Section 4: Mentor Reciprocal BPN Satisfaction

Data collected from the BNSIRQ and mentor exit interviews was used to address my third research question: Did mentors experience the reciprocal satisfaction of their basic psychological needs? After the fourth and tenth mentoring sessions, each mentor used a 7-point scale to rate their reciprocal BPN satisfaction. Since the BNSIRQ is designed to measure BPN satisfaction within pre-established relationships, I did not collect a baseline measure of mentor reciprocal BPN satisfaction at Week 1. Table 7 shows mentor’s average ratings of autonomy, belonging, and competence from the BNSIRQ.

Table 7

Mentor Reciprocal Autonomy, Belonging, and Competence Satisfaction

<u>Mentor</u>	<u>Time Point</u>	<u>Autonomy Satisfaction M (SD)</u>	<u>Belonging Satisfaction M (SD)</u>	<u>Competence Satisfaction M (SD)</u>
Stella	Week 4	6.67 (0.57)	5.33 (0.57)	6.00 (0.00)
	Week 10	7.00 (0.00)	7.00 (0.00)	6.67 (0.57)
Bella	Week 4	6.33 (0.57)	5.67 (1.53)	6.33 (0.57)
	Week 10	6.67 (0.57)	6.00 (1.00)	6.67 (0.57)
Coralline	Week 4	7.00 (0.00)	4.67 (2.52)	6.67 (0.57)
	Week 10	7.00 (0.00)	6.67 (0.57)	7.00 (0.00)
Danielle	Week 4	7.00 (0.00)	6.00 (1.00)	6.00 (0.00)
	Week 10	7.00 (0.00)	6.33 (0.57)	6.67 (0.58)
Erica	Week 4	6.00 (0.00)	5.00 (1.00)	6.33 (0.58)
	Week 10	6.33 (0.57)	6.33 (0.57)	7.00 (0.00)
Range	Week 4	6.33 – 7.00	4.67 – 6.00	6.00 – 6.67
	Week 10	6.33 – 7.00	6.00 – 7.00	6.67 – 7.00
Average Satisfaction	Week 4	6.60 (0.19)	5.33 (0.28)	6.27 (0.080)
	Week 10	6.80 (0.29)	6.46 (0.38)	6.80 (0.18)

On average, mentors indicated that each of their BPN's were satisfied by supporting their mentees' needs for autonomy, belonging, and competence. Mentor's BNSIRQ ratings also increased, on average, from Week 4 to Week 10, indicating their feelings of autonomy, belonging, and competence remained satisfied, or grew stronger the more they interacted with

their mentees. Mentors reported the greatest satisfaction of their needs for autonomy and competence, followed by their need for belonging.

In terms of autonomy satisfaction, four mentors (Stella, Bella, Coralline, and Erica) reported an appreciation to act as mentors and teachers within the after-school program, rather than assuming their usual roles as students. These mentors also reported feeling more confident in their own ideas and abilities to act as role models and teachers. These findings are in alignment with SDT's definition of autonomy (i.e., feelings of personal sovereignty and feeling agentic and in-control of one's actions and learning process; Ryan & Deci, 2017). The remaining mentor (Danielle) gave a brief affirmation that she felt a sense of reciprocal autonomy satisfaction during the mentoring program. As was discussed in Section 2, Danielle often struggled to support autonomy (e.g., "I tried [to support Dakota's autonomy] but it was difficult as she plays the violin") and it seems this perceived challenge may have impacted Danielle's own sense of autonomy satisfaction.

Interestingly, among all three BPN's, mentors reported the greatest increase in their senses of belonging from Week 4 to Week 10. Mentors initially lowered ratings of belonging satisfaction at Week 4 mirror their reported difficulties establishing relationships with mentees (i.e., their mentees were often shy during mentoring sessions). This finding is consistent with existing research on reciprocal BPN satisfaction and how it is supported. Specifically, research suggests that reciprocal BPN satisfaction depends upon an individual's perception of how successful they are in providing support to their relational partner (Deci et al., 2006). Despite their lowered ratings on the BNSIRQ (compared to autonomy and competence), three mentors (Stella, Bella, and Erica) described feeling connected to their individual mentee in their exit interviews. These mentors also described feeling good about themselves and the relationships

they formed as their mentees were often excited to see them each week. These feelings are in alignment with SDT's definition of belonging and how it is supported (e.g., feeling connected with someone and/or feeling like an integral part of a group by taking care of others; Ryan & Deci, 2017). In their exit interviews, the remaining two mentors (Coralline and Danielle) gave brief and hesitant affirmations that they felt a sense of belonging and connection within their relationships. As will be discussed in this section, the reported difficulties that these two mentors experienced while supporting this BPN most likely help explain these responses.

Finally, while explaining their competence satisfaction, four mentors (Stella, Bella, Coralline, and Erica) described an increase in their musical knowledge and abilities to teach their respective instruments (i.e., they felt like competent teachers and musicians). These feelings are in alignment with SDT's definition of competence (i.e., feelings of effectiveness; Ryan & Deci, 2017) and the environmental circumstances that support them (i.e., the expansion of skills and opportunities for people to show their capacities and capabilities; Ryan & Deci, 2017). The remaining mentor (Danielle) described that she was unable to experience this increase in her knowledge and teaching capabilities as her mentee played a different instrument.

To complement mentor's ratings on the BNSIRQ, the section below briefly explores how each mentor responded to four questions during their exit interview. Three questions asked mentors to reflect on their mentoring efforts and whether they increased their own feelings of autonomy, belonging, and competence. The fourth question asked mentors to reflect on their skill-building experience and whether learning about the three BPN's helped them establish a relationship with their mentee.

Mentor A: Stella

Did Stella experience the reciprocal satisfaction of her basic psychological needs?

While reflecting on her increased autonomy in her exit interview, Stella described feeling more confident in her own ideas and abilities as a leader. Specifically, Stella reported learning:

That I' am actually pretty good at leading. I don't tell myself that enough. I usually try to like not lead – you know? And like follow other people. But I've learned that I am actually pretty good at like taking control and helping and inspiring others.

Stella's feelings of self-endorsement and personal sovereignty, rather than her usual pattern of conformity, are congruent with SDT's definition of autonomy (i.e., feelings of personal volition, agency, and self-endorsement; Ryan & Deci, 2017).

While reflecting on whether mentoring Samantha increased her own sense of belonging, Stella replied, "Yeah! It made me feel good! Especially when she was excited about seeing me!" Stella's reporting that she felt "good" while helping and mentoring Samantha supports SDT's definition of belonging (e.g., feeling connected with someone but also feeling like an integral part of a group; Ryan & Deci, 2017). That is, by being an "integral" part of Samantha's learning and acting sensitively towards her during mentoring sessions, Stella gained a sense of belonging.

During her exit interview, Samantha also reported an increase in her own sense of competence:

Yeah it did! Because I've never really taught violin a lot. So, I think it made me feel like a teacher. Like I knew what I was doing. It definitely teaches you more about yourself and your instrument because it's a lot different than someone else teaching you. And now you are teaching someone else about it. So, it's like a different angle of like teaching and learning and the whole process.

Stella's interview response indicates her mentoring experience increased her sense of competence as a teacher. This expansion of knowledge surrounding the learning process and skill as a teacher aligns with SDT's definition of competence (e.g., feelings of effectiveness

through opportunities to expand one's skills over time; Ryan & Deci, 2017).

Finally, at the end of the mentoring program, Stella reported a positive perception of the mentor skill-building sessions:

I thought it was really neat because I never really thought like, when I babysit or hang out with younger kids, I never really thought about like competence and belonging and autonomy. I kind of just did it, but without really thinking about it very much. So, it was cool having to think more about it and then knowing and learning how effective it is with the kids. You don't really think much about how special and important that is for someone. But like sometimes, a lot of the time, it is really important for people. Feeling belonged and acknowledged and strong and confident in something creative and beautiful like music.

In Stella's case, she viewed the SDT-informed skill-building approach to be helpful as it increased her awareness of children's BPNs and how to positively interact with them.

Mentor B: Bella

Did Bella experience the reciprocal satisfaction of her basic psychological needs?

While reflecting on her increased sense of autonomy in her exit interview, Bella described feeling more agentic and in control of her learning and development at the after-school program:

I think it gave us a chance as musicians in the music academy to really step up. I don't think we always have that opportunity because we are always the ones being taught and stuff. So, I think it was a really cool opportunity to be able to be the ones teaching the kids music and stuff.

It appears Bella appreciated Hannah's invitation to act as a peer mentor as it allowed her to assume a teaching and leadership role (i.e., feelings of personal volition and agency; Ryan & Deci, 2017).

In her exit interview, Bella described a sense of belonging and connection with her mentee, as well as the larger group of mentees:

I think it was really beautiful to get the chance to be with [Brittney]. Coming to class

every Thursday and seeing how excited the kids are when you come in. Like I would see her walking to school and she would always be super excited to see me and stuff, so I definitely think we built a friendship. And like one time [Brittney] brought me a flower because she was so excited to see me, so I thought that was really nice!

Bella's findings are in alignment with SDT's definition of belonging (e.g., feeling connected to an individual as well as feeling like an integral and important part of a group; Ryan & Deci, 2017).

When asked if acting as a mentor increased her own feelings of competence, Bella replied:

I think the chance to write a song with our peers and stuff was definitely an opportunity that I don't get a lot. So, I think I have really grown with my instrument and my music theory. I think I've gained confidence in just having to step up and be a teacher to the kids.

Bella's interview response indicates her mentoring experience increased her sense of competence as a teacher. Further, Bella reported an expansion of her knowledge with both her instrument and her musical theory, both outcomes that align with SDT's definition of competence (i.e., feelings of effectiveness and the expansion of skills; Ryan & Deci, 2017).

Finally, at the end of the mentoring program, Bella reported a positive perception of the SDT-informed skill-building sessions:

I thought it was really inspiring! And I thought it was an honour to be able to help, well to be chosen to help these kids enter the music academy!

Mentor C: Coralline

Did Coralline experience the reciprocal satisfaction of her basic psychological needs?

During her exit interview, Coralline reported that her mentoring efforts increased her own sense of autonomy:

Sort of! Like when she didn't have any ideas – I could just like – I felt more confident in saying mine.

Despite Corallines hesitancy during her interview, her response indicates her sense of autonomy was satisfied by acting as a peer mentor. Specifically, Coralline felt an increased confidence in expressing her own ideas and opinions during mentoring sessions, feelings that align with a sense of autonomy (i.e., feelings of self-endorsement and volition over ones thoughts; Ryan & Deci, 2017). As previously discussed, Coralline's mentee reported that she was often unable to make decisions during mentoring sessions due to her lack of previous experience with the cello. As a result, Coralline was observed to primarily make the decisions within their relationship, confirming Coralline's interview response.

When asked if mentoring Catharine increased her own sense of belonging and purpose, Coralline hesitantly replied, "Sure..." As previously discussed in Section 2, conversations between Coralline and Catharine were often brief and impersonal. Further, Coralline often described her exchanges with Catharine as "awkward" and Catharine's belonging was the least satisfied among all mentees. It appears these interactions negatively impacted Corallines sense of belonging as well, despite her high BNSIRQ rating.

Conversely, in her exit interview, Coralline described feeling more competent as a teacher and musician after mentoring Catharine. Specifically, when asked if mentoring Catharine made her feel competent, Coralline replied:

Yeah! I've never really taught anyone how to play an instrument so that was new and fun. I got to learn more about how to teach and what I should focus on. Like if I tried teaching something, I need to know it and work on it too. I might know how to teach better now that I have done it a couple of times.

Coralline's interview response indicates that although she did not always feel competent as a teacher during the mentoring program, she experienced an increase in her perceived knowledge and skill with the cello after the program.

Finally, in her exit interview, Coralline reported a neutral perception of her experience

during mentor skill-building sessions: “Uhm, it was a bit short I think. I think we could have done a little more.” As previously discussed, Coralline felt underprepared to teach and mentor her mentee, which seems to have impacted her sense of reciprocal BPN satisfaction.

Mentor D: Danielle

Did Danielle experience the reciprocal satisfaction of her basic psychological needs?

When asked if mentoring Dakota made her feel more autonomous, Danielle replied, “I think so, yeah!” Danielle’s brief reply raises some concerns regarding the usefulness of her BNSIRQ rating. As previously stated, Danielle was often unable to support Dakota’s autonomy due to the incompatibility of their instruments. This finding indicates Danielle’s reciprocal autonomy satisfaction may reflect her willingness to report positive outcomes, rather than a true reflection of her true feelings of volition, agency, and self-endorsement (Ryan & Deci, 2017). As previously stated, future mentoring programs can optimize mentor reciprocal autonomy satisfaction by matching mentors and mentees according to shared common interests (DuBois et al., 2011).

When asked if mentoring Dakota increased her own sense of belonging and purpose, Danielle again briefly and hesitantly replied: “Yeah...” As discussed in Section 2, Danielle reported that supporting Dakota’s belonging was difficult as Dakota was often “shy and closed off” during mentoring sessions. Audio records also suggested that Dakota seemed more comfortable engaging in conversations with Stella and that Danielle’s “attitude and tone” sometimes impacted the quality of her communication. As previously stated, research indicates that internalizing issues and other psychosocial challenges can sometimes interfere with high-school mentor’s abilities to establish healthy relationships with their mentees (Karcher et al., 2010). Taken together, Danielle’s BNSIRQ rating for belonging satisfaction may reflect a certain

degree of responding bias (i.e., social desirability) rather than a true reflection of her sense of belonging with Dakota.

