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The Relationship between Childhood Family Instability, Secure Attachment, and the Sense of
Belonging of Young Adults

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Abstract

This study's goal was to assess the relationship between childhood family instability and young adults' sense of belonging. It also tested whether having a secure attachment in childhood moderated this relationship. An on-line questionnaire was completed by 220 first-year psychology students (170 women and 50 men aged 17-30). Family instability was not a significant predictor of sense of belonging, but it had a significant interaction with secure attachment ($\alpha = .05$). Secure attachment was a good predictor of sense of belonging. Family instability had a positive effect on the sense of belonging of those who had low attachment security. Conclusions about the effects of family instability are limited due to the low levels of instability experienced by this sample.

The Relationship between Childhood Family Instability, Secure Attachment, and the Sense of Belonging of Young Adults

Young adulthood represents the period in life when people become self sufficient and work to establish a solid base for their future (i.e., finding a partner for life, acquiring education which leads to a financial plan, etc.). It is evident that their level of success depends greatly on their psychological functioning and well-being. Indeed, much psychological research has been dedicated to measuring people's well-being and studying the individual and environmental characteristics that influence it, both negatively and positively (e.g., Bramson, Pretty, & Chipuer, 2002; Obst & Tham, 2009). One individual characteristic that is highly related to psychological and social functioning is a sense of belonging (Hagerty, Williams, Coyne, & Early, 1996). Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier (1992) defined sense of belonging as "the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment" (p. 173). This definition is an expansion of Anant's (1966, as cited in Hagerty et al., 1992) definition of sense of belonging and it emphasizes two main aspects: (1) experiencing valued involvement, and (2) feeling of fit, as a part or a member of a group. Other researchers have also identified these aspects as being the core components of sense of belonging (e.g., Chubb & Fertman, 1992; Minnes et al., 2003; Schofield & Beek, 2005; Nuñez, 2009; Törrönen, 2006; Wilkes, 1995). Hagerty et al. (1992) have asserted that a sense of belonging is important for a positive perception of the social environment as well as of the self (i.e., identity formation).

Attention to the construct of sense of belonging goes back to basic psychological and sociological theories about people's needs for belonging (e.g., Baumeister & Leary, 1995; Maslow, 1954). The need to feel loved and to have a sense of belonging was included in Maslow's theory of the hierarchy of needs after the physical needs for home and food and the

need for safe and secured environment. Anant (1966, as cited in Selekman, 1998) has expanded on Maslow's theory by asserting that the need to belong is universal. Moreover, it has been suggested that the need to belong is a basic human need that motivates behaviour. For example, control theory (Glasser, 1986, as cited in Wilkes, 1995) argues that the needs to belong, to succeed, and to feel needed influence the behaviour of young people. The need to belong has also been found to be linked to emotional and cognitive processes, as well as to people's physical and psychological health (Baumeister & Leary, 1995).

The Importance of a Sense of Belonging

It has been generally argued that a sense of belonging is positively associated with people's physical and mental health (Canadian Mental Health Association, 2009). Children have identified sense of belonging to the family or the community as a contributing factor to their positive well-being (Gabhainn & Sixsmith, 2005). Sense of belonging has been shown to contribute to people's psychological functioning and well-being by empirical findings as well. For example, unsatisfied need for belonging has been found negatively correlated with life satisfaction, used as a measure of well-being (Mellor, Stokes, Firth, Hayashi, & Cummin, 2008). Other studies have found a positive effect of sense of belonging on levels of depression among gay individuals (McLaren, 2009; McLaren, Jude, & McLachlen, 2008). In fact, studies have shown that a sense of belonging can be a mediator of the protective effect of social support against symptoms of depression (Choenarom, Williams, & Hagerty, 2005; Hagerty & Williams, 1999). Finally, research has shown that a stronger sense of belonging is associated with a stronger wish to live among aging individuals (Kissane & McLaren, 2006). Taken together, these findings provide much evidence of the important contribution of a sense of belonging to social and psychological functioning.

Antecedents of Sense of Belonging

Very few studies have looked at the factors that influence young adults' sense of belonging. Hagerty, Williams, and Oe (2002) studied the childhood antecedents of sense of belonging in adulthood. They assessed the correlations between the sense of belonging of university students and a variety of childhood experiences and different characteristics of parenting. Having a caring relationship with at least one of the parents in childhood had the highest positive correlation with sense of belonging in adulthood. Other childhood experiences that positively contributed with sense of belonging were participation in school athletic activities and, very interestingly, parental divorce or separation. Other childhood experiences, such as family financial problems, father overprotection, and homosexuality, significantly and negatively correlated with sense of belonging. Nevertheless, variables such as violence towards children, residential moves, drugs/alcohol in the family, remarriage of parents, death of an immediate family member, and child run-away did not explain significant independent portion of the variance of sense of belonging.

Nevertheless, Hagerty et al. (2002) neglected to include in their analysis the possible cumulative effect of experiencing a number of events which may lead to instability in a child's living environment. It is likely that experiencing a variety of living-environment changes during childhood has a greater negative effect on sense of belonging than the independent effect of each separate type of change.

Family Instability during Childhood

Family instability has been defined as “the degree to which families fail to provide continuity, cohesiveness, and stability for children” (Forman & Davies, 2005, p. 904). Unfortunately, a great number of children experience some level of family instability, as measured by turmoil in living circumstance, before they reach adulthood. These unstable living situations may often involve changes in their physical environments, such as moving to new

homes, or in their family environment, such as a parent's new partner moving in. Many of these children experience a number of changes in a relatively short time (Schofield & Beek, 2005). Frequent residential moves and separations from one's family are two indicators of family instability that have been most commonly looked at in the research literature on family instability (Ackerman, Kogos, Youngstrom, Schoff, & Izard, 1999; Adam & Chase-Lansdale, 2002; Forman & Davies, 2003; Milan, Pinderhughes, & The Conduct Problems Prevention Research Group, 2006; Moore, Vandivere, & Ehrle, 2000). Previous research has identified a number of additional factors that contribute to family instability: significant changes in parents' financial situation or working status, experiences of considerable health problems or death in the family, frequent changes of parental intimate relationships, reoccurring non-normative school transitions, and moving to a new country (Ackerman et al., 1999; Forman & Davies, 2003; Marcynyszyn, Evans, & Eckenrode, 2008; Milan et al., 2006; Moore et al., 2000).

