Emerging in Debt: Understanding the Impact of Student Debt on the Subjective Financial Well-being of Emerging Adults in the United States and Canada

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English Abstract

Among the key concerns of researchers, policy makers and the public is skyrocketing student debt. Almost 45 million borrowers in the United States owe over $1.6 trillion in student loan debt (Board of Governors of the Federal Reserve System, 2020) - that is almost $600 billion more than total U.S. credit card debt (Federal Reserve Bank of New York, 2020). And this problem is not unique to the United States. While the total number of borrowers, aggregate debt load and average debt sizes are smaller in Canada (LIS Cross-National Data Center, 2019; Statistics Canada, 2017a), carrying student debt has become an increasingly ubiquitous feature of emerging adult life there as well (Robson & Loucks, 2018).

This dissertation examines the impact of student debt on the subjective financial well-being (SFWB) of emerging adults in the United States and Canada. SFWB consists of an individual's perceptions and evaluations of their own financial condition (Sorgente & Lanz, 2017). SFWB is important to human development because of its positive association with overall subjective well-being, and with mental and physical health (Shim, Xiao, Barber, & Lyons, 2009; Tay, Batz, Parrigon, & Kuykendall, 2017). However, the direction and magnitude of the impact of student debt on SFWB during this critical period of the life course is not well understood.

This dissertation is comprised of three independent studies. In the first two, I used longitudinal survey data to examine the relationship between student debt and SFWB in the United States. More specifically, in the first, I examined the relationship between debt status and level and SFWB, and how this relationship differed across socioeconomic groups. In the second, I examined the relationship between changes in student debt and changes in SFWB within people over time. In the third, I used focus group data to explore the impact of student debt on the SFWB and life course transitions of young adults in the Canadian context.

Findings from the first two studies revealed that holding student debt and amount of debt held shaped the SFWB of emerging adults in the United States. Borrowers had significantly lower SFWB than their counterparts without student debt and, among debtors, debt amount was negatively associated with SFWB. Further, the association between student debt and SFWB was stratified by family background socioeconomic status. Additionally, while the negative association between student debt and SFWB persisted across all time periods under study, trajectories of SFWB varied in relation to changes in student debt over time. Findings from focus groups (Study 3) confirmed these results and added nuance derived from the perspectives of

young adults holding and repaying student debt in Canada. While participants felt that taking on student allowed them to invest in themselves and develop financial management skills, it also caused significant financial and psychological stress. Further, there was heterogeneity in the timing and severity of this stress. Also, during the repayment period, borrowers felt that their debt obligations constrained their financial freedom and life course transitions. Finally, family financial background – including both financial resources and processes of financial socialization – shaped participants' student debt use, experiences and perspectives.

The findings of this dissertation can inform the design and implementation of practice level interventions that may both alleviate the negative and increase the positive effects of debt on SFWB. Findings can inform the targeting of policy level interventions that address the needs of vulnerable borrowers and redistribute social goods in order to maximize the mobility-generating power of post-secondary education. Finally, by addressing stratification in the impact of student debt on SFWB, this dissertation responds to the call for social work researchers, practitioners and educators to lead in the fight for social and economic justice and equity.

French abstract

L'une des principales préoccupations de chercheurs, de décideurs et du public est l'augmentation de la dette étudiante. Près de 45 millions emprunteurs aux États-Unis doivent plus de 1,6 mille de milliards de dollars en prêts étudiants (Board of Governors of the Federal Reserve System, 2020), soit près de 600 milliards de dollars de plus que la dette totale en cartes de crédit américaines (Federal Reserve Bank of New York, 2020). Et ce problème n'est pas propre aux États-Unis. Alors que le nombre total d'emprunteurs, l'endettement global et la taille moyenne de la dette sont plus petits au Canada (LIS Cross-National Data Centre, 2019; Statistique Canada, 2017a), l'endettement étudiant est devenu une caractéristique de plus en plus omniprésente de la vie adulte émergente (Robson & Loucks, 2018).

Cette thèse examine l'impact de l'endettement étudiant sur le bien-être financier subjectif (BEFS) des adultes émergents aux États-Unis et au Canada. Le BEFS se compose des perceptions et des évaluations d'un individu de sa propre situation financière (Sorgente & Lanz, 2017). Le BEFS est importante pour le développement humain en raison de son association positive avec le bien-être subjectif global et avec la santé mentale et physique (Shim, Xiao, Barber, & Lyons, 2009; Tay, Batz, Parrigon, & Kuykendall, 2017). Cependant, la direction et l'ampleur de l'impact de l'endettement étudiant sur le BEFS pendant cette période critique de la vie ne sont pas bien comprises.

Cette thèse comprend trois études indépendantes. Dans les deux premiers, j'ai utilisé des données d'une enquête longitudinale pour examiner la relation entre la dette étudiante et la AFDF aux États-Unis. Plus précisément, dans la première, j'ai examiné la relation entre le statut d'endettement et le niveau de la dette et le BEFS, et comment cette relation différait d'un groupe socio-économique à l'autre. Dans le deuxième, j'ai examiné la relation entre les variations de l'endettement étudiant et les variations de le BEFS chez les personnes au fil du temps. Dans le troisième, j'ai utilisé des données de groupes de discussion pour explorer l'impact de l'endettement étudiant sur le BEFS et les transitions du parcours de vie des jeunes adultes dans le contexte canadien.