During her exit interview, Danielle reported that her mentoring efforts did not enhance her own sense of competence. Particularly, when asked whether mentoring Dakota made her feel a sense of competence, Danielle replied: “Not too much because we played different instruments.” To reiterate, in SDT, a sense of competence is supported when learners are provided with opportunities to expand their knowledge and skills, as well as opportunities to demonstrate their capabilities (Ryan & Deci, 2017). Therefore, it appears that due to Dakota’s preferences for the piano and violin, Danielle was often unable to achieve this expansion and demonstration of her skills on the guitar, limiting her opportunities to feel competent throughout the mentoring program. Alternatively, some could argue that Danielle was given an opportunity to stretch her musical competencies by learning enough of the piano or violin to successfully mentor Dakota and provide her with instruction during mentoring sessions. Therefore, Danielle’s reported competence satisfaction on the BNSIRQ may again reflect more of an inclination to report positive outcomes, rather than a true indication of her competence satisfaction.

Finally, in her exit interview, Danielle reported a positive perception of the SDT-informed skill-building sessions:

I think that all three of them are very important when you are trying to make someone feel good [referring to the three BPNs]. [I learned] to be more aware when I talk to younger kids [and] don’t just talk to them but ask their opinions and try to put a sense of belonging and competence into their life and not just have random conversations.

Danielle viewed the SDT-informed skill-building approach to be helpful as it increased her awareness of children’s BPNs and how to positively interact with them. Clearly, however, Danielle’s perceptions during her exit interview and actions during the mentoring program are at odds.

Mentor E: Erica

Did Erica experience the reciprocal satisfaction of her basic psychological needs?

In her exit interview, Erica described an appreciation for the opportunity to teach music to a younger peer. Specifically, when asked if mentoring Elise made her feel more autonomous, Erica replied:

Yeah! I felt like I'm not just learning because I want to, but I can also teach other people and share the joy of music with them.

It appears Erica appreciated Hannah's invitation to act as a peer mentor as this opportunity increased her own sense of autonomy at the after-school program (i.e., she felt in control of her learning process). Specifically, it appears Erica gained a sense of autonomy by being invited to take a leadership role and "share the joy of music" with a younger mentee.

When asked if mentoring Elise increased her own sense of belonging and purpose, Erica replied:

Yeah! It felt good helping someone else learn music. [Elise] didn't just only learn how to play her instrument, we had fun with it! And like playing together was really fun! Because like a mentor is kind of different than a teacher, so I guess that [Elise] and I have like a close relationship and that like helps her learn better. Instead of just like a teacher who is always teaching like all content wise and technique. We can like talk to each other and get to know each other better.

Erica's interview response indicates that mentoring and teaching Elise increased her own sense of belonging. Specifically, Erica reported feeling connected with Elise during mentoring sessions, as well as feeling like an important part of her learning process. These responses support SDT's definition of belonging (e.g., feeling connected with someone and/or feeling like an integral part of a group; Ryan & Deci, 2017).

Finally, in her exit interview, when asked if mentoring Elise made her feel more competent, Erica replied:

Yeah! I guess it helps me think back to the basics of violin and how it all began and instead of jumping right into practicing and playing like certain songs. But also like scales and the fingerings and certain factors that would improve the performance of a piece. I learned to be more patient cause I realize that they are much younger than me and they are like really new to this instrument. So, like everything has to go slowly and step by step. You can't just jump from the beginning to like step four.

Erica's reflection indicates she increased her sense of knowledge and capabilities by teaching Elise how to play the violin. As previously discussed, this expansion of knowledge and skills align with SDT's definition of competence (Ryan & Deci, 2017).

Finally, at the end of the mentoring program, Erica reported a positive perception of the SDT-informed skill-building sessions:

I found it helpful for mentors to prepare ourselves. The mentees are a lot younger than us and they are not just like regular teenagers that we hang out with so you gotta like talk to them differently.

It appears Erica viewed the SDT-informed skill-building approach to be helpful as it increased her awareness of children's BPN's and how to positively interact with them during mentoring sessions.

Section 5: Relational Happiness and Satisfaction

Data collected from mentor weekly logs and mentee weekly logs #1 (Relational Happiness and Satisfaction) were used to address my fourth research question: Did mentors and mentees experience happiness and satisfaction in their relationships? Each week mentors and mentees used a 5-point scale to rate their happiness and satisfaction after interacting with one another. Participants then explained their ratings in written form (i.e., What did you like/not like about making music with your mentor/mentee today?). Of interest to my study was whether participants' explanations linked ratings of relational happiness and satisfaction and BPN satisfaction. Table 8 summarizes patterns of relational happiness and satisfaction and their attributions to BPN satisfaction in and across dyads.

Table 8

Participant Weekly Ratings and Attributions for Relational Happiness and Satisfaction

<u>Mentoring Dyad</u>	<u>Relational Happiness and Satisfaction</u> <u>M (SD)</u>	<u>Autonomy Satisfaction</u> <u>Attribution</u>	<u>Belonging Satisfaction</u> <u>Attribution</u>	<u>Competence Satisfaction</u> <u>Attribution</u>
A. Stella	3.86 (1.07)		✓	✓✓✓✓
Samantha	4.00 (1.20)	✓	✓✓	✓
B. Bella	3.71 (0.50)			✓✓✓✓✓
Brittney	5.00 (0.00)		✓✓✓	✓✓
C. Coralline	3.13 (0.64)		✓	
Catharine	5.00 (0.00)			✓✓✓✓
D. Danielle	4.20 (0.45)	✓	✓✓	✓✓✓✓✓
Dakota	4.75 (0.46)			
E. Erica	3.67 (0.82)		✓✓	✓✓
Elise	4.29 (0.95)		✓✓	✓
Range	3.13 – 5.00			

Note: ✓ indicates the number of times each participant attributed their relational happiness and satisfaction to a sense of autonomy, belonging, or competence satisfaction on their weekly log. All weekly log responses are not included as some participants were absent and/or did not complete this field of their log.

Findings indicated that mentors and mentees reported happiness and satisfaction within their mentoring relationships. On average, mentors reported lower levels of relational happiness and satisfaction ($M = 3.71$, $SD = 0.38$), compared to their mentees ($M = 4.60$, $SD = 0.44$). This finding is consistent with research indicating that mentees often report greater levels of relational satisfaction within their mentoring relationships, compared to their older mentors (Karcher, 2005; Ryan et al., 2016).

Across all mentoring sessions, mentors and mentees attributed their feelings of happiness and satisfaction to a sense of autonomy 5.13% of the time (i.e., 2 attributions across 39 total attributions). As discussed in Chapter 1, research indicates that autonomy support in cross-age peer mentoring relationships has a positive, although modest impact, on the relational quality between mentors and mentees (Karcher et al., 2010). It appears that within this sample, autonomy support did not have a strong impact on participant's perceptions of relational happiness and satisfaction.

Participants attributed their feelings of relational happiness and satisfaction to a sense of belonging with their partner 33.33% of the time (i.e., 13 attributions across 39 total attributions). This finding aligns with previous research indicating that a sense of belonging has a strong impact on attachment security and relationship satisfaction, within roommate, best friend, and romantic relationships, respectively (La Guardia et al., 2000; Patrick et al., 2007).

Finally, mentors and mentees attributed their feelings of happiness and satisfaction to a sense of competence 61.54% of the time (i.e., 24 attributions across 39 total attributions). This finding contradicts previous research indicating that a sense of competence is the weakest predictor of attachment security and relationship satisfaction within roommate, best friend, and romantic relationships (La Guardia et al., 2000; Patrick et al., 2007). Interestingly, mentors and mentees reported happiness and satisfaction within their relationships, during times they felt competent, for different reasons. Particularly, mentors often described feeling happy and satisfied after witnessing their mentees' development, success, and progress during mentoring sessions (i.e., when they felt competent as teachers and mentors). For mentees, they often focused on their own experiences of success and development while describing why they felt happy and satisfied within their mentoring relationships (i.e., when they felt competent as

developing musicians). As such, these findings are consistent with existing research indicating that competence is the strongest predictor of individual well-being (self-esteem) within romantic relationships (Patrick et al., 2007). This finding highlights the importance of competence within cross-age peer mentoring relationships, in terms of relational happiness and satisfaction.

To help complement participant ratings of relational happiness and satisfaction, the section below briefly explores each participant's attributions of relational happiness and satisfaction across all mentoring sessions.

Dyad A: Stella and Samantha

Stella and Samantha's Attributions

Across all mentoring sessions that she was present, Stella did not attribute her relational happiness and satisfaction with Samantha to a sense of autonomy satisfaction. Therefore, although Stella reported a high degree of autonomy satisfaction while mentoring Samantha, it appears this outcome did not influence her sense of relational happiness and satisfaction. In Samantha's case, she attributed her happiness and satisfaction to a sense of autonomy satisfaction on one occasion. Specifically, after the final mentoring session, Samantha stated that she was "Happy" with the way things went between her and Stella because "[I] got to make a little part." Here, Samantha is referring to Stella inviting her to co-compose a section of their song during the latter part of the mentoring program. It appears this "high-quality" autonomy support (e.g., aligned with Samantha's preferences; Patall et al., 2013) positively influenced her relational happiness and satisfaction during this mentoring session.

In terms of belonging, Stella attributed a high rating of relational happiness and satisfaction to a sense of belonging during one mentoring session. Specifically, after the eighth mentoring session, Stella reported that she was "Very Happy" because "[Dakota] opened up a lot

which was encouraging for me.” Here, Stella is referring to a mentoring session where she was mentoring both Samantha and Dakota, as Danielle was absent. In this mentoring session, Stella was audio recorded spending a significant amount of time comforting Dakota after she was bullied by one of her peers at school. It appears Dakota’s personal disclosure during this mentoring session (i.e., discussing her emotions after being bullied) increased Stella’s feelings of happiness and satisfaction within their relationship. This finding supports Ryan et al.’s (2016) findings that when mentees disclose their emotions to their mentors, mentors will often feel a sense of connection and belonging within their relationships.

Samantha attributed her high ratings of relational happiness and satisfaction to a sense of belonging on two occasions. During the first occasion, Samantha reported that she was “Extremely Happy” because “We did music and we all did it together.” On the second occasion, Samantha reported that she was “Very Happy” because “I was with [Brittney] and [Elise].” Samantha also attributed a low sense of relational happiness and satisfaction to the “thwarting” of her sense of belonging with Stella. Specifically, Samantha reported that she was “A Little Happy” because “[she] shared with [Dakota].” Samantha’s response indicates a desire to work independently with Stella and a decrease in her relational happiness and satisfaction when this desire was not met. Samantha’s responses further support the finding that mentees often felt a sense of belonging with the entire mentoring program (e.g., “I was with [Brittney] and [Elise]”), as well as with their individual mentors.

For Stella, a sense of competence satisfaction appeared to be the most influential BPN on her levels of relational happiness and satisfaction. Stella attributed her high ratings of relational happiness and satisfaction to a sense of competence on four occasions. For example, after the third mentoring session, Stella reported that she was “Happy” because “[Samantha] played with

the bow and did really well for the first time and she was confident enough to play for everyone.” Similarly, after the next mentoring session, Stella reported that she was “Extremely Happy” because “[Samantha] seems so much more comfortable on the violin which is encouraging.” In later sessions, Stella attributed high levels of relational happiness and satisfaction to Samantha’s excitement after playing her instrument successfully (e.g., “I liked that she was happy and got excited and told me she wanted to play it for her sister”) and getting a lot accomplished during a mentoring session (e.g., “I like that we made good progress”). Samantha, although less frequently, similarly attributed her high ratings of relational happiness and satisfaction to a sense of competence satisfaction. For example, during the fourth mentoring session, Samantha said that she was “Very Happy” with the ways things went between her and Stella because “[we] both finished Happy Birthday”.

It appears both Stella and Samantha gained a sense of happiness and satisfaction from their relationship through a perceived sense of competence. A sense of competence satisfaction influenced their levels of happiness and satisfaction in different ways, however. For Stella, she often derived her happiness and satisfaction during times when Samantha successfully demonstrated her skill with the violin. For Samantha, she derived her happiness and satisfaction by learning new songs on the violin.

Dyad B: Bella and Brittney

Bella and Brittney’s Attributions

Across all mentoring sessions, neither Bella nor Brittney attributed their ratings of relational happiness and satisfaction to a sense of autonomy support from one another. This stands in contrast to their high levels of reported autonomy satisfaction (i.e., 6.67 out of 7.00 and 3.00 out of 3.00, respectively). It appears neither Brittney nor Bella derived relational happiness

and satisfaction from the autonomy satisfaction they received from one another.

Across all mentoring sessions that she was in attendance, Bella did not attribute her relational happiness and satisfaction to a sense of belonging with Brittney. This finding stands in contrast to Bella's reported belonging satisfaction (e.g., 6.00 out of 7.00) and reflections that her and Brittney "definitely built a friendship" (Exit Interview). It appears that despite having her sense of belonging satisfied in her relationship with Brittney, Bella did not provide evidence, or attribute these feelings to her sense of relational happiness and satisfaction after mentoring sessions. In Brittney's case, she attributed her relational happiness and satisfaction to a sense of belonging satisfaction on three occasions. Specifically, after the fifth mentoring session, Brittney reported that she was "Very Happy" because she "... was with [Samantha] and [Elise]." On the second occasion, Brittney reported that she was "Extremely Happy" because she "... got to be with [her] friend [Elise]." On the third occasion, Brittney reported that she was "Extremely Happy", explaining "I love working with [Bella]." These findings further support Brittney's high rating of belonging satisfaction (e.g., 2.75 out of 3.00) and the finding that she often felt a sense of belonging to both Bella and the other mentees and mentors in her class.