Many have stressed that unstable family environments have detrimental effects on children's behaviours and emotional states (e.g., Marcynyszyn et al., 2008; Palmer, 1996). Some attention has been given to the negative influence of childhood family instability on young people's well-being. For example, it has been claimed that a separation from one's parent figure may lead to having fewer positive relationships with adults (Adam & Chase-Lansdale, 2002). Forman and Davies (2003) have looked at the relationship between family instability and adolescents' maladjustment and found that family instability significantly correlated with different internalizing and externalizing indicators of maladjustment. Nevertheless, previous research has focused mainly on cognitive, behavioural (Carlson & Corcoran, 2001), and academic (Teachman, 2008; Adam & Chase-Lansdale, 2002) indices of well-being and only very few studies have looked at the psychological outcomes of instability. Moreover, our literature

review revealed that previous research had not looked at the effects of family instability on young adults.

First Hypothesis: Family Instability and Sense of Belonging

The main purpose of this study was to measure the effect of instability of living environments during childhood on young adults' sense of belonging. To the best of our knowledge, this has been the first effort to look at childhood family instability on adults' sense of belonging. Based on previous findings, which show a generally negative impact of instability on children's well-being, we expected that the confluence of events that contribute to a child's family instability would also have a negative effect on the well-being of young adults.

Reports of foster children, who most likely experience higher levels of family instability than other children, provide some anecdotal support for the relationship between instability and a sense of belonging. A study by Golding, Dent, Nissim, and Stott, (2006) focused on listening to the voices of foster youth telling about their views of their foster care experience. One of the girls who was interviewed reported,

No matter how much support you get in foster care, be it from social workers, foster carers or psychologists, you still feel alone as there is no one definite to turn to. Other young people would have their parents. From my experience this sense of lack of belonging was reinforced by statements such as 'do you still want to live here?', and examples of normal teenage behaviour, e.g. 'if the untidy room doesn't stop then you'll have to go' (p. 7)

Thus, our first hypothesis was that childhood family instability would have a negative effect on young adults' sense of belonging.

Second Hypothesis: The Moderation of Secure Attachment

Although we predicted that family instability would have a negative effect on people's sense of belonging, we also expected that this negative effect would be moderated by the

important role of having a secure attachment to a caregiver. The findings of Hagerty et al. (2002), in their investigation of the antecedents of sense of belonging, stress the importance of having a caring relationship with a parent to a sense of belonging. Anant (1966, as cited in Selekman, 1998) has agreed with this assertion, emphasizing the vital role of the caregiver in the development of a sense of belonging in children. The significance of having a close, caring relationship with another person has been empirically shown elsewhere. Especially among children, close caring relationships with adults were found highly related to their sense of belonging (Bamba & Haight, 2009; Gabhainn & Sixsmith, 2005). Research on resilience has found abundant support for the profound effect of close relationships. According to the resilience literature, a caring relationship with an adult is a powerful protective factor against the detrimental effects of stress, child maltreatment, and other psychological difficulties (Masten & Shaffer, 2006). Therefore, it is evident that having a close, caring relationship with an adult contributes much to children's positive development and consequently, to young adults' well-being.

Attachment theories also contribute to our understanding of the effect of having a close relationship on sense of belonging. Generally, attachment theory (Bowlby, 1969) focuses on people's sense of security in their relationship with their caregivers. According to the theory, young children develop their attachment style (i.e., secure, ambivalent, or avoidant) within their first year of life. Children form a secure attachment when their caregivers are highly responsive to their needs. Since researchers' first attempts to study the different attachment styles among young children, there has been some research dedicated to expanding the scope of the literature on attachment to adolescence (e.g., Gullone & Robinson, 2005) and young adulthood (e.g., Pottharst 1990; Vivona, 2000). As Bowlby's attachment theory suggests, and previous findings have shown, a secure attachment is positively related to the formation of close, satisfactory social

relationships in adulthood (Selekman, 1998; Shi, 1999). Thus, a secure attachment may act as a protective factor that contributes to people's sense of belonging. Our second hypothesis was that having a secure attachment to a caregiver in childhood would moderate the negative effect of family instability on sense of belonging, so that those who had experienced a secure attachment would be affected by instability to a significantly lesser extent than those who had had less secured attachment to a caregiver during childhood.

Other Related Constructs as Control Variables

Past research has identified a number of factors that may be related to the effects of family instability on people's functioning and well-being. In this study, these variables were controlled for by the analysis in order to better understand the unique effect of family instability on sense of belonging and its interaction with levels of attachment security.

There seem to be a number of childhood experiences that are often associated with the level of family instability that a child might experience. One such experience is child run-away. Children who run away from home are known to experience high levels of familial malfunctioning and violence (Farber, Kinast, McCoard, & Falkner, 1984). Running away has also been identified as a risk factor for further behavioural and emotional problems (Thompson, Pollio, Constantine, Reid, & Nebbitt, 2002). Thus, child run-away may be closely associated with children's family instability. Another childhood experience that has shown to be related to family instability is parental divorce. By its basic nature, divorce almost always involves changes in the people with whom a child lives. Children of divorced parents are also more likely to experience frequent residential moves and school changes than children of married parents (Teachman, 2008). Thus, experiencing divorce can be directly related to family instability. On the other hand, research has shown that parents' social involvement and religiosity contributes to children's environment *stability* and thus may act as a protective factor (Moore et al., 2000;

Vandivere, Moore, & Zaslow, 2000). Therefore, the above three childhood experiences, child run-away, parental divorce, and parents' social involvement were used as control variables in this study's analysis

Another control variable included in this study was the total of traumatic life events experienced during childhood. Previous research on family instability has been inconsistent with regards to its operational definition. Although some researchers have included a measure of negative life events as a part of an instability index (e.g., Ackerman et al., 1999), others have argued that negative life events should be assessed separately from instability (Marcynyszyn et al., 2008). Marcynyszyn et al. claim that, although some negative life events can have a vast impact on people's lives, they do not necessarily affect the predictability of the living environment, and thus are different than family instability. By controlling for negative life events, this study assessed the purer contribution of instability to the prediction of sense of belonging.