Les résultats des deux premières études ont révélé que le fait de détenir une dette étudiante et le montant de la dette détenue ont façonné le BEFS des adultes émergents. Les emprunteurs avaient un BEFS significativement plus bas que leurs homologues sans dette étudiante et, parmi les débiteurs, le montant de la dette était négativement associé à le BEFS. De

plus, l'association entre la dette étudiante et le BEFS a été stratifiée selon le statut socio-économique d'origine familiale. De plus, alors que l'association négative entre la dette étudiante et le BEFS a persisté pendant toutes les périodes étudiées, les trajectoires de le BEFS variaient en fonction de l'évolution de l'endettement étudiant au fil du temps. Les résultats de la troisième étude utilisant les données des groupes de discussion ont confirmé ces résultats. Les participants ont estimé que l'embauche d'étudiants leur permettait d'investir en eux-mêmes et de développer des compétences en gestion financière, cela a également causé un stress financier et psychologique important. De plus, il y avait une hétérogénéité dans le moment et la gravité de ce stress. De plus, au cours de la période de remboursement, les emprunteurs ont estimé que leurs paiement de dettes limitaient leur liberté financière et les transitions de leur parcours de vie. Enfin, les antécédents financiers de la famille - y compris les ressources financières et les processus de socialisation financière - ont façonné l'utilisation de la dette étudiante, les expériences et les perspectives des participants.

Les résultats de cette thèse peuvent éclairer la conception et la mise en œuvre d'interventions au niveau de la pratique qui peuvent à la fois atténuer les effets négatifs et augmenter les effets positifs de la dette sur le BEFS. Les résultats peuvent guider des interventions au niveau des politiques qui répondent aux besoins des emprunteurs vulnérables et redistribuent les biens sociaux afin de maximiser le pouvoir générateur de mobilité de l’éducation post-secondaire. Enfin, en abordant la stratification de l'impact de l'endettement étudiant sur le BEFS, cette thèse répond à l'appel lancé aux chercheurs, praticiens et éducateurs en travail social à mener la lutte pour la justice sociale et économique et l'équité.

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Preface

This dissertation is submitted in partial fulfilment of the requirements of the degree of Doctor of Philosophy in Social Work. The manuscript presented in Chapter 3 (Study 2) was published in *Emerging Adulthood* in 2019 (online version).[1] As the lead author, I cleaned, coded and analyzed the data, and wrote and revised the manuscript. As co-authors, Drs. David Rothwell, Joyce Serido and Soyeon Shim helped to improve the quality of the work by providing constructive feedback throughout the process. Emerging Adulthood's Re-Use Guidelines permit the use of contributions published in the journal for the author's dissertation.[2] Further, all study co-authors have provided written consent for use of the manuscript in this dissertation. The focus group data used in Study 3 (Chapter 4) were collected in collaboration with Dr. Jodi Leitkewicz, and she provided critical feedback throughout the analysis and writing process. This dissertation is supported in part by funding from the Social Sciences and Humanities Research Council, the Fonds de recherche du Quebec – Société et culture, and the APLUS Research Award.

[1] Cherney, Katrina, David Rothwell, Joyce Serido, and Soyeon Shim. "Subjective Financial Well-Being during Emerging Adulthood: The Role of Student Debt." *Emerging Adulthood*, October 10, 2019. https://doi.org/10.1177/2167696819879252.
[2] See Sage Re-Use Guidelines here: https://us.sagepub.com/en-us/nam/journal-author-archiving-policies-and-re-use

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Chapter 1- Introduction: Debt and Subjective Financial Well-being in Young Adulthood

Young adulthood is a critical and unique period of development. Young adults face significant challenges and, at the same time, are expected to take on new responsibilities and obligations. This is especially true in the financial domain; young adults typically hold few financial resources while they pursue important milestones related to education, career and family formation, all of which require significant financial investment (Settersten et al., 2015). As such, young adults face near-constant changes, many of which require complex decision-making with implications that persist across the life course.

From a life course perspective, trajectories provide an extended view of a dimension of individuals' life across time. These trajectories reflect both stability and change in individuals' psychological, social, physiological and financial states (Kuh et al., 2003). The quality of trajectories through the young adult period has implications for individuals' economic security, health, and well-being over the short and long term (Wood et al., 2018). In the 21st century, trajectories through young adulthood have become decreasingly predictable, and in many ways, more challenging (Settersten et al., 2015). The financial lives of young adults in North America today are complicated by an increasingly globalized and interconnected economy, rising economic precarity, decreasing social mobility and widening inequality (Institute of Medicine & National Research Council, 2015). While this period has brought a new set of opportunities related to educational opportunity and technological connectivity, it has also been characterized by risk and uncertainty (Dwyer, 2018).

Among the key concerns of researchers, policy makers and the public is skyrocketing student debt. Almost 45 million borrowers in the United States owe over $1.6 trillion in student loan debt (Board of Governors of the Federal Reserve System, 2020) - that is almost $600 billion more than total U.S. credit card debt (Federal Reserve Bank of New York, 2020). And this problem is not unique to the United States. While the total number of borrowers, aggregate debt load and average debt sizes are smaller in Canada (LIS Cross-National Data Center, 2019; Statistics Canada, 2017a), carrying student debt has become an increasingly ubiquitous feature of young adult life here (Robson & Loucks, 2018).