Bella attributed her high levels of relational happiness and satisfaction to a sense of competence after five mentoring sessions. For example, after the eighth mentoring session, Bella reported that she was "Very Happy" because "[Brittney] is really improving and loves to learn." In other mentoring sessions, Bella attributed her high levels of relational happiness and satisfaction to Brittney's excitement (e.g., "[Brittney] is excited to learn and practice"), engagement (e.g., "she was really engaged and wanted to learn more"), performances (e.g., "I liked showing her an instrument and she did really well!"), and progress on the violin (e.g., "she is really improving on her music and loves to learn"). Like Stella, it appears Bella often derived

her happiness and satisfaction during times when her mentee successfully demonstrated her skill and engagement with the violin. Brittney attributed her high ratings of relational happiness and satisfaction to a sense of competence satisfaction on two occasions. For example, after the second and third mentoring sessions, Brittney reported that she was “Extremely Happy” because “[Bella] taught [her] Twinkle-Twinkle” and because she subsequently “learned Twinkle-Twinkle.” This finding further demonstrate that mentees often derived their happiness and satisfaction by learning new songs on the violin.

Dyad C: Coralline and Catharine

Coralline and Catharine’s Attributions

Across each mentoring session, neither Coralline nor Catharine attributed their happiness and satisfaction to a sense of autonomy support from one another. This finding further confirms Coralline’s reported struggles to support Catharine’s autonomy (e.g., “I kept forgetting”) and Catharine’s reported difficulties satisfying this BPN (e.g., “I listened and I didn’t do anything”), due to her lack of experience with the cello (e.g., “all the music that I listen to ... it would be hard to play.”)

Coralline attributed a high rating of relational happiness and satisfaction to a sense of belonging after one mentoring session. Specifically, after the third mentoring session, Coralline reported that she was “Very Happy” because her and Catharine “got to talk a lot more being in a room alone.” Coralline’s response further highlights the observation that conversations between her and Catharine were often brief and terse. In this case, however, Coralline was very happy with her relationship with Catharine as they were alone in a room together, which seems to have made them more comfortable speaking with one another. During Catharine’s participation in the mentoring program, she did not attribute her relational happiness and satisfaction to a sense of

belonging. This finding is congruent with Coralline's reported difficulty supporting this BPN (i.e., mentoring sessions were "awkward") and Catharine's reported belonging satisfaction (i.e., least satisfied among all mentees).

During Coralline's participation in the mentoring program, she did not attribute her relational happiness and satisfaction to a sense of competence satisfaction. This finding echoes Coralline's reported difficulties during mentoring sessions (e.g., "I didn't know what to teach"). Catharine attributed a high rating of relational happiness and satisfaction to a sense of competence satisfaction on four occasions. For example, after the seventh mentoring session, Catharine reported that she was "Extremely Happy", explaining "I love that we made new music." As a second example, after the final mentoring session, Catharine reported that she was "Extremely Happy", explaining "we were recorded and did a good job." Catharine's focus on the "good job" that she did supports the previously discussed finding that she often focused on her performances during mentoring sessions while explaining whether she felt competent.

Taken together, it is interesting to consider how Coralline and Catharine's relationship diverges from the other participants in my study. For instance, compared to three other relationships (A, B and E), Coralline and Catharine's relationship was more challenging, in terms of quality and BPN satisfaction. One of the main challenges that Coralline and Catharine faced in their relationship was their contrasting goals during mentoring sessions. Particularly, Coralline was often focused on establishing a close and personal relationship with Catharine during mentoring sessions, while Catharine was primarily interested in developing her skills as a musician. Since Coralline was often challenged to teach Catharine the sophisticated songs she was interested in learning, these contrasting goals only exacerbated their relational frustration as Coralline could not help Catharine achieve her goals. Also, since Catharine was unwilling to

share personal information during mentoring sessions, and/or did not see the relevance of her personal life in this context, Coralline experienced frustration and feelings of awkwardness in their relationship as she was not able to realize her goal of establishing a close and personal relationship. Perhaps if Coralline “took Catharine’s lead” and focused their conversations on their shared interest and love for music, she may have experienced a stronger sense of belonging in her relationship.

It is also important to consider Coralline and Catharine’s shared familial insecurities and histories while interpreting the quality of their relationship. Hannah informed me that Coralline was “raised by her older sisters”, indicating the complete absence of a primary caregiver, or an unwillingness/ability of support from her parent(s). At the time of my study, Catharine was also experiencing familial stress as she was living in foster care. Research indicates that children and youth who have experienced challenging relational histories with primary caregivers sometimes find it difficult to establish close relationships with their mentoring partners (Diehl, Howse & Trivette, 2011; Cooper & Cooper, 1992). Specifically, these children and youth are at risk of developing unhealthy expectations of themselves and others, which can influence their willingness to trust others and disclose personal information (Diehl et al., 2011). Taken together, these two factors (contrasting goals and experiences of familial stress and insecurity) may help explain why Coralline and Catharine experienced challenges in their relationship throughout the mentoring program.

Dyad D: Danielle and Dakota

Danielle and Dakota’s Attributions

Danielle attributed a high rating of relational happiness and satisfaction to a sense of autonomy satisfaction after one mentoring session. Specifically, after the fourth mentoring

session, Danielle reported that she was “Very Happy” because “[Dakota] is really open to my ideas.” Danielle’s response further supports her reflection in her exit interview that she “sometimes forgot” to support Dakota’s autonomy and “... told her to do stuff” during mentoring sessions. Danielle recorded this response during the fourth mentoring session, a period when mentors were asked to tailor mentoring sessions to the preferences and interests of their mentees. This further supports previous findings that Danielle struggled to support Dakota’s autonomy during mentoring sessions. During Dakota’s participation in the mentoring program, she did not attribute her relational happiness and satisfaction to a sense of autonomy support. Dakota’s responses mainly consisted of her reporting that she enjoyed “everything” about mentoring sessions.

Danielle attributed a high rating of relational happiness and satisfaction to a sense of belonging satisfaction after two mentoring sessions. Specifically, after the eighth mentoring session, Danielle reported that she was “Very Happy” because her and Dakota “talked about stuff she likes [and] her face brightened up and she looked really happy!” In the second instance, Danielle reported that she was “Very Happy” because she and Dakota “collaborated well and supported each other when [they] needed help.” Danielle’s responses indicate she enjoyed mentoring sessions when she and Dakota could engage in conversations. During Dakota’s participation in the mentoring program, she did not attribute her relational happiness and satisfaction to a sense of belonging support.

Danielle attributed her high levels of relational happiness and satisfaction to a sense of competence after five mentoring sessions. For example, after the second mentoring session, Danielle reported that she was “Very Happy” because “[Dakota] got really excited when it started sounding good, it was adorable!” After the remaining four mentoring sessions, Danielle

continued to focus on Dakota's excitement after successfully playing her instrument while explaining why she felt happy and satisfied in their relationship. Taken together, Danielle often derived her happiness and satisfaction during times when Dakota successfully demonstrated her skill with the violin. Finally, during Dakota's participation in the mentoring program, she did not attribute her relational happiness and satisfaction to a sense of competence satisfaction.

Taken together, just like Dyad C, Danielle and Dakota experienced certain challenges in their relationship, in terms of relational quality and experiences of BPN satisfaction. In general, it appears Danielle was unmotivated to participate in the mentoring program. Danielle's disengagement and lack of motivation to provide Dakota with a supportive friendship can be explained by two factors. First, Danielle and Dakota were interested in learning different instruments, which interfered with Danielle's ability and willingness to fully engage in the mentoring program. Second, at the time of my study, Danielle was struggling with her own psychosocial challenges, which most likely interfered with her ability to fully commit to her mentoring relationship. It seems important to note that Danielle's lack of motivation and attendance during the mentoring program can only be partially explained by these two factors. Also, some readers may interpret Danielle's behaviour and explanations as "excuses" for not fully engaging in the mentoring program. It could be argued that Danielle could have tried harder to establish her friendship with Danielle, even though they played a different instrument. Taken together, Danielle and Dakota experienced challenges in their relationship due to Danielle's lack of motivation and engagement.

Dyad E: Erica and Elise

Erica and Elise's Attributions

Across each mentoring session, neither Erica nor Elise attributed their relational

happiness and satisfaction to a sense of autonomy satisfaction from one another. This contrasts the high ratings Erica and Elise gave for autonomy satisfaction from one another throughout the program (6.33 out of 7.00 and 2.67 out of 3.00, respectively).

Erica attributed a high rating of relational happiness and satisfaction to a sense of belonging satisfaction after two mentoring sessions. Specifically, after the eighth mentoring session, Erica reported that she was “Happy” with her relationship because her and Elise “talked about their week and day to build [a] friendship.” On the second occasion, Erica reported that she was “Happy” with her relationship because she “had fun playing music with [Elise].” Elise also attributed a high rating of relational happiness and satisfaction to a sense of belonging satisfaction after two mentoring sessions. Specifically, after the seventh mentoring session, Elise reported that she was “Extremely Happy” because she “... got to play with [her] best friend [Brittney] and it was really fun.” Similarly, after the next mentoring session, Elise reported that she was “Happy” because she was “... with [her] friends.” Elise’s responses indicate her sense of relational happiness and satisfaction may have been more influenced by her friends than her individual relationship with Erica.

Erica attributed her high levels of relational happiness and satisfaction to a sense of competence after two mentoring sessions. For example, after the fourth mentoring session, Erica reported that she was “Extremely Happy” because it was Elise’s “first time on the violin” and she was “picking it up really fast!” Similarly, after the following mentoring session, Erica reported that she was “Very Happy” because “[Elise] is improving every week.” Erica’s responses further highlight that mentors derived happiness and satisfaction in their relationships when their mentees demonstrated their competence on their instruments. Elise attributed a high rating of relational happiness and satisfaction to a sense of competence after one mentoring

session. Specifically, after the eighth mentoring session, Elise reported that she was “Extremely Happy” with her relationship because her and Erica “did the whole song!” Further, Elise’s response indicates that she benefitted, in terms of happiness and satisfaction, when she played her instrument successfully.

Chapter 4: Discussion

My discussion chapter is organized in five sections. The first section briefly discusses the key findings for each of my four research questions. Section 2 explores the theoretical and practical contributions my study has made to the cross-age peer mentoring literature. Section 3 considers the limitations of my study. In Section 4, I offer four potential directions for future research. Section 5 closes my thesis with a few concluding remarks on cross-age peer mentoring as a strategy for strengthening impoverished communities by supporting the BPN's of children and youth.

Section 1: Summary and Conclusions

How did high-school mentors support the BPN's of their mentees?

To help answer this research question, I developed a skill-building curriculum and a supportive tool (the ABC Companion) to help high-school mentors support their mentees feelings of autonomy, belonging, and competence. On average, the five high-school mentors who participated in my study demonstrated a capacity to use language and practices associated with BPN satisfaction. During mentor skill-building sessions, all high-school aged mentors demonstrated an ability to generate accurate definitions for belonging and competence. At first, mentors equated autonomy with a sense of independence. In the SDT literature, autonomy stems from a sense of choice and voluntariness in one's actions and thoughts, rather than feelings of independence (Ryan & Deci, 2017). After discussing this with mentors, in layman terms, they generated a more accurate definition of autonomy for their ABC Companions. In a later skill-building session, mentors further demonstrated their capacities to learn the tenets of SDT and RMT by accurately applying strategies associated with BPN satisfaction during role-playing

scenarios. These findings indicate that high-school aged mentors can learn the central tenets of SDT and RMT.

Mentor Autonomy Support

Using audio-recorders, my study then explored how high-school mentors applied the knowledge and skills they gained from skill-building sessions to their mentoring relationships. In terms of autonomy support, one main finding emerged from the results of my study. Particularly, all mentors felt challenged to balance the autonomy and structure they brought to mentoring sessions, to ensure they were both flexible and productive. For example, during the first half of the mentoring program, mentors provided their mentees with high-quality autonomy support by inviting them to decide which songs they wanted to learn on their respective instruments. In other words, mentors tailored their mentoring practices to the interests and preferences of their mentees, a form of autonomy support that offers latitude and flexibility (Patall et al., 2013). However, as the mentoring program progressed, mentors were required to adapt their autonomy support to a new task (composing a song), which ultimately decreased their opportunities to provide flexible forms of autonomy support. During this time, mentors often invited their mentees to make inflexible decisions and choices, such as counting the dyad into a song. These findings support previous research on autonomy support, which indicates structure is often required when students are learning new skills (Hospel & Galand, 2016). During these learning periods, students often require increased amounts of modelling and structure to gain the fundamental knowledge and skills they need to perform activities on their own (Hospel & Galand, 2016). This may help explain why mentor's autonomy support became less flexible during the latter part of the mentoring program.

Mentor Belonging Support

To support belonging, mentors predominantly demonstrated a personal interest in their mentees by asking about their days at school, or their lives outside of the mentoring program. Results also found that mentors supported their mentees belonging by disclosing personal information about themselves, although this strategy was implemented less consistently. Interestingly, four of the five mentors (Stella, Coralline, Danielle, and Erica) found belonging to be the most challenging BPN to support. These mentors explained that their mentees were initially shy during mentoring sessions, which made it difficult to determine whether their efforts were making an impact (i.e., they perceived their mentees were not responding to their strategies). Fortunately, as the mentoring program progressed, these four mentors learned to focus their conversations on their mentee's interests; a strategy they found to be effective as it invited their mentees to be more communicative. The remaining mentor (Bella) felt comfortable supporting belonging as her mentee was communicative and outgoing during each mentoring session. Together, these findings support previous research on belonging support, which indicates inviting mentees to disclose information about themselves can positively impact relationships, from a mentor's perspective (Ryan et al., 2016).