Two additional variables were used as control variables in this study due to their expected association with sense of belonging: depression and quality of past peer relationships. Much research has shown a close association between symptoms of depression and low sense of belonging (Choenarom et al., 2005; McLaren, 2009). Hagerty and Patusky (1995) suggest that sense of belonging is indicative of people's inner psychological experiences and that depression has a strong impact on these experiences. Therefore, we expected a high correlation between depression and sense of belonging.

Quality of past peer relationships also seems highly related to people's current well-being. Supportive peer relationships in childhood have an important positive effect on children's self-esteem (Bolger, Patterson, & Kupersmidt, 1998). Further, good quality peer relationships in adolescence seem to act as protective factors against psychopathology in adulthood (Collishaw, Pickles, Messer, Rutter, Shearer, & Maughan, 2007). Most relevant to the current study is

Hagerty et al.'s (1996) finding that identified social involvement as a significant contributor to women's sense of belonging. Furthermore, Hagerty et al. (2002) found that participation in high-school athletic activities was a significant predictor of young adults' sense of belonging. They explain that athletic participation may facilitate social integration which is critical for a strong sense of belonging. Consequently, it seemed crucial to control for depression as well as the quality of past peer relationships in order to assess the effects of family instability and its interaction with attachment security on sense of belonging, over and above the contribution of these two variables.

Another construct that is likely to be related to sense of belonging and that may also influence the effect of instability on sense of belonging is resilience. The concept of resilience has received an increasing amount of research attention in the last two decades. Resilience is defined as "a dynamic process encompassing positive adaptation within the context of significant adversity" (Luthar, Cicchetti, & Becker, 2000, p. 543). Thus, two conditions are essential for resilience to exist: (1) adversity, or negative life events, and (2) an average or above average functioning despite the adversity. Family instability during childhood requires adjusting to new living environments and coping with any difficulties it may involve. Thus, it may be perceived as a time of hardship by many children. As already mentioned, family instability is often associated with maladjustment and behavioural and emotional difficulties (Moore et al., 2000). Due to the conceptual link between resilience and adversity, we were interested to investigate whether resilience interacted with family instability in predicting sense of belonging. Therefore, resilience as an independent variable and its interaction with family instability were used as control variables in this study.

It might have been important to consider a few other childhood experiences that have been found related to either family instability or sense of belonging. Nonetheless, these were not

included in our analysis due to methodological constraints (see Result and Discussion sections for further elaboration on this limitation).

Method

Participants

The questionnaire of this study was originally completed by 275 first-year students who were recruited from the psychology introductory courses offered by the University of British Columbia, Okanagan. Out of this sample, the responses of 44 participants had to be excluded due to a large portion of missing data. Additionally, for the purpose of this research analysis, the responses of additional eleven participants were omitted due to either data inconsistencies or statistical outliers (see section on data cleaning for a detailed description of these exclusion criteria). Thus, the final sample used in the analyses of this study consisted of 220 participants (170 women and 50 men). The mean age of the sample was 19.08 ($SD = 1.68$). Most participants reported having a European cultural background ($n = 161$), 21 participants were of Asian cultural background, and the rest reported having other cultural origins. In response to a question about their involvement in a serious intimate relationship, 25 participants reported either being married or cohabiting with a partner. The vast majority of participating students received 1% credit for their participation as part of their course requirements. Only 35 participants chose to enter into a draw instead of receiving the credit, and two of them won \$100 each.

Measures

Index of Childhood Instability. The childhood instability index was developed by this study's researchers. Its development was based on Ackerman et al.'s (1999) instability index. In the original index, Ackerman et al. included five sources of instability: (a) frequency of residential moves, (b) the number of families with whom the child lived, (c) changes of caregiver's intimate relationships, (d) severe illnesses in the child's history, and (e) negative life

events other than the above. The first two indicators of instability, residential moves and changes of families/caregivers, have been identified as central sources of instability by many other researchers as well (Adam & Chase-Lansdale, 2002; Forman & Davies, 2003; Milan et al., 2006; Moore et al., 2000). It has been argued that these two factors are important due to their direct effect on children's relationships with their parents, friends, neighbours, and possibly their teachers, which are social networks important for their optimal development and well-being (Adam & Chase-Lansdale, 2002). Thus, residential moves and changes of families/caregivers were also included in the current study. Moreover, both of these sources of instability are relatively easy to recall and can be quantified. Because this study was based solely on the participants' retrospective memory of their childhood experiences, this aspect was crucial for the validity of the instability index.

In order to capture Ackerman et al.'s (1999) third indicator, frequency of changes in caregiver's intimate relationships, our third source of family instability was the number of changes of secondary caregivers (e.g., a mother's partner or a grandparent) who lived with the child in the same household. We believed that such information would reveal a broader picture of the level of instability in the participants' living environment than focusing solely on the parent's number of intimate relationships. The fourth source of family instability was the number of non-normative school changes. This has been suggested by a number of previous studies as an important aspect of children's environment instability (Marcynyszyn et al., 2008; Moore et al., 2000). Finally, a cumulative score of family instability was created by standardizing the total scores of the above four sources of the instability and adding them together. This procedure has been commonly used by other researchers who have studied the effects of family instability (e.g., Ackerman et al., 1999; Forman & Davies, 2003).

In accord with the argument by Marcynyszyn et al. (2008), we determined that Ackerman et al.'s (1999) fourth and fifth sources of instability (severe illnesses in the child's history and other negative life events) should not be included in the current family instability index. We assumed that these two indicators might be related to experiences of instability but were not direct measures of it. Therefore, a history of severe illnesses and other negative life events were combined into a separate control variable in the current analysis.

Traumatic Life Events. The Life Events Checklist (LEC; Gray, Litz, Hsu, & Lombardo, 2004) was included in order to assess the number of traumatic negative events the participants experienced before the age of 16. The LEC has been designed as a screening tool of other diagnostic tools of Post Traumatic Stress Disorder (PTSD) in clinical settings. It includes 17 items representing a variety of traumatic events (e.g., life-threatening illness or injury, unexpected death of a close person). The participants were asked whether (1) the event had happened to them personally, (2) they had witnessed it happening to someone else, (3) they had learned about it happening to someone close to them, (4) they were not sure if it applied to them, or (5) it did not apply to them. Therefore, the advantage of this scale is that it considers the trauma associated with witnessing an event, in addition to direct experiences. The LEC has shown reasonable test-retest reliability and good convergent validity (Gray et al., 2004).