Student debt may impact individuals in varying or even contradictory ways, depending on the size of their debt load and broader life circumstances. Debt may be an economic pressure that increases stress, diminishes well-being, and negatively effects outcomes such as post-

secondary education (PSE) graduation and wealth accumulation (Dwyer et al., 2012; Elliott & Nam, 2013). At the same time (or alternatively), debt may be a resource that increases utility, mitigates income barriers to consumption, and allows for investment in human capital – a cost that will pay long dividends over the life course (Modigliani, 1966; Rothstein & Rouse, 2011). These effects are likely to vary according to the financial resources to which one has access – whether transferred from family or accumulated personally (Fry, 2014a) – and to change over the young adult period in relation to changing financial obligations and opportunities (Salignac et al., 2019).

This dissertation will examine the impact of student debt on the subjective financial well-being (SFWB) of young adults. SFWB consists of an individual's perceptions and evaluations of their own financial condition (Sorgente & Lanz, 2017) and is important to human development because of its positive association with overall subjective well-being, and with mental and physical health (Shim, Xiao, Barber, & Lyons, 2009; Tay, Batz, Parrigon, & Kuykendall, 2017). Feeling financially 'well' is important to young adults' ability to enjoy life, have healthy relationships with partners, friends and family, and for maintaining optimism (Rea et al., 2019). SFWB may also shape – and be shaped by – how individuals make financial decisions and plan for the future (Sorgente & Lanz, 2017). However, the direction and magnitude of the impact of student debt on SFWB during this critical period of the life course is not well understood. Despite discussion of the 'student debt crisis' in the media and popular discourse, academic research has not yet paid sufficient attention to how young adults experience this phenomenon.

What is the effect of student debt on the SFWB of young adults in the U.S. and Canada? Is this effect shaped by family background socioeconomic status? Does this effect change over time? These are important questions that address the way that young adults experience the 'student debt crisis'. The answers provide insight into the mechanisms and processes that shape lived experiences, determine short- and long-term outcomes, and generate inequalities across the life course. The answers can also help to inform how we intervene on an individual and societal level.

This dissertation contributes to the social work literature by engaging these questions and exploring their implications for policy and direct practice with individuals, families and communities, both in the US and Canada. The findings can inform the design and implementation of practice-level interventions that may both alleviate the negative and increase

the positive effects of debt on SFWB. Further, by addressing stratification in the impact of student debt on SFWB, this dissertation responds to the call for social work researchers, practitioners and educators to lead in the fight for social and economic justice and equity (Canadian Association of Social Workers, 2005; National Association of Social Workers, n.d.). The findings can inform the targeting of policy interventions that address the needs of vulnerable borrowers and redistribute social goods in order to maximize the mobility-generating power of PSE.

This dissertation is comprised of three independent studies. In the first two, I use longitudinal survey data to examine the relationship between student debt and SFWB in the United States. More specifically, in the first, I examine the relationship between debt status and level and SFWB, and how this relationship differs across socioeconomic groups. In the second, I examine the relationship between changes in student debt and changes in SFWB within people over time. In the third, I use focus group data to explore the impact of student debt on the SFWB of young adults in the Canadian context.

This collection of studies reflects a long tradition of examining Canada and the US side-by-side in order to see how differences in institutions and policies shape outcomes (Card & Oreopoulos, 2019). Canada and the U.S. have many similarities, including cultural traditions and economic institutions, and the countries are connected by international trade agreements and corporations operating in both countries (Hoynes & Stabile, 2019). However, there are important differences between the two countries. For example, while income inequality is rising in both countries, income and wealth gaps in Canada are smaller (Heisz, 2016), and economic mobility is higher in Canada than in the U.S.[3] This is due in part to redistributive social policies that result in greater equity in access to, and higher overall attainment of, postsecondary education credentials across the socioeconomic spectrum in Canada (Belley et al., 2014). As such, there are important policy lessons for the U.S. that can be gleaned from the Canadian context. At the same time, the rich body of empirical evidence on student debt use and outcomes and financial well-being in the U.S. provides an important basis for study in Canada. In sum, my goal for this dissertation was not to compare the two contexts, but instead to investigate the importance of the

[3] Research finds that a male born into the lowest income decile in Canada has a 38 percent change of reaching the top half of the income distribution, while an a male born in the lowest income decile in the US has only a 30 percent change of reaching the top half in United States (Corak, 2010).

association between student debt and SFWB within each context, and to draw insights from each that may be relevant for the other (see Chapter 5 for discussion).