Mentor Competence Support

In my study, all mentors felt comfortable supporting their mentees competence. To do so, mentors were observed to primarily comment on their mentees successful performances as a form of encouragement and praise. Although mentors felt comfortable encouraging their mentees, results indicated they were less adept at offering specific information about what made for a successful performance, or what was required for their mentees to improve upon their efforts. Mentors also supported their mentees competence by providing them with more

deliberate and explicit feedback on their effort and improvement, although on a less consistent basis. For example, some mentors asked their mentees whether they had been practicing after successful performances (e.g., linking practice with improvement), while others engaged their mentees in conversations about the learning process and the effort it requires to learn a musical instrument. In Dweck's (2000) research, these examples would be classified as forms of feedback that could, over time, develop growth mindsets in young learners. The musical context of my study may help explain this pattern of competence support. In this context, opportunities for mentors to comment on and encourage their mentees performances may have been more regular. For example, each mentoring session would have offered mentors multiple opportunities to praise and encourage their mentees performances as they were consistently playing notes and songs. Alternatively, opportunities to engage in more deliberate conversations about effort and practice would have been less regular, as mentees were not able to bring their instruments home until the seventh mentoring session. This limited window of opportunity for effort-focused feedback, compared to performance-focused feedback and encouragement, may help explain why mentors predominantly relied upon the latter to help support their mentees competence.

Did mentees experience the satisfaction of their BPN's?

This research question was designed to understand whether mentor's efforts were positively perceived by their mentees. In general, mentees reported moderate amounts of BPN satisfaction.

Mentee Autonomy Satisfaction

In terms of mentee autonomy satisfaction, two main findings emerged from my results. First, on average, mentees reported the least amount of satisfaction for their autonomy. When mentees were invited to explain their ratings, they often voiced that they only received modest

amounts of autonomy support from their mentors (e.g., “I did get to have a little bit of control”). These perceptions mirror the challenges mentors reported while supporting autonomy during the latter half of the mentoring program, when mentee BPN satisfaction was measured. The increase in structure during this period most likely contributed to mentee’s perceptions of autonomy support. Second, my results found that mentees often emphasized their experiences of high-quality autonomy support while explaining whether they felt autonomous in their mentoring relationships. For example, in their exit interviews, several mentees described appreciating the opportunity to learn songs they were interested in and/or being able to contribute to the song their mentors composed. This finding supports previous research on autonomy support, which indicates flexible invitations for students to pursue their interests and preferences present the most potent experiences of autonomy for learners (Patall et al., 2013).

Mentee Belonging Satisfaction

In terms of mentee belonging satisfaction, the results of my study surfaced two interesting findings. First, a sense of belonging was mentees most satisfied BPN, despite the previous finding that mentors felt belonging was the most difficult to support. This finding supports existing research on belonging satisfaction, indicating mentees often benefit foremost from their mentoring experiences through an increase in their feelings of belonging and connection (Karcher, 2005). Second, while explaining their feelings of belonging, mentees often spoke about the friendships they formed with their individual mentors. Interestingly, mentees also reported feelings of belonging to the other mentors and mentees in the program (e.g., “My friends were there”). Mentees experiences are congruent with SDT’s definition of belonging; feeling accepted and connected with both an individual and/or other’s in a group (Ryan & Deci, 2017). Together, these two findings indicate mentees benefitted from their mentor’s consistent

effort to establish a sense of belonging with them during mentoring sessions. These findings also point towards the positive impact that other participants can have on mentee's feelings of belonging.

Mentee Competence Satisfaction

The results of my study indicate a sense of competence was mentees' second most satisfied BPN. Interestingly, mentees' feelings of competence were often supported or thwarted by their own appraisals and judgments after mentoring sessions. In Chapter 1, I reviewed the existing literature on competence and the circumstances in which it could be supported. Particularly, I referred to Bandura's (1997) work to highlight the four primary sources of information capable of influencing an individual's sense of competence: (1) past experiences of success and failure; (2) vicarious observational learning of others; (3) self-appraisals and attributions following the completion of a task; and (4) the feedback we receive from others after performing a task. In my study, I focused on helping mentors support their mentees feelings of competence through only one of these four sources, external feedback. This source seemed to be the most relevant to how mentors interact with and support their mentees (i.e., the source they could influence the most). My results indicate that this interpersonal approach may have been too narrow. For example, on average, mentees focused on the quality of their performances during mentoring sessions, more so than the support they received from their mentors, while explaining whether they felt competent (e.g., "I did lots of mistakes"). In SDT, a sense of competence is supported when individuals feel effective and capable during tasks (Ryan & Deci, 2017). From this perspective, it becomes clear why mentee's feelings of competence were often influenced by their performances during mentoring sessions (i.e., they were either feeling effective or ineffective). SDT also posits, however, that feelings of competence are supported when learners

expand their skills over time and are given opportunities to demonstrate their capabilities (Ryan & Deci, 2017). In support of this, after the mentoring program, all mentees described feeling as though they had expanded their skills on their respective instruments and were developing into competent musicians (e.g., “[I learned] that I can do the piano. I never knew that I could!”). I interviewed each mentee two weeks after the mentoring program, after a successful performance at the after-school music programs Spring Recital. The opportunity to demonstrate their musical capabilities in front of their family and community members, combined with more time to expand their skills, may help explain why mentees reported a sense of competence after the mentoring program, even though they did not always feel that way during mentoring sessions. These results provide evidence that in musical contexts, and potentially other learning environments as well, self-attributions and appraisals can sometimes influence a learner’s feelings of competence more so than the supportive external feedback they receive from others.

Did mentor’s experience the reciprocal satisfaction of their BPN’s?

This research question was developed to explore whether mentors mutually benefitted by supporting their mentees BPN’s.

Mentor Reciprocal Autonomy Satisfaction

In terms of mentor autonomy satisfaction, my study surfaced two interesting findings. First, all mentors reported an increase in their own feelings of autonomy after participating in the cross-age peer mentoring program. Mentors reported that they appreciated the opportunity to step into a leadership and teaching role at the after-school program, rather than assuming their regular roles as students. Through this opportunity, mentors felt more confident in their ideas and capabilities to act as role models and teachers. These feelings are congruent with SDT’s definition of autonomy (i.e., feelings of agency, personal sovereignty, and voluntariness and

control over one's actions; Ryan & Deci, 2017). These results provide evidence that cross-age peer mentoring programs can produce reciprocal benefits, in terms of autonomy satisfaction, for high-school aged mentors.

Second, findings suggested that mentor autonomy satisfaction was influenced by their experiences of providing autonomy support to their mentees. For instance, during their exit interviews, three of the five mentors (Stella, Bella, and Erica) provided detailed and thoughtful answers as to why they felt autonomous in their relationships. These mentors also described feeling comfortable supporting their mentee's autonomy, over time, as their mentees were often willing and able to make decisions and choices during mentoring sessions. Conversely, the remaining two mentors (Coralline and Danielle), gave very brief and hesitant affirmations that their autonomy was reciprocally satisfied during the mentoring program (e.g., "Sort of!" and "Yeah...", respectively). These two mentors often described feeling challenged to support their mentees autonomy during the mentoring program. In Coralline's case, she often forgot to support her mentees autonomy during mentoring sessions (e.g., "I forgot about asking what she wanted to do"). Additionally, Coralline's mentee was interested in learning sophisticated and advanced songs that were beyond Catharine's current capabilities, which made it difficult for Coralline to support her autonomy. In Danielle's case, she described feeling challenged to support her mentees autonomy as they played different instruments (e.g., "I tried [to support autonomy] but it was difficult as she plays the violin").

Together, these results support previous research indicating that reciprocal autonomy satisfaction is often influenced by the "providers" perceptions of how successful they were in supporting the "receivers" need for autonomy (Deci et al., 2006). In other words, in Deci et al.'s (2006) research, when friends felt successful in their attempts to provide autonomy support, their

perceptions of their own autonomy satisfaction increased. The findings from my study further indicate that reciprocal BPN satisfaction is often influenced by the provider's perceptions of self-efficacy and success (Deci et al., 2006).

Mentor Reciprocal Belonging Satisfaction

In terms of mentor belonging satisfaction, two main findings emerged from the results of my study. First, all mentors reported reciprocal belonging satisfaction, even though it was their least satisfied BPN. This finding mirrors the general difficulties that each mentor reported while supporting their mentee's belonging (i.e., all mentees were shy at first). Nonetheless, these findings support previous research indicating high-school mentors can experience the reciprocal satisfaction of their "connectedness" by acting as peer mentors (Karcher, 2005).

Secondly, like autonomy, mentor's experiences while supporting their mentees belonging also influenced their own feelings of belonging satisfaction. For example, during their exit interviews, three of the five mentors (Stella, Bella, and Erica) described feeling connected to their individual mentees. For these three mentors, although supporting belonging was difficult at the outset of the mentoring program, they all reported feeling comfortable supporting belonging after the program. These mentors also described feeling good about themselves for helping their mentees learn music while making them feel like they belonged. These feelings are in alignment with SDT's definition of belonging and the ways it can be supported (e.g., feeling connected with someone and/or feeling like an integral part of a group by taking care of others; Ryan & Deci, 2017).

The other two mentors (Coralline and Danielle) provided brief and hesitant affirmations that they felt a sense of reciprocal belonging satisfaction ("Sure" and "I think so", respectively). These two mentors often described feeling challenged to support their mentees belonging during

the mentoring program. For example, Coralline often described feeling challenged to support belonging as her mentee often rebuffed her invitations to “break-the-ice” during mentoring sessions, and was more focused on learning music. Particularly, while being audio-recorded, Catharine often redirected conversations to musical aspects of their mentoring relationship, rather than discuss any personal information about herself. As a result, Coralline often felt that her efforts to support belonging were unsuccessful, which at times made her feel “awkward” during mentoring sessions. As previously discussed, Catharine’s sensitive living arrangement may help explain her reluctance to speak about her day and life outside of the music program while being audio-recorded (i.e., she was living in foster care at the time of my study). To help overcome this challenge, Coralline could have focused her conversations around music, instead of attempting to initiate more personal and intimate conversations about Catharine’s life.

Danielle similarly reported that she was challenged to support belonging as her mentee was often shy and withdrawn during mentoring sessions. Results also indicated that Danielle may have struggled to support her mentee’s belonging due to her own psychosocial challenges. Specifically, Danielle seemed less engaged in/committed to the mentoring program than the other mentors (e.g., she was consistently late and absent) and it seemed she was challenged to interact with her mentee in a sensitive and caring manner (i.e., the teacher in charge of mentoring sessions noticed that her “attitude and tone sometimes impacted her delivery”). At the time of my study, the ED of the after-school program informed me that Danielle was reportedly struggling with feeling “low” and “anxious”, which often interfered with her ability to be “self-directed”. Research suggests that mentors with internalizing issues and other psychosocial challenges often struggle to establish successful relationships with their mentees, due to their own challenges (Grossman & Rhodes, 2002; Herrera, DuBois & Grossman, 2013). Together, these findings

again support previous research indicating that reciprocal BPN satisfaction is influenced by perceptions of success (Deci et al., 2006).

Mentor Reciprocal Competence Satisfaction

In terms of mentor competence satisfaction, two main findings emerged from the results of my study. First, four of the five mentors (Stella, Bella, Coralline, and Erica) experienced the reciprocal satisfaction of their competence. In their exit interviews, these mentors described an increased sense of competence in their musical knowledge and teaching abilities. These feelings are congruent with SDT's definition of competence and how it is supported (e.g., feelings of effectiveness when environments allow for the expansion of skills and opportunities to show one's capacities and capabilities; Ryan & Deci, 2017). These results also provide evidence that cross-age peer mentoring programs can produce reciprocal benefits, in terms of competence satisfaction, for high-school aged mentors.

Secondly, like autonomy and belonging, mentor's experiences while supporting their mentees competence influenced their feelings of competence satisfaction. For example, although mentors struggled, at times, to support their mentees competence during mentoring session, after the program, all mentors reported that they felt most comfortable supporting this BPN. This helps explain why the four previously mentioned mentors experienced the reciprocal satisfaction of their competence. Conversely, the remaining mentor (Danielle) reported that she was unable to experience feelings of competence in her relationship. SDT's definition of competence can help explain this finding. For example, when asked whether she felt competent in her mentoring relationship, Danielle replied, "Not too much because we played different instruments." Due to this incongruity, Danielle was unable to feel effective during mentoring sessions by teaching her instrument of expertise, the guitar. Similarly, without an opportunity to teach her instrument to a

younger peer, Danielle was unable to expand her skills on the guitar and demonstrate her current capacities during mentoring sessions. This experience helps explain why Danielle was unable to experience a sense of competence satisfaction, to the degree of the other participating mentors who were matched with mentees who wished to learn their instrument of expertise. These findings further indicate that reciprocal BPN satisfaction can be influenced by the provider's perceptions of self-efficacy and success (Deci et al., 2006).

Did mentors and mentees experience happiness and satisfaction in their relationships?

This research question served two purposes. First, it allowed me to discover whether mentors and mentees were experiencing feelings of happiness and satisfaction in their mentoring relationships. Secondly, using data from their weekly logs, this question also created the opportunity to understand which BPN's participants attributed to their feelings of relational happiness and satisfaction each week. The findings from my study indicated that all participants experienced high levels of happiness and satisfaction within their mentoring relationships (ratings above the mid-point of the 5-point scale). And, consistent with existing research, mentees reported higher levels of relational happiness and satisfaction than their older mentors (Karcher, 2005; Ryan et al., 2016).