Most studies have used the LEC together with other measures of PTSD (e.g., Kelley, Weathers, McDevitt-Murphy, Eakin, & Flood, 2009). Thus, the scoring scheme commonly used with the LEC did not fit with this study's purpose. Among the researchers that have used the LEC on its own, some have recoded only the first response option ("happened to me") as an affirmative response (e.g., Norman, Stein, Dimsdale, & Hoyt, 2007) and others have included both the first and the second response ("witnessed it") as an affirmation (e.g., Ghafouri et al., 2009). In the present study, each participant received a total score by including all items to which

he/she responded with the first response option. Next, a few specific items were identified as representing events that are more proximate to the individual than other events. These events were physical and sexual assaults, a life-threatening illness or injury, and an unexpected death of a close person. Participants received one additional score to their total score for witnessing each one of these four events, even though not directly experiencing them.

Secure Attachment to a Caregiver in Childhood. Two subscales of the Attachment History Questionnaire (AHQ; Pottharst, 1990) were combined in order to measure the level of attachment security to caregivers the participants had had during childhood. The AHQ is a retrospective, self-report measure, which has been developed according to the constructs of the attachment theory. The questionnaire evaluates young adults' perceptions of the quality of their relationship with their parents. Its 51 items are divided into three sections: (a) availability and responsiveness of caregiver, (b) caregiver discipline style, and (c) peer attachment and support. Response options are based on a 7-point scale such that, in most items, 1 is *Never* and 7 is *Always*. Previous factor analyses have shown that the AHQ has four principle subscales: Secure Attachment Base, Threats of Separation, Parental Discipline, and Peer Emotional Support (Pottharst, 1990). Previous studies have used the four subscales of the AHQ as separate variables (e.g., Chassler, 1997). In this study, the 25 items belonging to the Secure Attachment subscale were combined with the reversed nine items of the Threat of Separation subscale to create one score of attachment security such that a high score suggested high level of secure attachment. The Parental Discipline subscale was not used by the present study. Participants were asked to complete the items in relation to their most constant caregivers. Those who reported not having at least one constant caregiver ($n = 3$) were asked to respond to these items in relation to the adult with whom they lived the longest. Because a few items in the Secure Attachment subscale are specific to a father or a mother, a number of participants who had lost a parent and had no

one in place of this parent chose the N/A response option to these items. In order to use these participants' other responses, a relative, percentage-based total score was created for this scale.

Quality of Past Peer Relationships. The Peer Emotional Support subscale of the AHQ (Pottharst, 1990) was used separately to measure the participants' quality of past peer relationships. This subscale includes nine items that evaluate young adults' perception of the emotional support their friends provided them during childhood. Similarly to the secure attachment subscale described above, the response options to these items are based on a 7-point scale from 1 (*Never*) to 7 (*Always*), for most items. A high score on the peer emotional support subscale suggests good quality of peer relationships. Overall, the AHQ has been found to have good construct validity and respectable reliability ($r = .91$).

Childhood Experiences Associated with Family Instability. Throughout the questionnaire, participants were asked to agree or disagree with statements about a variety of childhood familial experiences. Five of these statements were intended to be used in the analysis of this study as independent variables: "one of my caregivers passed away," "my parents divorced or separated and one moved out," "my parent/main caregiver was incarcerated," "my parent/main caregiver had a serious mental health problem," and "I ran away at least once before age 16." In addition, in order to assess whether or not the participants' had experienced living with unfamiliar caregivers, their responses to three additional statements referring to living in foster care, living with unfamiliar family members, or experiencing juvenile detention, were combined. To assess parental social involvement, participants' responses to two statements ("my parent/main caregiver participated in a lot of volunteer activities" and "my parent/main caregiver regularly participated in religious activities") were combined.

Depression. The Iowa short form of the Centre for Epidemiologic Studies-Depression scale (CES-D; Carpenter et al., 1998) was used to measure depression. The CES-D has been

commonly used with a variety of samples and has generally shown good psychometric properties (Carpenter et al., 1998). Due to the length restriction of this study's questionnaire (answering the questionnaire should not have taken the participants more than one hour in total), a shorter version of the CES-D was chosen. The Iowa short form of the CES-D consists of 11 items describing different emotional states and symptoms of depression (e.g., "I felt depressed" and "my sleep was restless"). Respondents are asked to specify how often they experience these emotional states and symptoms, *hardly ever or never*, *some of the time*, or *much or most of the time*. This version of the CES-D has showed good internal consistency in previous studies, as indicated by Chronbach's Alpha of .90 (Floyd, Boren, Hannawa, Hesse, McEwan, & Veksler, 2009).

Resilience. An abbreviated version of the Connor-Davidson Resilience scale (CD-RISC-10; Campbell-Sills & Stein, 2007) was used to measure resilience. This is a self-report scale that measures an individual's subjective resilience, such as his/her ability to adapt to change and cope with stressful events. This version includes 10 items, each of which followed by a 5-point Likert-like scale, from 0 (*not true at all*) to 4 (*true nearly all the time*). An example of an item is "I am able to adapt to change" (Campbell-Sills & Stein, 2007, p. 1025). In their analyses of the psychometric properties of the abbreviated CD-RISC, Campbell-Sills and Stein found it had high internal consistency (Chronbach's Alpha = .85) and good construct validity.