To introduce the three studies included in this dissertation, in this chapter I provide a brief overview of the concept of SFWB, its significance in the young adult period of the life course, and its relevance and importance for social work research, practice and policy advocacy. Next, I review the role of student debt in American and Canadian society, and explore trends contributing to its growth in the latter half of the 20th and beginning of the 21st century. Following this, I introduce conceptual frameworks that inform my understanding of the relationship between student debt and SFWB among young adults, and variation in this relationship across the socioeconomic spectrum and the developmental period. While substantial bodies of research from across disciplines have examined the effect of debt on mental and physical health and objective financial outcomes (Bridges & Disney, 2010; S. Brown, Taylor, & Wheatley Price, 2005; Sweet et al., 2013a), and some have focused specifically on student debt in college-going and young adult populations (Elliott & Nam, 2013; Fry, 2014a; Houle & Berger, 2015; Zhang & Kim, 2019), no known studies have examined student debt's explicit relationship with SFWB. The conceptual frameworks and empirical studies examined briefly in this introduction and in more detail in the dissertation chapters shed light on the potential direction and magnitude of the effect of student debt on SFWB, its stratification in the young adult population, and how it changes over time. Finally, I summarize the overarching objectives, methods and findings of each dissertation study.

1.1 Subjective Financial Well-being

SFWB captures how individuals understand and feel about their financial situation. SFWB is shaped by the economic conditions to which one is exposed, and changes in relation to ones shifting financial needs and obligations over the life course. In the following section, I review conceptualizations of SFWB from across disciplines and discuss the importance of SFWB for social work research and practice.

1.1.1 What is Subjective Financial Well-being and Why is it Important?

Measures of well-being are important because they provide a universal assessment of the quality of human experience (Layard, 2011), allow us to assess whether and to what degree societies are meeting the needs of its members and helping them to thrive, and allow us to make comparisons across population subgroups (Diener, Jebb, Morrison, & Tay, 2020; Yang, 2008).

Subjective well-being is a self-reported measure of the broader construct of well-being. Subjective well-being captures individuals' cognitive and affective evaluations of their own life (Deiner, Lucas, & Oishi, 2002). Subjective well-being is typically conceptualized as an amalgam of constructs spanning life domains (e.g., relationships, career, and health) (Layard, 2011). In this dissertation, I focus on the financial domain.

In recent decades, governments and researchers have been concerned with individuals' and households' ability to operate and thrive in increasingly complex – and often precarious - financial contexts. An early attempt to measure and evaluate household financial well-being was through the lens of financial literacy, which assessed the level of financial knowledge in populations and subgroups. In the early 2000s, the focus of discussion shifted from financial knowledge to financial capability[4] – marking a transition away from what people 'knew' to how they acted, and to the structural conditions in which they acted. More recently, policy makers and researchers have concentrated efforts on the outcomes of financial knowledge and action, typically captured through the construct of 'financial well-being' (Kempson et al., 2017).

There is widespread use of the concept of 'financial well-being' across disciplines and professions, including social work, public policy, and consumer finance. However, its definition remains relatively vague and it is operationalized differently across studies (Sherraden and Huang, 2014; Sorgente and Lanz, 2017). Until recently, 'financial well-being' typically represented individuals' or households' objective financial circumstances, whether relative or absolute, and whether self-reported or drawn from administrative data (Sorgente and Lanz, 2019). In the last decade, scholars have responded to Easterlin's 1974 call to recognize individuals' subjective perceptions of, and feelings about, their own financial situation, which both drive and are the product of structural conditions, personal circumstances, and individual behaviours. Today, most studies that employ the concept of financial well-being at least recognize – if not include – both its objective and subjective aspects. The former typically reflects material resources (or the lack thereof), while the latter – referred to here as SFWB - reflects one's assessment of one's own financial condition (Brüggen et al., 2017; Sorgente & Lanz, 2017; van Praag et al., 2003). In this dissertation, I focus on young adults' subjective experience, which has not received significant attention in the literature.

[4] See section 2.3 for further discussion of relevance of financial capability within the field of social work.

SFWB is important to human development because of its positive association with overall subjective well-being, and with mental and physical health (Shim, Xiao, Barber, & Lyons, 2009; Tay, Batz, Parrigon, & Kuykendall, 2017). Further, it is a useful indicator of how individuals respond and adapt to the structural conditions that shape their financial lives. Cooper and Pugh (2020) argue for the need for research that highlights how "rising inequalities and growing insecurity are dynamic processes, reverberating not only economically but also culturally and emotionally in family life" (p. 273). They explain that "responses and adaptations are ongoing and dynamic, cutting across time and space and many spheres of life […] Structural conditions do not just hit people's bank accounts […] rather, they flow through all of the crevices of people's lives and emotions" (p. 273). They suggest that research in this vein can "[help] us to better understand that inequality and insecurity are not only matters of levels and gaps but also ongoing matters of meaning-making, identity, and feeling" (p. 273). Further, patterns observed at the micro level can help guide macro level decision-making and intervention. Well-being measures are therefore useful for evaluating the 'success' of our societies, for determining whether the policies implemented by governments have a positive impact on citizens, for gauging progress overtime, and for identifying segments of the population that are being left behind (Diener & Seligman, 2004).

Though the specific operationalization of SFWB varies across studies, measures typically capture an individual's sense of agency over their financial life, a sense of freedom from financial stress, and confidence in their financial future (for example, see Brüggen et al., 2017; Consumer Financial Protection Bureau, 2015; Sorgente & Lanz, 2019). For example, in their efforts to derive a consumer-driven definition of financial well-being, the Consumer Protection Board (CFPB) interviewed individuals from across diverse socioeconomic, demographic and regional backgrounds in the United States. The four central elements that emerged were: "having control over day-to-day, month-to-month finances; having the capacity to absorb financial shock; being on track to meet your financial goals; and having the financial freedom to make the choices that allow you to enjoy life' (CFPB, 2017, p. 19). Similarly, based on their review of extant literature employing this construct, Bruggen et al. (2017) defined SFWB being as "the perception of being able to sustain current and anticipated desired living standards and financial freedom" (Bruggen et al. 2017, p. 229).