In terms of which BPN's participants attributed to their feelings of happiness and satisfaction, results surfaced three main findings. First, participants in my study infrequently attributed their feelings of relational happiness and satisfaction to a sense of autonomy support from one another (e.g., only 5.13% of the time). This was an unexpected finding as previous research indicates autonomy satisfaction is the second strongest predictor of attachment security and relational satisfaction within roommate, best friend, and romantic relationships, respectively (La Guardia et al., 2000; Patrick et al., 2007). Autonomy satisfaction has also been found to have

a positive, although modest impact, on relational quality outcomes within cross-age peer mentoring relationships (Karcher et al., 2010). It appears that within my sample of mentors and mentees, autonomy satisfaction did not have a strong influence on their feelings of relational happiness and satisfaction. Two factors can help explain this finding. First, by asking mentors to teach their mentees a specific song, the design of my cross-age peer mentoring program restricted the flexibility of mentoring sessions. As a result, all mentors reported difficulties to support their mentee's autonomy, which subsequently impacted their mentees autonomy satisfaction (i.e., their least satisfied BPN, on average). Together, these two factors negatively impacted participant's opportunities to feel autonomous in their relationships. This may help explain why participants infrequently attributed feelings of autonomy to their relational happiness and satisfaction.

In contrast to autonomy, mentors and mentees often attributed their feelings of relational happiness and satisfaction to a sense of belonging (e.g., 33.33% of the time). This was an expected finding as research has consistently found belonging satisfaction to be the strongest predictor of attachment security and relationship satisfaction, compared to autonomy and competence (La Guardia et al., 2000; Patrick et al., 2007). The results of my study provide further evidence that belonging contributes to healthy relationships, in this case, feelings of happiness and satisfaction.

Third, among each BPN, participants most often attributed their feelings of relational happiness and satisfaction to a sense of competence (e.g., 61.54% of the time). This was an interesting finding as research suggests competence is the weakest predictor of relational satisfaction, compared to belonging and autonomy (La Guardia et al., 2000; Patrick et al., 2007). I propose two factors to help explain this outcome. First, research indicates competence

satisfaction is the strongest predictor of individual well-being and self-esteem, within romantic relationships (Patrick et al., 2007). In my study, participants may have emphasized their individual feelings of well-being/self-esteem while assessing the quality of their relationships. In support of this, results indicated that mentees primarily attributed their feelings of happiness and satisfaction to their successful performances on their instruments (i.e., feelings of competence as musicians). Similarly, mentors primarily attributed their feelings of happiness and satisfaction to the performance, effort, and overall engagement of their mentees (i.e., feelings of competence and effectiveness as mentors and teachers).

Secondly, the context and goal of my cross-age peer mentoring program may have highlighted participant's feelings of competence. In the SDT literature, Ryan and Deci (2017) discuss how sociocultural environments can create differential values for each BPN. That is, certain cultural practices, norms, and activities often invite one BPN to "take the lead" over the others, even though they remain important (Ryan & Deci, 2017). From this perspective, it becomes clear why participants emphasized their feelings of competence while explaining the quality of their relationships. Particularly, since mentoring relationships were primarily focused on helping mentees develop their musical skills, participants may have valued feelings of competence more so than autonomy and belonging. In other words, participants may have derived more relational happiness and satisfaction from one another after successfully achieving their goals together, rather than receiving autonomy or belonging support from one another. Together, this finding suggests that when cross-age peer mentoring relationships focus on skill-development, mentors and mentees may primarily benefit, in terms of relational happiness and satisfaction, through feelings of competence. This is a useful contribution to the cross-age peer mentoring literature as it points towards another essential element of relationships, beyond

belonging.

Section 2: Contributions to Theory and Practice

This section examines the contributions my study has made to both cross-age peer mentoring theory and practice. It is important to note that due to my small sample of participants, the theoretical and practical contributions discussed in this section cannot be generalized to all peer mentoring programs. All contributions should be interpreted with caution until they are substantiated by larger samples.

Theoretical Purpose of My Study

In Chapter 1, I rationalized the theoretical purpose of my study by highlighting some of the current “problems” in the cross-age peer mentoring literature. To begin, I discussed the recommendation to continue examining the subtleties of the cross-age peer mentoring process to understand which key ingredients help develop close mentor-mentee relationships (Rhodes et al., 2002, 2006; Deutsch & Spencer, 2009). While supporting their recommendation, these scholars noted the lack of qualitative research investigating the nuances of cross-age peer mentoring relationships (Rhodes et al., 2002, 2006; Deutsch & Spencer, 2009). This was, and continues to be an important goal, as it could help future programs actualize the outcomes of the three dominant theoretical frameworks, each viewing relational quality and closeness as their mechanism of change (Connectedness Theory; Karcher, 2005; Attachment Theory; Bowlby, 1969; Socio-Cognitive Theory; Rhodes et al., 2002, 2006). In response to this recommendation, I reviewed several studies that had used SDT and RMT to help predict and understand how healthy relationships are created and maintained. In this review of the literature, belonging satisfaction stood out as the strongest predictor of secure attachment and relationship satisfaction within friendship and roommate relationships (La Guardia et al., 2000; Patrick et al., 2007).

These findings supported the three dominant theoretical frameworks and their suggested mechanism of change (i.e., a connected, secure, and close relationship, respectively). During this review, the potential for SDT and RMT to extend these theories was also highlighted as autonomy and competence were also found to contribute to the development of close relationships. Particularly, La Guardia et al. (2000) discovered that autonomy satisfaction was the second strongest predictor of attachment security, indicating its importance relative to belonging. Further, Patrick et al. (2007) found that competence satisfaction was the strongest predictor of individual well-being and self-esteem within romantic relationships, highlighting its importance alongside autonomy and belonging. Taken together, SDT and RMT offered complementary value to the three dominant theoretical frameworks through their demonstrated importance of belonging in dyadic relationships. SDT and RMT also offered opportunities to add value to these theories through their extended focus on autonomy and competence. Once I had discovered that SDT and RMT served as valuable frameworks for relationships, I explored their application to cross-age peer mentoring programs, a more relevant context for my study.

Through this more targeted review, I discovered four studies that had applied SDT and RMT to cross-age peer mentoring. Within each of these studies, results indicated that BPN satisfaction can produce high-quality mentoring relationships (Simoes & Alarcao, 2013; Henneberger et al., 2013; Karcher et al., 2010; Ryan et al., 2016). These are significant findings as they provide evidence that autonomy, belonging, and competence satisfaction contribute to quality mentoring relationships, a recommended focus in the literature (Rhodes et al., 2002, 2006; Deutsch & Spencer, 2009). My study attempted to extend these studies and the knowledge they produced in four ways. First, these studies did not help high-school aged mentors develop the skills necessary to support their mentees BPN's. This was an important problem to address as

it limited our understanding of the applicability of SDT and RMT to the intended age of mentors in cross-age peer mentoring programs (Karcher, 2005). Second, although these studies demonstrated that BPN satisfaction can produce positive outcomes, they did not measure what mentors said or did during mentoring sessions to produce these benefits (i.e., mentor fidelity was not measured). This was an important area to address as future studies and programs looking to replicate these findings would not have the information needed to do so. Third, these studies did not explore for reciprocal benefits, in terms of BPN satisfaction, for participating mentors. Understanding whether high-school mentors benefitted from a SDT and RMT approach to cross-age peer mentoring is important as programs are designed to produce benefits for both mentees and mentors (Karcher, 2005). Finally, these studies did not explore the unique contribution of each BPN on relational quality outcomes. Understanding the relative influence of each BPN would be an important step to understanding how SDT and RMT help foster high-quality mentoring relationships. Taken together, in Chapter 1, I presented four opportunities for my study to contribute to the cross-age peer mentoring literature by: (1) helping high-school aged mentors support their mentee's BPN's; (2) examining how they did so during mentoring sessions; (3) measuring reciprocal mentor BPN satisfaction; and (4) exploring the relative influence of each individual BPN on mentor's and mentee's perceptions of relationship quality.

My Study's Theoretical Contributions

My study attempted to address and inform these four areas in the following ways. First, my study demonstrated that high-school aged mentors are capable of learning the central tenets of SDT and RMT during skill-building sessions. Four mentors also reported that this approach helped them establish positive relationships with their mentees. To my knowledge, my study is the first to demonstrate that SDT and RMT can be used to train high-school mentors in

cross-age peer mentoring programs (i.e., proof of concept). This is an important contribution to the cross-age peer mentoring literature as it introduces SDT and RMT as viable theories for helping high-school aged mentors develop relationships with their mentees. With continued application, SDT and RMT may prove to be one of the most effective approaches to helping high-school mentors establish relationships with their mentees. Future research and practice may include a more extensive skill-building protocol. Providing high-school mentors with the highest quality training experience will help identify this age groups full capacity to support each BPN.

Secondly, using a multiple case study design, my study explored the subtleties of the cross-age peer mentoring process to help understand the development of five cross-age peer mentoring relationships, each informed by multiple sources of data. Most importantly, my study collected audio recordings of dyadic interactions between mentors and mentees. In the existing peer mentoring literature, a large portion of studies have attempted to capture the mentoring process through participant observations (Deutsch & Spencer, 2009). These procedures, although capable of capturing the mentoring process, often make it difficult for researchers to capture the entirety of a dyadic interaction and what is said between mentors and mentees (Deutsch & Spencer, 2009). Using audio recordings, I could capture and investigate the mentoring process in a more flexible way through “retrospective analyses” (Edwards & Westgate, 1987). In other words, I could understand how mentors went about supporting their mentee’s BPN’s, the focus of my first research question, through repetitive analyses of their audio transcripts. This allowed me to surface the nuances of mentor’s practices and identify several effective strategies mentors used to support their mentees BPN’s. My study has also highlighted some of the challenges mentors faced during their relationships and has offered potential solutions for each. These are useful contributions as my study is the first, to my knowledge, to use audio recordings of dyadic

interactions to provide deep insight into the cross-age peer mentoring process and how mentors develop their relationships with their mentee's by supporting their feelings of autonomy, belonging, and competence. Future cross-age peer mentoring programs could build from this knowledge to help future high-school mentors support their mentees BPN's.

My study's third contribution to the cross-age peer mentoring literature is a demonstration that high-school mentors can experience the reciprocal satisfaction of their BPN's. Understanding whether mentors benefit from a SDT and RMT approach to cross-age peer mentoring was important as the intervention is designed to promote benefits for both mentees and mentors (Karcher, 2005; Rhodes et al., 2006). This is an important contribution as it indicates SDT and RMT are useful approaches to cross-age peer mentoring as they offer mutual benefits, in terms of BPN satisfaction, for both mentees and mentors.

Finally, my study contributed to the cross-age peer mentoring literature by identifying the relative influence of each BPN, in terms of relational happiness and satisfaction. In my study, belonging satisfaction had a modest influence on participant's feelings of relational happiness and satisfaction. This finding complements the focus and suggested mechanism of change within Connectedness, Attachment, and Socio-Cognitive theory (Karcher, 2005; Bowlby, 1969; Rhodes et al., 2002, 2006). Interestingly, competence stood out as the quality that mentors and mentees most often attributed to their feelings of relational happiness and satisfaction. This is a helpful contribution as it points towards another important ingredient of cross-age peer mentoring relationships, beyond a sense of belonging and connection.

Taken together, these four contributions indicate SDT and RMT are useful frameworks for cross-age peer mentoring as they identify some of the essential elements that afford opportunities for mentors and mentees to experience happy, satisfying, and mutually beneficial cross-age peer

mentoring relationships. This is a useful contribution as it begins to build a model for close and healthy peer mentoring relationships, a recommended focus in the literature (Rhodes et al., 2002, 2006; Deutsch & Spencer, 2009). This contribution is admittedly minute, as the significance of my results are restrained by the limitations of my study.

Connections Between SDT and Indigenous Approaches to Development

Although unplanned, the results of my study, in part, have contributed to the growing body of literature suggesting that SDT is relevant across cultures. As previously discussed, SD theorists believe that all human beings desire feelings of autonomy, belonging and competence (Ryan & Deci, 2017). In terms of cross-cultural applicability, research has connected BPN satisfaction with happiness (Chen et al., 2015; Taylor & Lonsdale, 2010; Tian et al., 2014) and BPN dissatisfaction with unhappiness, across diverse cultural backgrounds (Chen et al., 2015; Soenens et al., 2012; Wang et al., 2007). This research provides evidence that across cultures, human beings experience happiness and well-being when their basic psychological needs for autonomy, belonging, and competence are supported. These three developmental needs, alongside Generosity, are also valued in several Indigenous models of education (Brokenleg & Long, 2013; Brokenleg, 1998). These four developmental needs are represented in the “Circle of Courage” and are believed to help support positive youth development (Brokenleg & Long, 2013).

My study provides further evidence that autonomy, belonging, and competence contribute to healthy development across cultures. For example, all participants reported benefitting, in terms of their relational happiness and satisfaction, when partners supported their basic psychological needs. Participants also reported benefitting in terms of their personal and social development (e.g., feelings of personal agency, communal connection, positive identity

development, etc.) through the satisfaction of their needs for autonomy, belonging, and competence. Taken together, these findings suggest meaningful connections can be made between SDT and Indigenous perspectives on human development. Both perspectives complement one another's deep respect for human self-determination and developmental happiness through the satisfaction of basic developmental needs. Because my sample is small, my ability to make causal claims and generalize these findings to other cross-age peer mentoring programs and developmental contexts is limited. Nonetheless, my results provide an initial framework for future research opportunities, which are discussed later in this chapter.