Psychological Sense of Belonging. The 18-item Psychological subscale of the Sense of Belonging Instrument (SOBI-P; Hagerty & Patusky, 1995) was used to assess the participants' current level of sense of belonging. The SOBI-P subscale includes statements such as "I generally feel that people accept me" and "I don't feel that what I have to offer is valued" (p. 11). Responses are based on a 4-point scale, from 1 being *strongly disagree*, to 4 being *strongly agree*. A high score on the scale means that a person feels a greater sense of belonging. The

internal consistency of the SOBI-P has been assessed with a university student sample, depressed sample, and a sample of nuns (Hagerty & Patusky, 1995). It was found that the scale was reliable with all three groups (.93, .93, and .92, respectively). Test-retest reliability was examined only within the student sample and was also found high (.84). Previous studies using the SOBI-P as a measure of sense of belonging have found further support for the high reliability of the scale; Chronbach's Alpha coefficients were .92 among two different samples of Australian retirees (Kissane & McLaren, 2006), and .96 among a group of lesbian women (McLaren, 2009).

Demographic Information. Participants were asked to complete a demographic information survey which included questions regarding their age, gender, cultural background, immigration status, and marital status. The Family Affluence Scale (FAS; Boyce, Torshiem, Currie, & Zambon, 2006; Galobardes, Shaw, Lawlor, Lynch, & Davey, 2006) was included to assess the participants' family socioeconomic position during childhood.

Procedure

As an initial stage, the full questionnaire was piloted by asking five people, who were known to the researchers, to complete it. Consequently, we were able to improve any unclear questions or instructions. Next, the survey questions were uploaded to the Survey Monkey website. At this stage, the researchers tested again the on-line questionnaire to ensure that uploading the questions was conducted properly. Finally, an online link was added to the UBCO psychological research web-site (SONA). By clicking on this link, the students accessed the study's consent form. Once they agreed to participate, the participants were asked to complete the online questionnaire.

Due to the sensitive nature of some of the questions in the survey, it was important to ensure the confidentiality of the participants. Therefore, the participants were instructed to create an 8-digit participation code and email it, together with their full name, to a third person who

then created a code list of all the participants and sent it to one of this study's researchers. These codes were used by that researcher, instead of the participants' names, in order to grant them their credit. This way, there was not one person who had access to the participants' personal information as well as to their responses.

Results

Data Screening

In this study, data were analyzed by SPSS17.0. Because an online questionnaire procedure was utilized, it was crucial to detect any inconsistencies in the data. An assessment of the variable frequency tables and the crosstabulations of related items (e.g., two separate questions that asked about parental divorce) identified the participants whose responses were not consistent. The identified inconsistencies were further reviewed by the researchers in order to consider whether there was a logical explanation that could account for these inconsistencies. Only the ones who had a number of unexplained inconsistencies were excluded ($n = 6$). Also in this stage, the outliers in the data were identified. For the purpose of the present analysis, participants who scored more than three standard deviations away from the mean on the predictor variable (family instability) and the moderating variable (secure attachment), were regarded as outliers and therefore were not included in the analysis ($n = 5$). Lastly, as generally required by regression analyses, cases that had any missing data were excluded in a list-wise manner from the main analysis. Therefore, the data of additional 18 participants were not used in the regression analysis of this study. A series of t-tests, as well as a number of non-parametric tests, were conducted in order to ensure that these excluded participants did not differ from the rest of the participants on their general characteristics (e.g., sex or age) as well as on this study's main variables (e.g., family instability). No significant differences were found between the two groups of participants ($\alpha = .05$).

To examine the existence of multicollinearity, the zero-order correlations between the predictors were assessed. Among the scale predictors, this was done by reviewing the correlation matrix. To assess the zero-order correlations between the scale and the nominal variables, a series of simple regression analyses were conducted between each scale variable, used as the regression outcome variable, and every nominal variable, used as the predictor variable in the regression. Finally, the Chi Square statistic was used to assess strong associations between pairs of nominal predictors. In addition, to ensure that multicollinearity did not exist between any of the predictors and a linear combination of the other predictors, the Variance Inflation Factor (VIF) values of the final MMR model were also assessed. In the final regression model, the required assumption of absence of multicollinearity was met (all $r < .51$ and VIF values < 1.77).

Skewness and kurtosis assessments revealed that the key variables of this study were not normally distributed. The family instability variable had a positively skewed and leptokurtic distribution (skewness = 9.0, kurtosis = 6.4), and the distribution of the secure attachment variable had a highly negatively skewed distribution (skewness index = -5.6). Sense of belonging, the dependent variable, also had a negatively skewed distribution (skewness index = 5.7). Nevertheless, these variables were not transformed in order to preserve the variables' authentic nature and for the purpose of clarity of interpretation (Osborne, 2002). This limitation and its alternative solutions are further considered in the Discussion section.

Main Analysis

Table 1 provides a description of the participants' experiences of childhood family instability, as was measured by four different sources of change. The sample mean scores on the main scale variables and the zero-order correlations between these variables are presented in Table 2. For the purpose of evaluating the effect of family instability on sense of belonging (our first hypothesis) and the significance of its interaction with secure attachment (our second

Table 1

Means, Standard Deviations, and Range of Scores for the Four Sources of Family Instability

Source	<i>M</i>	<i>SD</i>	Range
Main caregiver changes	0.04	0.35	0 - 4
Secondary caregiver changes	0.29	0.83	0 - 6
Residential moves	2.59	2.66	0 - 18
Non-normative school transition	1.23	1.63	0 - 8
Total number of changes	4.22	4.16	0-19

hypothesis), a hierarchical multiple moderation regression (MMR) was conducted, using a significance level of .05. First, the main predictor (family instability) and the moderator (secure attachment) were standardized in order to compute their interaction term (Aiken & West, 1991; Frazier, Tix, & Barron, 2004). Frazier et al. also suggest standardizing all the other scale predictors so that their relative contribution to the model can be assessed. Therefore, all scale variables were converted into z-scores.