Assessments of SFWB are both individual and relative. According to Bruggen et al. (2017), individuals ascribe their own meaning to the key constructs of SFWB, such as 'living standards' or 'financial freedom,' and compare their current situation to their desired goals (i.e., 'Am I living the way that I want to live right now, and will I be able to live the way I want to live in the future?'). Further, they compare their situation to that of those around them. Efforts to improve SFWB are thus centered around achieving own's own individually defined goals, as evaluated based on their relative position to others. Importantly, the individuality and relativity of the construct mean that objective financial circumstances do not necessarily align with individual assessments of SFWB. Two people in objectively similar circumstances may evaluate their SFWB very differently (CFPB, 2017). Differences stem from individual characteristics, processes of financial socialization, and prior financial experiences, among other factors (Brüggen et al., 2017).

Further, conceptualizations of SFWB typically have both an experiential and an evaluative component. 'Experience' consists of an individual's perception of their own financial condition (e.g., one's perception that at times one has no money to buy the things they desire), while 'evaluation' consists of an individual's judgment of their own financial experience. This evaluation can be emotional (i.e., the positive or negative feelings caused by financial experiences) and/or cognitive (i.e., the degree of satisfaction or dissatisfaction one has for their financial condition [Sorgente and Lanz, 2017]).

Today, student debt is one of the first and most significant financial commitments that a young adult makes. Borrowing decisions have the power to shape short and long-term outcomes across life domains, extending beyond financial outcomes. While student debt is useful for overcoming financial barriers to PSE should not be understated (Heller, 2008; Marx & Turner, 2019), their impact on the well-being of young adults cannot be ignored (Walsemann et al., 2015; Q. Zhang & Kim, 2019). Young adults' SFWB is fundamental to their financial decision-making, their success in other life domains, and their overall health and well-being (Rea et al., 2019; Sorgente & Lanz, 2017).

1.1.2 What do we Know About Subjective Financial Well-being in Emerging Adulthood?

Research on SFWB must consider the unique age, cohort and period effects that shape the outcomes of populations under study. *Age* effects represent age-related changes in the life course related to a particular developmental period, such as emerging adulthood (Yang, 2008).

Emerging adulthood is a critical moment of development within the broader life course (Arnett, 2006; Settersten et al., 2015). Though age ranges used to define emerging adulthood vary in the literature, researchers typically operationalize this period as being between the ages of 18 and 29 (Arnett, 2006; Arnett, Zukauskiene & Sugimura, 2014; Reifman, Arnett & Colwell, 2007). Wood et al. (2018) assert that during emerging adulthood, biological, psychological, financial and other factors, operating at multiple levels (i.e., micro, meso and macro), interact to influence an individual's trajectory through the life course. The quality of these trajectories is determined, in large part, by the degree to which there is a match between individual resources and environmental supports and challenges. Typically, young adults are required to exert increasing agency and rely less on institutional and family supports, because of need, preference or social pressures. A critical example of this is within the financial domain: young adults may aim for or be required to become financially independent, and at the same time acquire a new set of financial responsibilities as they experience major life events, such as completion of PSE, marriage, and family formation. Empirical evidence suggests that student debt appears to shape – or even derail – these trajectories, thereby threatening both objective financial circumstances and young adults' experiences of them (Addo, 2014; W Elliott & Nam, 2013; Dora Gicheva, 2016; Houle & Addo, 2018; Rea et al., 2019).

Period and cohort effects shape, in part, the resources and supports to which young adults have access, and the challenges that they face. *Period* effects refer to "exogenous contextual changes in broader social conditions" (Yang, 2008, p. 203). They are the result of broad cultural and economic shifts and create similar changes in well-being across individuals of all ages (Yang, 2008). *Cohort* effects capture the convergence of both age and period effects, reflecting the ways that a particular cohort (i.e., a group born in the same generation) respond to the defining period shifts (i.e., cultural and economic) to which they are exposed. Yang (2008, p. 205) explains that cohort effects "subsume the effects of early life conditions and the continuous exposure to historical and social factors that affects subjective well-being throughout the life course" (Yang, p. 205).

The ways in which period and age influence young adults today are the result of the convergence of multiple macroeconomic trends which have made it difficult for many to find their financial footing. The employment crisis following the 2008 Great Recession, technological changes that reduce the demand for workers, increased globalization, declining job protections

and unionization have made it increasingly challenging for young adults to find consistent, full-time work (Danzinger and Ratner, 2010). While the employment and income premiums associated with college graduation persist and increase (Autor, 2014; Vandenbroucke, 2015), increasing student debt loads make it difficult to attain financial stability. In fact, new research suggests that the college wealth premium (i.e., the additional net worth associated with college completion) has declined on average, and is essentially null for racialized young adults (Emmons et al., 2019). Financial instability makes the transition through young adulthood more difficult and coping with debt-related stress all the more challenging.