My Study's Practical Contributions

I can identify six contributions that the results of my study have made to future cross-age peer mentoring practice.

ABC Companion. First, my study has created a supportive tool that can help future high-school mentors satisfy their mentee's BPN's (e.g., the ABC Companion). In this way, my study distinguishes itself from the two previous studies that have applied SDT and RMT to mentor skill-building procedures (Simoes & Alarcao, 2013; Henneberger et al., 2013). In these studies, mentors were asked to recall the knowledge they acquired during skill-building sessions without any tools of reference or support. It is also important to note that these two studies incorporated longer and more extensive training procedures than my study (e.g., 16 hours and a two-semester class, respectively; Simoes & Alarcao, 2013; Hennenberger et al., 2013). As such, rather than arguing for the superiority of one training procedure over another, I am suggesting that my study complements these two existing studies. Specifically, by combining the elongated training protocols of these two studies and the more temporally-sensitive tool I developed in my study,

future programs may be able to enhance the efficiency and effectiveness of their mentor's BPN support.

Create opportunities for shared learning and cooperation. Second, in terms of mentor autonomy support, my study has identified one important implication for future cross-age peer mentoring practice. Mainly, the results of my study highlighted how the structure and focal activity of mentoring sessions can negatively impact mentor's opportunities to provide their mentees with high-quality autonomy support. Future programs may overcome this challenge by creating more opportunities for shared learning and cooperation within mentoring relationships. To do so, program facilitators could invite participants to learn a new skill together, rather than placing the mentor in the expert role and having them teach one of their already developed competencies. This approach may foster increased levels of cooperation and shared opportunities to support one another's autonomy across the entire mentoring program. This approach may also help mentees feel autonomous during the entire mentoring program, as opposed to only during the select times they are provided with high-quality mentoring support. This may also help programs create learning contexts that align with the experiences of their Indigenous participants through an emphasis on *communal* and shared learning – a key focus within some models of Indigenous ways of knowing (Canadian Council on Learning, 2007; 2009). Creating “unlimited” opportunities for autonomy in cross-age peer mentoring sessions is likely unreasonable, however, as structured activities are recommended to help focus and guide relational interactions (DuBois et al., 2011). As such, it would also be helpful to inform future mentors and mentees that autonomy support can still be supported and experienced during more structured tasks.

Encourage mentors to discuss their mentee's interests. To my knowledge, my study is the first to explore how high-school aged mentors support their mentee's belonging during in-

person mentoring sessions. As such, the results of my study can help contribute to future mentoring practice. My study indicates high-school mentors may feel challenged to support their mentee's belonging during the early stages of their relationship. Results also pointed towards two causal factors of this challenge (i.e., mentee shyness and lack of a shared goal), highlighting the bidirectional influence that mentees can exert within cross-age peer mentoring relationships. To overcome this challenge, mentors could be encouraged to focus their conversations on their mentees interests/goals during the early stages of their relationships. These efforts may help "break-the-ice" between mentors and mentees at an earlier stage in their relationships, which could potentially create an opportunity for more in-depth and personal relationships to develop over time. My findings also point towards the positive impact that other participants can have on mentee's feelings of belonging. As such, future mentoring programs should look for opportunities to invite mentors and mentees to socialize as a group outside of their individual mentoring relationships. In my study, mentors and mentees went on two social outings together in hopes of strengthening the group's bond (e.g., a pizza and board games night and a high-ropes course). These social outings may have contributed to mentees belonging satisfaction by strengthening their feelings of connection and friendship to the larger mentoring group.

Help mentors provide "informative" feedback. In my study, mentors predominantly supported their mentee's feelings of competence by encouraging and praising their performances and outcomes. Mentors also commonly provided this type of feedback without providing specific information that either identified what was good about a performance or what could be improved upon for the future. In Dweck's (2000) research, the motivational message that this type of feedback conveys about the nature of learning would be considered worrisome as it may discourage students motivation and persistence during challenges (i.e., focusing on performances

and outcomes, rather than effort and process). As such, it would be important for future mentoring programs to help mentors provide their mentees with more effort-focused feedback that informed their mentees of the specific steps they took to achieve their positive outcomes.

Measure and support intrapersonal sources of competence. In terms of competence satisfaction, the results of my study provided evidence that in musical contexts, and potentially other learning environments as well, self-attributions and appraisals can sometimes influence a learner's feelings of competence more so than the supportive external feedback they receive from others. Another "mini-theory" within SDT can help explain this outcome. As a body of research, Cognitive Evaluation Theory (CET) focuses on the intrapersonal context and its influence on motivation, BPN satisfaction, and well-being (Ryan & Deci, 2017). CET posits that the relative influence of external stimuli depends upon the interpretations of the individuals that experience them (Ryan & Deci, 2017). In other words, it is not what happens to an individual that matters, but rather its psychological meaning to the individual (Ryan & Deci, 2017). CET and its emphasis on intrapersonal contexts can inform future cross-age peer mentoring programs. Particularly, future programs may be able to strengthen mentees feelings of competence by measuring their self-appraisals of their performances after mentoring sessions. Using this information, mentors may be able to challenge or correct their mentees negative and/or inaccurate beliefs. This approach can also help researchers honour the individual experiences and interpretations of their culturally diverse samples, rather than focusing on external stimuli. In this sense, instilling a sense of competence within mentees may require a hybrid of external feedback and discussions about mentees' intrapersonal attributions.

Consider and monitor participant risk profiles. In my study, two dyads (C and D) experienced challenges in their relationships, partially due to their histories of familial stress and

insecurity (Coralline, Catharine, and Dakota), and psychosocial challenges (Danielle). Research indicates children and youth who have experienced challenging relational histories, or who are currently dealing with psychosocial challenges, often experience challenges in mentoring programs, compared to children and youth who have not experienced these challenges (Diehl et al., 2011; Karcher et al., 2010; Herrera et al., 2013). Specifically, these participants sometimes experience trust issues in their relationships, avoid personal conversations, and find it difficult to support another peer while simultaneously dealing with their own challenges (Diehl et al., 2011; Karcher et al., 2010; Herrera et al., 2013). To help overcome these challenges, future mentoring programs could screen potential mentors and mentees to identify various “vulnerabilities” that could interfere with their participation in a relationship-based program. Once identified, program facilitators could then host open and frank discussions about the challenges these participants may face while committing their time to supporting the needs of a younger peer, or forming a relationship with an older peer. Further, if these participants decide to participate in the mentoring program, facilitators and/or researchers should monitor their relationships closely to help identify challenges. Using this proactive approach, facilitators and researchers could then intervene to help guide these “at-risk” relationships to healthier destinations. Taken together, all children and youth should have the opportunity to participate in peer mentoring programs, no matter their risk status. However, a consideration of the risk profile of each mentor and mentee may help facilitators and researchers provide these children and youth with the increased support they need to ensure their relationships are positive and fruitful.

Consider potential privilege differentials within relationships. All of the participants in my study were from a socially and economically diverse community. Moreover, all of the mentees and one of the mentors identified as Indigenous and female. As previously discussed,

Indigenous females are particularly marginalized and at risk in the community where my study took place. Researchers and practitioners need to consider how they can address real differences in privilege within mentoring and other programs. My study offers a few suggestions. First, by creating opportunities for *shared learning and cooperation*, practitioners can decrease the differentials in relationships and encourage shared decision-making. Second, by encouraging mentors to *discuss their mentees' interests and preferences*, practitioners can ensure that conversations are bi-directional and focus on each member's perspectives. Future practitioners may also want to discuss any potential differences in privilege between mentors and mentees during mentor skill-building sessions. Ultimately, these methods of bi-directional communication could help create the opportunity for mentors and mentees to learn from one another, and embrace the strength of diversity within their relationships.

Researchers who are “outsiders” to their research contexts should also consider reducing their influence on the research process. In studies like mine, researchers may benefit their participants by using the following strategies. During the recruitment phase, and during all phases of the research, clarify that participants' consent is ‘ongoing’ during every stage of the research process (Flicker, 2008). This could help participants feel in-control of their research experience by being able to withdraw their consent at any point in time, for any reason. Researchers can enhance participants' agency by “checking-in” with them on a regular basis, to ensure they still consent to having their data collected. Another strategy for decreasing the potential power differentials between researchers and participants is to provide flexible options for data collection (Flicker, 2008). For example, researchers could encourage their participants to choose the location for their individual interviews (e.g., in their favourite park or restaurant) and how their interview will be conducted (e.g., over the phone, or beside a trusted parent or

caregiver). Finally, during data analysis, researchers can empower participants by inviting them to read interpretations of the data (e.g., member-checks) or involve them in the process of analyzing the data and reporting the results (Flicker, 2008). My study did not make use of these strategies and that was a limitation. Each of these strategies may help future researchers ensure any potential power differentials between themselves and their participants are reduced, creating the opportunity for a more respectful and reciprocal research project.

Section 3: Limitations of My Study

Sample. The first limitation of my study, as with most case-study designs, is the lack of generalizability to other cross-age peer mentoring programs. As previously stated, my study was conducted in a unique context using a small sample. The inclusion of a larger sample may have allowed for a more comprehensive and generalizable understanding of the cross-age peer mentoring process. For instance, the inclusion of male participants may have highlighted different patterns of BPN support and satisfaction (e.g., males may have been more/less adept at supporting BPN's and/or valued one BPN more/less than females). I chose a case study design as it allowed me to examine the subtleties of the cross-age peer mentoring process and the bidirectional influence of BPN support and satisfaction. As such, although my sample size limits the conclusions I can draw from my data, in terms of generalizability, my case study design helped me fulfill my study's purpose.

Procedures. I can identify three main limitations of my procedures. First, it is important to consider the limitation of audio recordings. An analysis based upon words alone, without substantiating the physical behaviour of participants (e.g., eye contact, posture, facial expressions) fails to capture the subtleties of dyadic interaction in their entirety. Although I positioned myself in the research context as a "complete" member to help understand and

observe participant's experiences, I was unable to note every facial expression or behaviour that participants expressed. Future research might look to implement both audio recorders and video cameras to capture the mentoring process in its entirety. However, on balance, audio recordings helped me illuminate how high-school mentors supported their mentee's BPN's during mentoring sessions.

Secondly, I measured mentee BPN satisfaction in the latter half of the mentoring program (i.e., sessions 7 through 10). This significantly decreased my ability to measure and understand how mentee BPN satisfaction fluctuated across the entire mentoring program. It would have been informative to measure mentees perceptions of BPN satisfaction during the first half of the mentoring program (i.e., a baseline measure), when the program offered more flexible learning opportunities.

A third limitation of my procedures was the group interview format of mentee support meetings. Freeman and Mathison (2009) discuss focus groups as opportunities for primarily understanding peer cultures or collective viewpoints, rather than individual experiences (i.e., what I intended to understand). Peer status and differences in perceived "power" often influence the interactions and contributions of each interview member within focus groups (Freeman & Mathison, 2009). Researchers are cautioned to pay close attention to how interviewees are responding to one another and how answers may be negotiated between participants (Freeman & Mathison, 2009). Although I did not conduct mentee support meetings as a true focus group by asking mentees to comment on one another's responses, the presence of other peers impacted my ability to gather unbiased information. For example, on one occasion, I observed certain mentees altering their responses after listening to the experiences of their peers (e.g., changing their answers from a neutral face to a happy face while reporting whether they felt competent and

successful during that mentoring session). It appears the group interview format, rather than allowing individual mentees to express their perceptions, suppressed and interfered with their willingness to do so on a few occasions. Alternatively, hearing from other mentees may have provided participants another perspective, causing a genuine shift in their ratings. Taken together, the social desirability to provide answers that aligned with other mentees was a limitation of these interviews. They were conducted in this format out of necessity due to limitations of space and time.

A fourth limitation of my procedures was a lack of attention to Indigenous research methods. For example, scholars note that story-work, as a research method, is often valuable as many Indigenous cultures teach and learn through storytelling (Archibald, 2008). Other recommended research methods include digital storytelling, photo-voice, theater scripts, and other forms of artistic measures (Simonds & Christopher, 2013). In my own study, I could have invited participants to tell a story (orally or artistically) about their experiences in the mentoring program, rather than conducting individual semi-structured interviews. Also, I could have introduced mentors to these ideas to help them build their relationships. For instance, I could have invited mentors to teach their mentees through stories, photos, or other forms of artistic expression. Ultimately, however, future non-Indigenous scholars must always recognize that despite their pre-planned ideas, what actually occurs during the research study must depend on the specific sociocultural values, needs, and framing of community members. As a result, in future studies, researchers should look to implement culturally relevant and responsive practices while exploring the experiences of Indigenous participants. To do so, future non-Indigenous researchers could invite Indigenous community members to participate in the research process as co-researchers (Smith, 2008). This community-based orientation to research is commonly being

defined as an ethical approach for non-Indigenous researchers to engage with Indigenous communities (Interagency Advisory Panel on Research Ethics, 2014).

Measures. Two of the measures in my study held various limitations. The first being the weekly log I implemented to measure mentee BPN satisfaction. As an indirect measure of each BPN, this weekly log cannot be considered as a comprehensive or empirically validated measure of autonomy, belonging, and competence. Additionally, this weekly log measured mentee BPN satisfaction on a three-point scale, which provided a less robust and limited range of possible scores. As such, it would be important for future research to replicate my findings with validated measures of autonomy, belonging, and competence. The second measure was the weekly log I implemented to measure participant's relational happiness and satisfaction. The weekly log that I developed from an abbreviated NRI satisfaction sub-scale does not represent a comprehensive measure of relationship quality and its associated outcomes. Future researchers could benefit their studies by using holistic measures of mentoring relationship quality and satisfaction.