Using sense of belonging as the outcome variable of the regression model, we entered the predictors into the regression model in four sequential steps. In the first step, only depression was entered to allow the procedure to control for the variance of sense of belonging accounted for by depression. This step allowed the assessment of the contribution of the other predictors over and above depression. The rest of the covariates were entered in the second step, except of the family instability variable. A number of dichotomous covariates, which were theoretically expected to be associated with family instability, were left out of the regression model due to a low affirmative response rate (i.e., below 10%). Tabachnick & Fidell (2007) argue that if more

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Table 2

Means, Standard Deviations, and Zero-Order Correlations of Scale Variables (N = 220)

Variable	<i>M</i>	<i>SD</i>	Range	1	2	3	4	5	6	7	8	9
1. Sense of Belonging (SOBI-P)	60.58	10.64	24 – 72	1.00								
2. Depression (CES-D)	5.87	3.98	0 – 17	-0.55	1.00							
3. Childhood Socioeconomic Position (FAS)	6.67	1.48	3 – 9	0.10	-0.06	1.00						
4. Traumatic Life Events (LEC)	2.35	2.02	0 – 12	-0.13	0.23	-0.08	1.00					
5. Peer Emotional Support (AHQ-P)	36.62	7.09	16 – 49	0.37	-0.27	0.10	-0.09	1.00				
6. Resilience (CD-RISC)	27.97	5.74	5 – 40	0.35	-0.28	0.04	0.12	0.24	1.00			
7. Family Instability Index	-0.26	2.10	-2.24 – 8.02	0.01	0.03	-0.05	0.10	-0.03	0.04	1.00		
8. Secure Attachment (AHQ-SA)	82.12	10.40	49 – 97	0.45	-0.48	0.24	-0.30	0.25	0.22	-0.20	1.00	
9. Secure Attachment × Family Instability	–	–	–	-0.01	0.02	0.08	0.17	0.08	0.11	-0.16	0.20	1.00

Note. AHQ-SA = combined total of Secure Attachment and Threat of Separation subscales of the AHQ.

than 90% of responses fall into one category on a dichotomous variable, then correlations between dichotomous and continuous variables might be deflated. The excluded variables were: experiencing living with unfamiliar caregivers, parental incarceration, parental death, and parental mental health problem. The variables that met the minimum affirmative rate criterion and therefore were included in the model were parental social involvement (57.3% affirmative rate), parental divorce (12.3%), and child run-away (11.8%), all measured in relation to the participants' childhood. Due to a flaw in the design of the online survey, we were unable to include an additional relevant control variable, living in a single caregiver household. Next, in the third step, only family instability was entered to assess its unique contribution to the model. Finally, the fourth step of the regression model involved entering the interaction term between family instability and secure attachment.

Initially, two interaction terms were entered in the last step, one between family instability and secure attachment and the second between family instability and resilience. This was done in order to rule out the possibility that family instability may also interact with resilience. Frazier et al. (2004) recommend testing for interactions between the covariates included in an MMR analysis and the main variables. They continue that, in case that the interaction term is not significant, it can be removed from the regression model. Because we found that there was no significant interaction between these two variables ($t(201) = .79, p = .427$), we decided to take out this interaction term from the model and treat resilience only as a covariate.

We predicted that family instability would have an overall significant negative effect on sense of belonging. Moreover, we expected that this negative effect would be moderated by the levels of secure attachment, such that the sense of belonging of people with high levels of secure attachment would not be as affected by family instability as those with low secure attachment

Table 3

Summary of Hierarchical Multiple Regression for Variables Predicting Sense of Belonging (N = 202)

Variable	<i>B</i>	<i>t</i>	<i>r</i>	<i>pr</i>	ΔR^2	ΔF
Step 1					0.31	89.36**
Depression	-3.44	-5.01**	-0.56	-0.34		
Step 2					0.17	5.15**
Sex ^a	3.98	2.96*	0.23	0.21		
Age	-1.43	-2.38 [†]	-0.18	-0.17		
European cultural background	-1.00	-0.76	0.04	-0.06		
Intimate relationship	0.01	0.01	0.06	0.00		
Childhood Socioeconomic Position	-0.13	-0.22	0.12	-0.02		
Traumatic Life Events	0.42	0.65	-0.14	0.05		
Parental social involvement	1.23	1.06	0.16	0.08		
Peer Emotional Support	1.53	2.54 [†]	0.36	0.18		
Resilience	2.17	3.44*	0.37	0.24		
Parental divorce	-4.04	-2.00 [†]	-0.16	-0.14		
Child run-away	-1.16	-0.63	-0.12	-0.05		
Secure Attachment	2.56	3.27*	0.47	0.23		
Step 3					0.01	3.19
Family instability	1.31	1.65	0.02	0.12		
Step 4					0.02	6.98*
Family Instability × Secure Attachment	-1.70	-2.64*	-0.06	-0.19		
Summary statistics: $R = .71$, $R^2 = .51$						

^a Men coded 0, women coded 1.

[†] $p < .05$. * $p < .01$. ** $p < .001$.

levels. The MMR analysis showed that family instability did not significantly contribute to the prediction of sense of belonging while the other predictors and covariates were controlled for,

$\Delta F(1,187) = 3.19$, $\Delta R^2 = .009$, $p = .076$. However, the results demonstrated that levels of secure attachment moderated the effect of family instability on sense of belonging. Moderation relationships are indicated by the significance of the amount of variance explained by the interaction term, over and above the variance explained by the other predictors and the moderator variable (Frazier et al., 2004). As expected, the interaction between family instability and secure attachment was significant, $\Delta F(1,186) = 6.98$, $\Delta R^2 = .019$, $p < .01$. Almost 2% of the variance of sense of belonging was accounted for by the interaction term. The regression and correlation coefficients of the final MMR model, together with the ΔR^2 of each step of the model, are presented in Table 3.

Due to the significant interaction, it was necessary to assess the effect of family instability on sense of belonging separately for different levels of secure attachment. This was also important for the interpretation of the moderation effect (Frazier et al., 2004). Significant interactions in MMR suggest that the effect of the predictor on the outcome variable changes between different levels of the moderator variable (Dawson & Richter, 2006). Therefore, to explicate the nature of the interaction, a graph (Figure 1) representing the relationship between family instability and sense of belonging in different levels of secure attachment was created using the unstandardized regression weights from the MMR model (Dawson, n.d.).

The graph clearly showed that, in contradiction to our hypotheses, the significant simple slope at the low level of secure attachment was positive. Whereas family instability did not have a significant effect on sense of belonging for those who reported having an average or above average levels of secure attachment, at the lower level of secure attachment, family instability had a significant *positive* effect on sense of belonging.