Despite the existence of broad frameworks for examining young adulthood as a unique developmental period (Arnett, 2016), scholars increasingly insist on the heterogeneity of young adults' trajectories through this period (Settersten et al., 2015). Some suggest that traditional developmental milestones – such as the completion of education, finding full-time work, leaving the parental home, entry into marriage, and becoming a parent (Billari and Liefbroer, 2010) may no longer be reliable indicators of 'successful' transitions to adulthood. Instead, financial well-being may be an important indicator of young adults' preparedness for full-time adult roles and responsibilities, as well as positive development (Sorgente and Lanz, 2019). However, young adults in similar financial situations may assess their financial situations differently depending on a broad range of factors, including objective financial circumstances, attitudes towards risk, general mental health, and financial socialization, among others (Sorgente & Lanz, 2017). As such, there is a significant degree of variation in young adults' financial conditions, and how they experience those financial conditions. Although student debt has become a relatively ubiquitous feature of young adult life, borrowers' experiences with and feelings about student debt are likely to differ according to personal and contextual factors.

There are several important gaps in the research on SFWB among emerging adults. These include understanding the relationship between objective financial conditions and subjective financial outcomes, using a qualitative approach to understanding subjective perspectives and experiences in context, and examining financial well-being across cultures and contexts (Brüggen et al., 2017; Dwyer et al., 2011; Sorgente & Lanz, 2017). This dissertation attempts to fill these gaps by studying the impact of a central aspect of young adults' financial lives (student debt) by employing two different types of data (longitudinal survey and focus group data) in two different contexts (the United States and Canada).

1.1.3 Why is Subjective Financial Well-being Important to Social Work?

At the core of social work practice and research is a commitment to the principles of economic and social justice, and to improving the economic well-being of individuals, families and communities (NASW, 2017). Financial social work pays special attention to the role that finances play in shaping well-being, to working with clients and communities to improve individuals' and families' financial situations, and to developing and implementing broad-reaching programmatic, regulatory, institutional and policy change to fight inequity and create opportunity (Sherraden and Huang, 2014).

While the principles of financial social work are not new, its importance in broader social work education, practice and research have changed over time. In both Canada and the US, in the first half of the twentieth century, the broad goals of what is today considered 'financial social work' – including addressing poverty - were at the core of social work practice (Ehrenreich, 2014; Jennissen & Lundy, 2011). However, while some attention was paid to the importance of creating accessible financial services that addressed the needs of vulnerable individuals, families and communities, most interventions were focused on changing individual behaviours and teaching 'optimal' spending and saving habits (Stuart, 2013).

In the mid-20th century, the focus of social work shifted away from household finances, towards a focus on mental health and psychosocial interventions (Specht & Courtney, 2014). Despite the impact of financial conditions on mental health and functioning, directly addressing financial concerns has not been a consistent feature of social work training and practice (Birkenmaier & Curley, 2009; Sherraden et al., 2007). More recently, in response to increasing financialization, growing economic precarity, and rising income and wealth inequality, there has been an effort to refocus social work on household and community finances. Researchers, educators and practitioners increasingly acknowledge financial conditions as part of the 'system' that influences well-being (Despard & Chowa, 2010; M. S. Sherraden et al., 2015; Uehara et al., 2014). In the wake of the 2008 Great Recession, during which households – and especially those in the bottom half of the income and wealth distribution – experienced significant financial losses and subsequent negative impacts on well-being (Deaton, 2012; Thompson & Smeeding, 2013), financial social work has become increasingly important.

The theory of 'financial capability' undergirds financial social work research and practice, and achieving 'financial capability for all' has been declared a 'grand challenge' for the

discipline (Huang et al., 2018). It builds on person-in-environment theory to engage both individual behaviour and decision-making, as well financial systems and environments that shape individual actions and outcomes. According to Sherraden (2013), social and economic structures influence the availability of accessible and appropriate financial products and services, as well as the development of financial knowledge and processes of financial socialization. In turn, financial contexts and information shape individuals' financial capability, which comprises both ones' ability and one's opportunity to act in their best financial interest. More specifically, 'ability' comprises the financial knowledge and skills required to make good financial decisions, and 'opportunity' comprises access to fair and helpful financial services and systems. Ultimately, the goal of financial capability is to achieve financial well-being for individuals and communities.

Social work researchers and practitioners are well-positioned to bridge the gap between the structural and individual - they understand and work with the subjective experience of structural realities, and the ways that oppressive or unequal systems create individual problems. With this dissertation, I seek to respond to the call for social work to "engage in policy practice to advance social and economic well-being and to deliver effective social work services" (CSWE, 2008, p. 6.). As such, at the level of individual practice, I aim to make the case for the importance of considering the impact of student debt when intervening to improve the well-being of young adults. Further, I aim to make the case for engaging in policy practice with the goal of creating change in institutions and structures that prop up the student debt system. In the final dissertation chapter, I review both direct interventions and policy practices at the individual, community and institutional level that may alleviate or reduce the negative impact of student debt on financial well-being, especially among the most vulnerable borrowers.