Data Analysis. I utilized two methods of coding to analyze my data. The first involved a deductive approach guided by my research questions (i.e., Provisional Coding; Saldana & Omasta, 2017). I used the provisional coding method to focus my analyses on factors relevant to my study's purpose and goals. Limitations of this coding method involve the possibility of engaging in confirmation bias (i.e., coder is "blinded" by list of predetermined codes) and an unwillingness/ability to code disconfirming evidence (Saldana, 2009; Saldana & Omasta, 2017). Another limitation of my qualitative coding method was my personal and cultural background. As the "primary instrument of analyses" throughout my study, I may have been "blind" to findings that reflected mentors and mentees cultural experiences and ways of being. I attempted to safeguard against these limitations through In-Vivo coding, my second method of analyses.

This coding method honours participants' voices by focusing on the specific language and words they use while providing data (Saldana & Omasta, 2017). To further enhance the validity and reliability of my results, I also searched for disconfirming evidence and presented my results through a method of triangulation (Mathison, 1988). Nonetheless, a purely inductive or abductive approach to coding (allowing categories that reflect SDT and other frameworks to emerge from the data) may have been more conducive to a more holistic understanding of the cross-age peer mentoring process. Similarly, future researchers positioned in unfamiliar sociocultural research contexts could benefit their interpretations by inviting participants to act as co-researchers (Flicker, 2008). This process invites participants to wholly engage in the research process (from inception to dissemination) and has shown to increase both the validity and sensitivity of findings to their diverse sociocultural contexts (Flicker, 2008). This orientation to research is particularly important while working *with* Indigenous cultures and communities to ensure Euro-centric paradigms and belief systems do not interfere with the traditional knowledge and experiences of these communities (Smith, 2008).

Section 4: Future Research Directions

In addition to the future directions already mentioned, I suggest four more general directions for future research. First, a large-scale, longitudinal study of the cross-age peer mentoring process would help further understand SDT and RMT's usefulness for creating close relationships. Within these longitudinal studies, it would also be important to consider whether the benefits accrued during mentoring programs, in terms of BPN satisfaction, transfer to other environments? If they do, how long do they last? If they do not, how can mentoring programs increase their transferability? To answer these questions, future scholars could measure participants BPN satisfaction in various sociocultural environments and whether they interact

and influence one another. With this understanding, schools, families, and community organizations could create broad support systems for their children and youth, through coordinated efforts to encourage BPN satisfaction.

A second direction for future research could involve an examination of a more extensive and comprehensive skill-building experience for high-school mentors. In my study, the nature of skill-building sessions and ongoing support for participating mentors was truncated. During their exit interviews, each mentor was asked about their experience during skill-building sessions and whether it aided their mentoring practice. Four of the five mentors reported that these skill-building sessions did help them, indicating that the sessions provided them with a framework for interacting with their mentees. Conversely, one of the mentors felt the skill-building sessions were conducted in an abbreviated manner and she would have benefited from a more in-depth training experience. Within the existing literature, no recommended amount of time has been established regarding the duration or frequency of mentor training. The established best practices for mentor training and skill-building include: (1) providing expectations about the amount and frequency of contact between dyads; (2) providing pre-match and ongoing training for mentors; and (3) offering a support group for mentors (DuBois et al., 2002). In my study, I met the criteria for all three of these best practices. However, the program was time-limited and sessions had to fit within one of the blocks in the after-school program's scheduling of classes, so that mentors would not miss too much of their own learning and instruction. Therefore, although support for mentors was incorporated into the design of my study, the helpfulness of these procedures was most likely reduced due to their condensed nature. In future implementations, researchers and practitioners may want to include a more extensive skill-building protocol to increase the amount of support mentors receive to hone their knowledge and skills for mentoring. Providing high-

school mentors with the highest quality training experience will help identify this age groups full capacity to support each BPN.

A third direction for future research could involve an exploration of how participants' cultural values and norms impact their learning and development in cross-age peer mentoring programs. In my study, it appears the SDT framework complemented the cultural practices and values of Indigenous learners. For example, within the mentoring classroom, learning was often experiential and communal – two key attributes of some models of Indigenous ways of knowing (Canadian Council on Learning, 2007; 2009). Experiential learning involves 'learning by doing' and is encouraged by observing and imitating more experienced others (Canadian Council on Learning, 2007; 2009). In the mentoring classroom, learning was *experiential* as participants were playing music (learning by doing), which often involved mentees observing and imitating their mentor's expertise. Learning in the mentoring classroom was also reciprocal and *communal*. Communal learning involves learning that occurs beyond traditional classrooms, and is facilitated by peers, elders, and community members (Canadian Council on Learning, 2007; 2009). In the mentoring classroom, learning was often communal (peers helping peers), and even reciprocal, as learning was not always facilitated by mentor's expertise. Mentors often encouraged their mentee's autonomy by inviting them to co-construct their own learning (e.g., choosing which songs they wanted to learn, and co-composing their own song). In terms of reciprocity, mentees also helped their mentors develop their sense of autonomy, belonging, and competence – indicating relationships were mutually beneficial. In many respects, the overarching focus of the mentoring program was to nurture a respectful community of reciprocity and belonging by enjoying music with one another.

Future cross-age peer mentoring programs involving Indigenous participants could do more to ensure learning opportunities support participants' ways of knowing. Experiential and communal learning are two of the seven key attributes of the Canadian Council on Learning described as Indigenous ways of knowing (2007; 2009). In the future, researchers could work *with* communities to create learning environments that attend to all seven key attributes by ensuring learning opportunities also are: holistic, lifelong, rooted in Aboriginal languages and cultures, spiritually oriented, and help integrate Aboriginal and Western knowledge (Canadian Council on Learning, 2007; 2009). In research contexts focusing on musical development, future researchers could accomplish some of these goals by: (a) inviting participants to learn traditional Indigenous instruments; (b) encouraging participants to discuss (in the language(s) of their choosing) the spiritual benefits of music and performance; and (c) providing opportunities for participants to express their learning through more traditional forms, such as story-telling. Also, while working *with* Indigenous communities, researchers could invite traditional knowledge keepers into the research process to help guide and inform the study. This type of community-based participatory research could help ensure that Indigenous ways of knowing are meaningfully and accurately represented within research projects.

Finally, my study found that competence stood out as the quality that mentors and mentees most often attributed to their feelings of relational happiness and satisfaction. As such, a third potential direction for future research could be to examine the relative influence of each individual BPN on the quality of mentoring relationships within various sociocultural contexts. For instance, a sense of autonomy may be valued most in relationships where mentors are helping their mentees prepare for high-school or college (i.e., feeling autonomous while picking courses and deciding which school to attend). A sense of belonging may be valued most in

relationships between mentors and mentees with shared psychological, learning, and/or medical disorders (i.e., feeling a sense of connection to another individual or group with shared experiences and challenges). Finally, as was found in my study, a sense of competence may be valued most in academic and athletic contexts focused on skill-development (i.e., feeling effective while teaching or learning a new discipline or sport). With an understanding of how certain mentoring contexts highlight the relative importance of autonomy, belonging or competence, researchers and practitioners may be able to strengthen relational qualities by ensuring these feelings are being supported for both mentors and mentees and intervening if they are being discouraged.

Section 5: Concluding Remarks

My research interests are in identifying how the developmental and psychological well-being of children and youth can be supported by enhancing their sociocultural environments. The results of this study add to the body of evidence that cross-age peer mentoring programs are an economical and effective strategy to help strengthen communities (Kohen et al., 2008). Particularly, my results indicate that the ED of the after-school program achieved her goal of strengthening the sense of belonging among incoming students and the confidence and leadership abilities of her older students. These results also indicate that the cross-age peer mentoring program contributed to the broader goal of the DTES community by helping establish “Critical Connections” among its youth and increasing their sense of belonging (Downtown Eastside Plan, 2011).

Going forward, I believe cross-age peer mentoring programs that adopt SDT as their theoretical framework could serve as an attractive strategy to help improve quality of life for children living in challenging communities. First, as a relationship-based intervention, cross-age

peer mentoring programs emphasize the positive qualities of children and youth, no matter what neighbourhood or community they inhabit (Karcher, 2005; Rhodes, 1994). Particularly, at its most fundamental level, cross-age peer mentoring programs believe that both mentors and mentees can positively benefit by interacting with, and learning from, one another during mentoring sessions (Karcher, 2005). Second, as a theoretical framework, SDT posits that all children are born with equal amounts of developmental potential, which can either be encouraged or discouraged by the quality of their sociocultural contexts (Ryan & Deci, 2017). SDT outlines how sociocultural contexts can be organized to help equalize, and then optimize, the developmental and psychological trajectories of children and youth by supporting their needs for autonomy, belonging, and competence (Ryan & Deci, 2017). These are refreshing perspectives on youth and community development as they emphasize the endemic social capital of communities, no matter what their challenges may be. Taken together, I hope my thesis will help future community leaders recognize the value of cross-age peer mentoring programs and their capacity to strengthen the social fabric of their communities, using the skills and potential of their children and youth.

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Appendix A: Certificate of Approval



The University of British Columbia
Office of Research Services
Behavioural Research Ethics Board
Suite 102, 6190 Agronomy Road, Vancouver, B.C. V6T
1Z3

CERTIFICATE OF APPROVAL- MINIMAL RISK RENEWAL

PRINCIPAL INVESTIGATOR: Nancy E. Perry	DEPARTMENT: UBC/Education/Educational & Counselling Psychology, and Special Education	UBC BREB NUMBER: H15-03117
INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT:		
Institution		Site
Other locations where the research will be conducted: [REDACTED]		
CO-INVESTIGATOR(S): Benjamin Dantzer		
SPONSORING AGENCIES: Social Sciences and Humanities Research Council of Canada (SSHRC) - "Promoting Self-Regulation and Self-Determination Through Cross-Age Peer Mentoring "		
PROJECT TITLE: Promoting Self-Regulation and Self-Determination Through Cross-Age Peer Mentoring		
EXPIRY DATE OF THIS APPROVAL: November 29, 2018		
APPROVAL DATE: November 29, 2017		
The Annual Renewal for Study have been reviewed and the procedures were found to be acceptable on ethical grounds for research involving human subjects.		
<i>This study has been approved either by the full Behavioural REB or by an authorized delegated reviewer</i>		

Appendix B: Parent/Guardian Consent Form

THE UNIVERSITY OF BRITISH COLUMBIA



**Department of Educational and Counselling
Psychology, and Special Education**

The University of British Columbia
Faculty of Education
2125 Main Mall
Vancouver BC Canada V6T 1Z4
Telephone: 604-822-8299
www.ecps.educ.ubc.ca

Information Letter and Consent Form for Parents

*Study Title: Promoting Self-Determination Through Cross-Age Peer
Mentoring*

Dear Parent,

Invitation and Study Purpose

My name is Ben Dantzer. I am a graduate student in the Department of Educational and Counselling Psychology and Special Education (ECPS) at the University of British Columbia (UBC). My research supervisor, Dr. Nancy Perry, and I are partnering with teachers and leaders at XXXXXXXX to carry out a research project, titled “Promoting Self-Determination Through Cross-Age Peer Mentoring.” This study seeks to understand how peer mentoring supports children and youth in learning and developing their self-determination. This study is part of the requirements for my master’s degree at UBC. The XXXX Board of Directors has approved this project, and teachers who work with your child have agreed to participate in it.

This study will last a total of 13 weeks. Children and youth in the peer-mentoring program will meet once each week on Thursdays. The program has been designed with teachers and staff at XXXX so it will not interfere with their musical development. In fact, mentors and mentees will learn and create music together with support from a teacher in one of their regularly scheduled classes. If your child is a mentor, they will be asked to be a leader or role model for another child at XXXX. If your child is a mentee, they will have the opportunity to learn from an older peer at a more advanced level. If you would like to learn about the results of this study, please provide your regular mailing or e-mail address in the attached consent form on page 4.

Appendix B: Parent/Guardian Consent Form

I am writing to ask your permission to involve your child in this research. After reading this letter, **please talk with your child about the project and complete page 4, indicating you do or do not give permission for your child to participate in this project. Please return the form to XXXXXXXX XXXXXXXX (Executive Director) or XXXXXX XXXXXXXX (Projects Manager).** An extra copy of the consent form is included for your records. Also, there is space on the consent form to indicate you would like to learn about the results of this study.

Study Procedures

If you and your child agree to participate, your child will be involved in the following activities:

1. **Weekly Music-Making Sessions:** On Thursday's, mentors and mentees will meet to learn and make music with one another.
2. **2 Field Trips:** Once a month, mentors and mentees will take part in social outings during regularly scheduled class-times. Locations include: XXXXX and XXXXXXX. These trips are designed to create a sense of community and connection between students in the study. A XXXX staff member and I will chaperone these trips. The XXXX van will be use to transport mentors and mentees to these locations. During our final field trip, mentors and mentees will have the opportunity to professionally record the music that they have created with one another. Copies of recordings will be provided to each participant.
3. **One-on-one interviews:** We would like to hear from mentors and mentees about their experiences at XXXX while making music with one another. I will interview participants in a quiet location at the XXXX for about 30 minutes during program hours. We will arrange the timing of the interview with teachers so participants don't miss important activities. We will audio record our conversations with participants and then produce written records to help us understand how peer mentoring benefits participants. All information will be stored securely under false names to protect privacy.
4. **Classroom Observations:** I will be visiting the classroom where mentoring sessions will occur throughout the program. These visits will help me understand what's going on during mentoring sessions and how participants are benefitting. We would like to audio-record these observations to produce written records that will help us understand how the mentoring program is benefitting participants.
5. **Questionnaire:** At the end of the study, we would like participants to answer a short 9-item questionnaire asking them about their relationship with their mentor/mentee. This will take participants approximately ten minutes to complete and will be conducted during program hours.