There were a number of additional significant results indicated by the MMR model. First, depression had a significant negative correlation with sense of belonging ($pr = -.345$, $p < .001$),

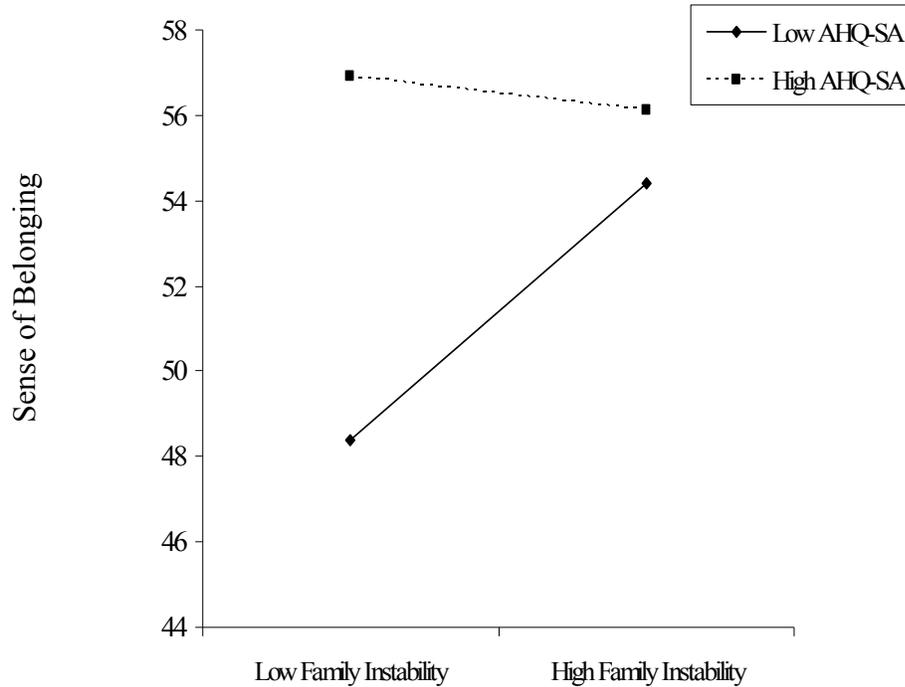


Figure 1. Plot of significant Family Instability \times Secure Attachment (AHQ-SA) interaction, created using the regression coefficients.

explaining 11.9% of the variance of sense of belonging while all other variables were controlled for. Resilience was also a significant predictor of sense of belonging, with a significant partial correlation of .244 ($p < .01$). Even though there was a significant interaction between family instability and secure attachment, the graph of the interaction showed that those who scored high on the secure attachment measure always reported having a stronger sense of belonging, regardless of their family instability level. Thus, according to the graph, there was a significant main effect of secure attachment on sense of belonging. The regression results also supported this assertion ($pr = .233, p < .01$). Finally, the regression results showed that there was a significant sex difference ($t(200) = 2.96, p < .01$). That is, women had a significantly higher sense of belonging ($M = 61.79, SD = 10.10$) than men ($M = 56.15, SD = 11.03$).

Discussion

In this study, family instability in childhood, as measured by the combination of the four sources of change included in its index, did not have a significant negative effect on young adults' sense of belonging. Thus, our first hypothesis was not supported. Nevertheless, as predicted by our second hypothesis, the effect of family instability was moderated by the participants' level of reported history of secure attachment to a caregiver. The examination of the nature of this interaction revealed that family instability during childhood had an effect on sense of belonging, but only for those who reported having low levels of secure attachment in childhood. Surprisingly, the effect of family instability was positive, as opposed to the expected negative effect. To the best of our knowledge, this was the first study to evaluate the effect of childhood family instability on young adults. Therefore, it is hard to compare these findings to previous research. Nonetheless, this study's results are not consistent with previous research that has looked at the impact of family instability on the lives of children and adolescents (e.g., Forman & Davies, 2003; Teachman, 2008). The findings that having a secure attachment was a significant predictor of high sense of belonging, and that family instability had little effect on the sense of belonging of the people who reported having a secure attachment, provide further support for the importance of a warm and consistent relationship with a caregiver during childhood to young adults' well-being.

The revealed positive effect of family instability on the sense of belonging of those who reported not having a secure attachment in childhood may be explained by the overall low levels of family instability experienced by the participants. After collecting the data, it was found that the student population of first-year psychology courses in UBCO is fairly homogeneous with respect to the reported levels of family instability. The overall levels of family instability of this sample was low (refer back to Table 1 for more details). The positive effect of family instability

that was found in this study may be reflecting the lower end of a curvilinear relationship that exists between family instability and sense of belonging. That is, low levels of instability may have a positive effect on sense of belonging whereas higher levels of instability may affect it negatively. It is likely that a minimal number of residential moves or school changes, which were the kinds of changes most commonly experienced by our sample, increases people's opportunities to develop new meaningful social relationships and by that, improves their sense of belonging. However, when the number of changes increases beyond a certain level, the benefits of instability may disappear and its effect on sense of belonging may become unfavourable. More research is needed in order to assess the nature of the relationship between family instability and sense of belonging among samples with wide range of family instability experiences. If this relationship is in fact curvilinear, it seems highly important to invest more research effort in finding the crucial point beyond which family instability becomes detrimental.

Future Analyses of the Existing Data

As mentioned in the Results section, some of the key variables in this study were not normally distributed. This statistical condition raises questions regarding the appropriateness of the use of an MMR analysis which requires that the main predictor and the moderator have normal distributions (Frazier et al., 2004). One alternative solution to this problem is data transformation. Even though data transformations are not recommended by all researchers, they may still be appropriate to use with this study's data. That is because the non-normally distributed variables were not measured on a widely-used, meaningful scale such as, for example, IQ scores (Tabachnick, & Fidell, 2007). Therefore, data transformations should not pose difficulties interpreting the effects of these variables. Ideally, analyses that are based on transformed variables should result in findings that are similar to the findings of equivalent analyses with non-transformed variables. In future analyses of this study's data, the main

variables will be transformed in order to achieve normality and then the new results will be compared to the original results of this study. This will help evaluating whether the non-normal distribution shape of the variables had an effect on the initial regression results. It should be noted, however, that moderation effects are generally harder to detect when the predictor and the moderator are normally distributed (O'Connor, 2006).