1.2 The Role of Debt in Society

Both Canada and the United States have debt-based economies. In the first quarter of 2020, household debt in the United States reached more than $14 trillion, representing an increase of 28% over a ten-year low in 2013 (Federal Reserve Bank of New York, 2020). A proportionately similar increase occurred in Canada during this period (Cross, 2020). This rise in borrowing signals that individuals and households relied heavily on debt to recover from the Great Recession, reflecting a broader trend in the use of private financial solutions to address systemic problems during the 19th and 20th centuries in both countries (Cross, 2020; Dwyer,

2018). Prasad (2012) calls this the 'credit-welfare state trade-off', through which massive expansion of access to different forms of credit has been used to transfer responsibility for social welfare from the state to the individual. In place of a robust system of publicly funded and subsidized institutions and social supports, credit has become the central, market-based mechanism for the provision of social insurance, accessing and investing in key social goods, and achieving social mobility (Hacker, 2019). While the state plays an active role in structuring credit markets, increasing deregulation has made this system riskier and more precarious for individuals (Crouch, 2009), and especially those with low income and wealth, and who are more vulnerable to the structural racism and exclusion baked into financial systems (Birkenmaier & Fu, 2018).

The growing importance of credit and debt in capitalist societies represents a tension between democratization and expanding access, on the one hand, and growing economic precarity and indebtedness on the other. Dwyer explains that "even at their best, credit and debt entail tensions between investment and risk, resource and liability, security and insecurity, freedom and trap, democracy and dependency" (Dwyer, 2018, p. 240). Access to credit and time to repay debts can be highly valuable for supporting consumption and investment that would not otherwise be possible, thereby enabling social and economic mobility (Krippner, 2017). However, even 'good' debt can threaten well-being when personal circumstances or broader economic conditions change. Over the last century, in the context of neoliberalism, globalization, financialization and the shrinking welfare state, growing household debt has shifted the balance towards economic insecurity and over indebtedness (Dywer, 2018). This is especially true for young adults, who are saddled with more debt than previous generations, and who are managing this debt in increasingly precarious macroeconomic conditions (Houle, 2014a; Robson & Loucks, 2018).

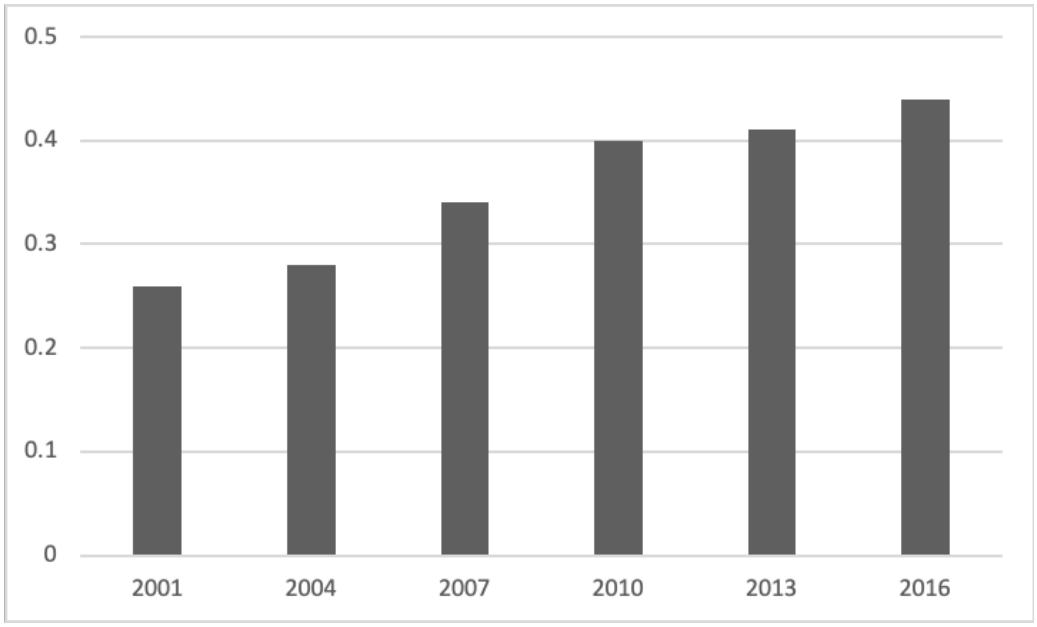
Student loans are a primary example of both the historical shift towards privatization and financialization, and of the tension between debt as resource and (or alternatively) a liability. Higher education has been a site of retrenchment of the welfare state in favour of market-based social supports and the supplanting of public subsidies with access to credit and debt (Dwyer, 2018, Mettlar, 2014, Zaloom, 2019). Public support for access to higher education has shifted from a system based largely on direct assistance to both higher education institutions and to students (for example, in the form of direct subsidies from states to colleges, and federal and

state grants to students), to one based on loans directly to students (Goldrick-Rab, 2016). The result has been the privatization of what was formerly considered a public good, justified by many on the notion that the returns to education are also largely private (Zaloom, 2019). At the same time, implementation and growth of federal student loan programs have, to a certain extent, supported the expansion of higher education throughout the second half of the twentieth century in both Canada and the US (Heller, 2008; Ross & Laporte, 2007), thereby allowing greater swathes of the population to invest in their own social and economic mobility. However, as both extant evidence reviewed in this dissertation and the findings of the dissertation studies suggest, borrowing has had damaging financial and psychological impacts on many young adults (Walsemann et al., 2015; Q. Zhang & Kim, 2019), and its effects are powerfully shaped by personal, contextual and broader macroeconomic conditions (Salignac et al., 2019). In the following sections, I review the historical development of the student debt systems in the U.S. and the Canada, and current trends in debt use in both countries. Finally, I discuss my rationale for choosing the U.S. and Canada as the focal contexts for my dissertation research.