Appendix B: Parent/Guardian Consent Form

Potential Benefits

Teachers and researchers want to learn more about how we can support children and youth to be successful in learning contexts and in life. Your child's participation will help teachers and staff members at XXXXX to know how they can support the learning and happiness of children and youth in the music program. If your child is a mentor, they will benefit from acting as a positive role model and learning various leadership and communication skills. If your child is a mentee, they will benefit by being asked to learn music at a more advanced level while having the opportunity to form a friendship with an older peer. Finally, all mentors and mentees will benefit by learning and playing music with their friends – music that will be professionally recorded!

Participation is Voluntary

Participation in the research project is *voluntary* and your child may withdraw from participation at any time without any negative consequences. If your child decides to withdraw, researchers will not use your child's interviews, observations, or work samples and will not use examples of your child's work. They might still observe in your child's classrooms, but your child would not be a focus of the observations.

Confidentiality

All of the data we collect from your child will be kept confidential and private. We will not use children's real names or include other identifying information when we write about or present our research. However, because the XXXXX is a unique program and we are studying it in-depth, we cannot guarantee absolute privacy. In addition, we may include work samples and interview transcripts when we write about or present the results of this study. If these materials are used in publications or presentations, your child may be recognized as a result. You can indicate that you do not want your child or their work to appear in our publications or presentations when you sign the consent form on page 4.

For More Information:

If you have any questions or would like more information about the research project, please contact Nancy Perry (phone: XXX-XXX-XXXX; or email: XXXXXX.XXXXX@ubc.ca) or me (phone: XXX-XX-XXXX; or email: XXXXXXXXXXXX@alumni.ubc.ca)

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.

We would be thrilled if you would allow your child to participate. You may do so by completing the consent form attached to this letter

Sincerely,

Dr. Nancy Perry
Professor

Ben Dantzer
MA Student

Appendix C: Mentee Weekly Log #1 - Relationship Happiness and Satisfaction

How happy are you with the way things went today between you and your mentor? (Circle one).				
Extremely Happy	Very Happy	Happy	A Little Happy	Not Happy
What did you like about making music with your mentor today?				
What did you not like about making music with your mentor today?				

Appendix D: Mentee Weekly Log #2 – BPN Satisfaction

How much **control** did you feel **today** while making music with your mentor? Did they let you **help** them and make some **decisions** too?



How much **friendship** did you feel **today** while making music with your mentor?



How **successful** did you feel **today** while playing music with your mentor?



Appendix E: Mentor Weekly Log

Did you try to promote your mentees sense of Autonomy today? Please explain how (comments, strategies)
Did you try to promote your mentees sense of Belonging today? Please explain how (comments, strategies)
Did you try to promote your mentees sense of Competence today? Please explain how (comments, strategies)
How happy are you with the way things went today between you and your mentee? (Circle one). <div style="display: flex; justify-content: space-around; text-align: center;"> <div>Extremely Happy</div> <div>Very Happy</div> <div>Happy</div> <div>A Little Happy</div> <div>Not Happy</div> </div>
What did you like about making music with your mentee today?
What did you not like about making music with your mentee today?

Appendix F: Mentor Interview Questions

Interviewer Script: Welcome! We have ten questions to cover about your experience in this program. Remember that you have the right to pass on any questions you don't feel comfortable answering. These questions are designed to help give me a better understanding of the mentoring process. All your answers will be confidential along with your name. Please answer honestly. This interview will also be audio recorded. Before we begin, do you have any questions about the interview?

Interview Questions:

(1) When we began the mentoring program, we discussed Self-Determination Theory and the three basic needs of Autonomy, Belonging, and Competence. What did you think about this training?

Follow-Up Prompt #1: Were you able to understand each basic need?

Follow-Up Prompt #2: Did you find it hard or easy to provide your mentee with Autonomy support?

Follow-Up Prompt #3: Did you find it hard or easy to provide your mentee with Belonging support?

Follow-Up Prompt #4: Did you find it hard or easy to provide your mentee with Competence support?

(2) How did you feel when you were acting as a role model to your mentee and helping them feel autonomous, competent, and that they belonged? What was it like to help a younger peer like that?

(3) Did helping your younger mentee make you feel more Autonomous and independent in any way?

(4) Did it give you more of a sense of belonging and friendship? Like you had an important purpose?

(5) Did you feel successful or competent at music while you were teaching them to play?

(6) What have you learned about yourself as a result of being a peer mentor?

(7) How do you think you have benefitted by being a peer mentor and role model?

(8) What did you like most about being a peer mentor?

(9) What did you like the least about being a peer mentor?

(10) If you could describe your mentee with three words, which words would you use and why?

Appendix G: Mentee Interview Questions

Interviewer Script: Welcome! We have eight questions to cover about your experience in this program. Remember that you have the right to pass on any questions you don't feel comfortable answering. These questions are designed to help give me a better understanding of the mentoring process. All your answers will be confidential along with your name. Please answers honestly. This interview will also be audio recorded. Before we begin, do you have any questions about the interview?

- (1) If you could use three words to describe your time in Michaels class and making music with your friends, what words would you use and why?
- (2) If you could use three words to describe your mentor, what words would you use and why?
- (3) While making music with your mentor, did you feel like you were able to make some decisions and have choices?

Follow-Up Prompt: Any reasons or examples why [or why not]?

- (4) While making music with your mentor, did you feel like you were friends with one another?

Follow-Up Prompt: Any reasons or examples why [or why not]?

- (5) While making music with your mentor, did you feel successful?

Follow-Up Prompt: Any reasons or examples why [or why not]?

- (6) What did you learn about yourself while hanging out with your mentor and making music together?
- (7) What did you like the most about having a peer mentor?
- (8) What did you like the least about having a peer mentor?

Appendix H: Executive Director Questionnaire

- (1) What do you know about this child/youth?
- (2) Why did you choose this child/youth to become a mentor/mentee?
- (3) How do you think this child/youth will benefit from participating in a cross-age peer mentoring program?
- (4) What strengths, capacities and/or passions do you see in this child/youth today?
- (5) List the first FIVE words or phrases that come to mind when you think about this child today.

These questions are designed to elicit descriptive information for each participant that speaks to who they are currently prior to participating in the cross-age peer mentoring program.

Appendix I: Classroom Teacher Questionnaire

- (1) What changes have you seen in this child/youth throughout this program and now that it is completed?
- (2) How do you think this child/youth has benefitted by acting as a mentor/mentee?
- (3) What strengths, capacities and/or passions do you see in this child/youth today?
- (4) List the first FIVE words or phrases that come to mind when you think about this child/youth today.

Appendix J: Mentoring Program Overview Handout

Welcome and Congrats!

By signing up to be a peer mentor, you have joined the ranks of many famous musician-mentors such as:

B.B King **who mentored** Eric Clapton
Otis Clay **who mentored** Billy Price
Lil Wayne **who mentored** Drake
Tina Turner **who mentored** Mick Jagger
Usher **who mentored** Justin Bieber
Jay-Z **who mentored** Kanye West
Johnny Jones **who mentored** Jimmy Hendrix

Don Henley **who mentored** Sheryl Crow
Dr. Dre **who mentored** Eminem
Rufus Thomas **who mentored** Otis Redding
Fat Joe **who mentored** Big Pun
Mariah Carey **who mentored** Christina Aguilera
Lauryn Hill **who mentored** John Legend
Paul McCartney **who mentored** John Lennon

So, what is this program all about?

The What:

This peer mentoring program is designed to provide younger students at XXXX with an older and more experienced musician-mentor such as yourselves! The program will offer you training and ongoing support designed to help you become an effective mentor and leader.

The When:

The program will run on **Thursdays** for one-hour during class time. You will also attend “**Mentor Learning Team Meetings**” to discuss how things are going and address any concerns you may have.

The How:

You will be trained to give your mentee certain styles of feedback and reinforcement specifically designed to make them feel good about themselves and their musical abilities. You will also track your progress and what you did after every meeting with your mentee to have some information for our meetings. Finally, you will participate in **interviews** asking you about the mentoring process and how you feel about being a mentor and leader. Also, you will answer a short **questionnaire** (only 9 questions) about your friendship with your mentee two times during the program.

The Why:

By participating in this program, you will be able to **create a song** with your mentee and other classmates. **Your songs will be professionally recorded** and compiled into an album, which you will all receive a copy of for your own interests. **Social outings** will also be a part of this program, giving you the opportunity to connect with your mentee outside of the classroom.

Appendix K: Who Is My Mentor? Handout

1. My mentor is/was:

2. What they did for me:

3. How they made/make me feel:

4. Three words to describe them:

Appendix L: What Is a Mentor? Handout

[illegible]

Appendix M: Autonomy, Belonging, and Competence Handout

In the sections that follow, please define, in your own words, what you think Autonomy, Belonging, and Competence are. Don't worry about being right or wrong, we are all going to have different definitions and ideas. This activity is designed to come up with a definition for these three concepts as a team.

Autonomy is...

Belonging is...

Competence is...

While making music together, **how do you think you could you make your mentee feel Autonomous?**
(what could you say or do). Answers can be in point form.

While making music together, **how do you think you could make your mentee feel like they Belong?**
(what could you say or do). Answers can be in point form.

While making music together, **how do you think you could make your mentee feel Competent?**
(what could you say or do). Answers can be in point form.

Appendix N: ABC in Action Handout

Scenario #1

You and your mentee are meeting for the first time and are deciding which part of the song you want to learn. Since this is your first meeting, your mentee is looking a little nervous and is not talking a lot. They seem to be letting you take the lead and are agreeing with every choice you are making. Why are they being so quiet? This is confusing as you have witnessed your mentee playing their instrument really well before and know that they always try hard in class.

All of a sudden, you remember the ABC Companion and begin to think how you can provide your mentee with autonomy and how it may help in this situation.

Scenario #2

You and your mentee are having a disagreement about your song. You provided your mentee with choice but don't agree with their decision – they are making a mistake on how fast a certain section should be played. You and your mentee have played this section before and they were able to play it slowly, and did it very well. Getting into a disagreement has made your mentee feel insecure and anxious.

You will need to use your ABC companion now to help them feel better – what strategies could you use?

Scenario #3

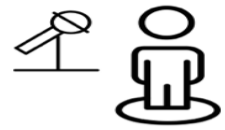
Your mentee is very quiet and often does not talk much during your mentoring sessions. They are uncertain when asked about what types of activities they want to do during each session. Today, your mentee picked what you should work on today with confidence and excitement.

You want to praise this behaviour while providing your mentee with a sense of Autonomy, Belonging, and Competence. How should you do so?

Appendix O: ABC Companion

What Is It?

When someone feels acknowledged and in control of what they do



Go-To-Statements

Go-To Strategies

What Is It?



Go-To-Statements

Go-To Strategies

What Is It?



Go-To-Statements

Go-To Strategies

Appendix P: Mentor Contract

As a mentor, I am committing to the following roles and responsibilities:

- (1) **Weekly Music-Making Classes:** I will commit to making music with a younger student for 1-hour each week for 10 weeks on Thursdays. During class, some of my conversations will be audio recorded and I will fill out a “Weekly Log” after every class. This log will ask me about my mentee and how our friendship is going so far while making music together.
- (2) **Mentor Support Meeting:** Once a month, I will meet with other mentors to talk about how I am being a good role model to my music-making partner. These meetings will last 15 minutes and will take place after class on Thursdays.
- (3) **2 Field Trips:** Once a month, I will take part in a field trip with the other students in my class.
- (4) **Questionnaire:** I will answer a short questionnaire (9-questions) twice during the program asking me about my friendship with my mentee
- (5) **One-on-one Interview:** Once the program is done, I will answer a few questions about the program during a short interview. This interview will last 15-minutes and my answers will be audio recorded.

Summary:

- The program will run on Thursdays for one-hour
- I will be responsible to attend meetings with other mentors
- I will be responsible for logging my activities each week with my mentee
- I will be responsible for participating in interviews asking me about the mentoring process
- I will complete a short questionnaire twice during the program
- I will have the opportunity to create a song with my mentee and other classmates
- My song will be professionally recorded and compiled into an album

If I put my name at the bottom of this form, it means that I agree to participate in this study and commit to the above roles and responsibilities.

My Name: _____

My Signature: _____

Date: _____

Appendix Q: Mentor Support Meeting Template

Mentors Name:	Date:
<p>1. How Did Your Plan Go? What strategies or go-to-statements did you try with your mentee in the past few meetings? Answers can be in point form.</p>	<p>2. What Happened? Which strategies or go-to-statements worked well and which one's didn't? Answers can be in point form.</p> <p>Worked Well:</p> <p>Didn't Work Well:</p>
<p>3. What Did You Learn? What did you learn about your mentee? About supporting the ABCs? About making music with a partner? Answers can be in point-form.</p>	<p>4. What Will You Try? Which strategies or go-to-statements are you going to try in the next four classes to improve your relationships with your mentee? Answers can be in point-form.</p>

*Provide Choices

*Acknowledge your mentees