This study's data will be subjected to a more thorough assessment of the linearity of the relationship between the predictors included in the regression model and the outcome variable. This is due to an initial assessment of the residual scores of the sense of belonging which suggested that the regression model might have had a non-linear relationship with sense of belonging. Further analyses will be conducted to assess the kind of relationship that exists between the predictors and the outcome variable of this study.

Future Analyses with an Additional Dataset

The data that had been collected for this study were divided into two parts, such that the responses of the first 275 participants were included in the dataset that was used in the analysis described earlier, and the rest of the responses constituted a second dataset that has not been used. It is the researchers' aim to conduct further analyses using the first dataset in order to establish a number of new hypotheses. These new hypotheses will then be tested using the second dataset of responses.

One of the proposed additional analyses will focus on further understanding the nature of the family instability index. Past research has been operationally defining childhood family instability in a few different ways. Although some indicators of family instability have been used by most researchers (e.g., caregiver changes), a number of indicators have been used inconsistently among different studies (e.g., non-normative school transitions). In the current study, the instability index included four indicators of instability: residential moves, non-

normative school transitions, changes in secondary caregivers, and changes in main caregivers. It is possible however, that these four aspects of instability do not have equal independent effect on people's lives. In further analyses, the unique contribution of each of the above four instability indicators to the overall family instability level will be explored.

Furthermore, although some researchers have included an index of negative life events as an indicator of instability, others have argued that negative life events have an independent effect on people's life and therefore should not be included in a family instability index (Marcynyszyn et al., 2008). In the current study, the researchers adopted that latter argument and did not include an index of negative life events into the instability index. Because of its exclusion from the instability index, a cumulative score of traumatic life events was measured (Life Event Checklist, LEC; Gray et al., 2004) and used as a control variable. Nevertheless, the utilization of the LEC ignored the effect of specific traumatic events, such as experiencing or witnessing sexual or physical assault during childhood, on sense of belonging. In a future analysis, the researchers will investigate the independent contribution of specific traumatic events on young adults' sense of belonging.

In addition to measuring traumatic life events, information about the participants' experiences of events that are more closely related to the family environment (e.g., parental mental health and parent's incarceration) was also obtained by this study's questionnaire. In future analyses, the researchers intend to test whether these events can be joined into an index of family-related life events and if so, whether the new index has a significant relationship with the original family instability index and with sense of belonging.

Finally, future investigation of the first dataset will focus on simplifying the regression model in order to make it more applicable to real-life. While the overall model was able to explain 50.7% of the variance in sense of belonging, it included a few variables that had very

little contribution to the prediction. It is important to evaluate whether the results reported above hold true even after reducing the model. Additionally, the initial analysis did not include the assessment of other possible interactions between the main predictor (family instability) and the covariates included in the analysis. Frazier et al. (2004) recommend adding a final step to the regression model that contains interaction terms between the main predictors and all the covariates. This step should be done in order to test for the consistency of the covariate effects across different levels of the predictors, but it can also potentially reveal new unexpected moderation effects. If any significant interactions are found, they will be explored further with the second dataset.

General Limitations and Future Research

This study had a number of methodological limitations. Due to the cross-sectional design of this study, the validity of its findings lies on the participants' ability to retrospectively and accurately report their childhood experiences. Although the participants were asked about childhood events that are generally perceived as significant and therefore memorable, inaccurate recollection of early childhood events is a reasonable possibility. Moreover, the correlational nature of this study does not allow any inferences of causal relationships. Researchers who wish to further evaluate the causal effects of different childhood familial experiences on later sense of belonging should consider a longitudinal study design.

A second limitation of this study was its failure to assess the effect of living in a single-parent household on sense of belonging. This is a limitation because previous research has shown that living in a single-parent household is associated with a number of negative circumstances (Vandivere et al., 2000). Unfortunately, a flaw in the online survey resulted in a lack of information on this variable for a substantial number of participants. Future research

should look at the relationship between living in a single-parent household and other indicators of family instability and assess its possible effect on young adults' sense of belonging.

A third methodological limitation was the choice of sample for this study. It is possible that the population of first-year psychology students in UBCO does not represent the general population of young adults, specifically in relation to this study's variables of interest. For example, as was already discussed, the overall level of family instability reported by this sample was very low. One possible explanation for this finding may be that most individuals who do experience higher levels of instability are usually not enrolled in universities. If it is true that family instability has negative effects on different aspects of young adults' lives, then individuals who experience high family instability in childhood may not have the requirements (e.g., high-school academic achievements) or the attitudes (e.g., interest in higher education) necessary in order to become university students. Therefore, the utilization of a university student population to evaluate the effects of family instability might have limited this study's ability to test its hypotheses. Future research is needed in order to examine the effects of childhood family instability among a more representative sample of young adults.

The results of this study raise questions regarding to appropriateness of the use of the Psychological subscale of the Sense of Belonging Instrument (SOBI-P) with the current sample. More specifically, the participants of this study scored much higher on the SOBI-P ($M = 60.58$, $SD = 10.64$) than the sample of students originally used by Hagerty & Patusky (1995) to evaluate the psychometric properties of the scale ($M = 55.54$, $SD = 9.73$). Furthermore, the majority of previous studies that have used the SOBI-P looked at special populations such as people who suffer from depression (Choenarom et al., 2005), aging populations (Kissane & McLaren, 2006), or homosexual individuals (McLaren, 2009). Although the psychometric properties of the SOBI-P have been previously established (Hagerty & Patusky, 1995), it is possible that the scale is

most useful in detecting differences between people who fall on the lower end of the sense of belonging continuum. Further investigation of the appropriateness of using the SOBI-P with first-year university students is warranted.

As a final note, it should be mentioned that a measure of current social support was not included in the present study. During the development stage of this study, the researchers acknowledged that a moderate-to-strong link existed between sense of belonging and social support (Choenarom et al., 2005; Hagerty & Patusky, 1995). However, to avoid a situation where a predictor is highly related to the outcome variable in the regression analysis, it was decided not to include current social support as a variable in this study. Nevertheless, there seems to be a strong need in the literature for more research that can help discerning between the constructs of social support and sense of belonging, if they are indeed two different constructs. This important goal was beyond the scope of the present study.

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