1.2.1 Student Debt in the United States: Historical Development and Current Trends

In the United States, student loan debt has risen over the last few decades as a result of several structural forces. First, more Americans than ever are going to college, including those from families with fewer financial resources. Between 1993 and 2013, the proportion of Americans who obtained at least a bachelor's degree increased from 24 to 42 percent (Akers & Chingos, 2018). Among these was a large share of students from lower SES backgrounds without family financial resources upon which to draw (Dwyer, 2018). Over this same period, the proportion of undergraduate students taking on debt increased from 19 to 43 percent (Akers & Chingos, 2018). Between 2001 and 2016, the combination of increased PSE attainment and borrowing led to the doubling of the share of households headed by individuals under the age of 35 with student debt – from 26% to 45% (Survey of Consumer Finances, 2016) (see Figure 1). However, rising college participation and attainment explains only part of the increase in overall and average student debt.

Figure 1.
Share of U.S. households headed by individual under 35 with student debt, 2001-2016



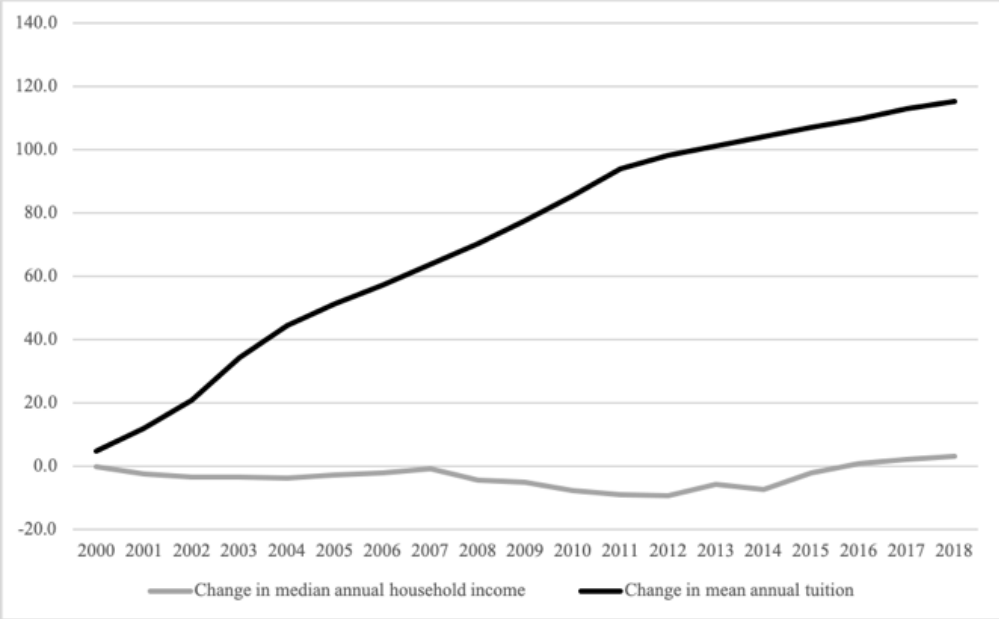
Source: Survey of Consumer Finances, 2016.

Second, federal financial support for students has expanded dramatically since the 1950s and has ultimately become a system of universal loans and some targeted grants. The National Defense Education Act – enacted in 1958 – was the forbearer of federal student loans. This allowed colleges to provide federal money to students in the form of loans, but access to and take-up of the program was limited (Palmadessa, 2017). In response to political demand for wider financial support for college students from across the socioeconomic spectrum, the Higher Education Act (HEA) was signed into law in 1965. This program included grants for students from low-income families, and loans for students from middle and upper-middle-income families (Gladieux, 1995). In 1992, universal student loans became available to all students, regardless of family financial circumstances. The combination of universal accessibility (including to students from high income families), an increase in loan limits, and elimination of borrowing limits for parental loans contributed to a quick and substantial rise in student borrowing (Akers & Chingos, 2018).

Third, the rising cost of tuition and fees has meant that more students need to borrow larger amounts to pay for college. Increasing retrenchment of the state from direct financing of colleges and universities has led public institutions to increase tuitions to generate the revenues

necessary to meet demand (M. Mitchell et al., 2017), thereby shifting the burden from the collective (via tax revenue) to individuals. Further, postsecondary institutions are spending more money on non-academic services, administrative salaries, and non-academic amenities (Akers & Chingos, 2018). The cost of college has outpaced both inflation and incomes, especially for individuals and families on the lower end of the income distribution. Between 2000 and 2018, the cost of tuition at public 4-year universities increased by over 100%, while median household income remained relatively stagnant (see Figure 2).

Figure 2.
Percentage annual change in median household income and mean annual tuition at public 4-year colleges, 2000-2018



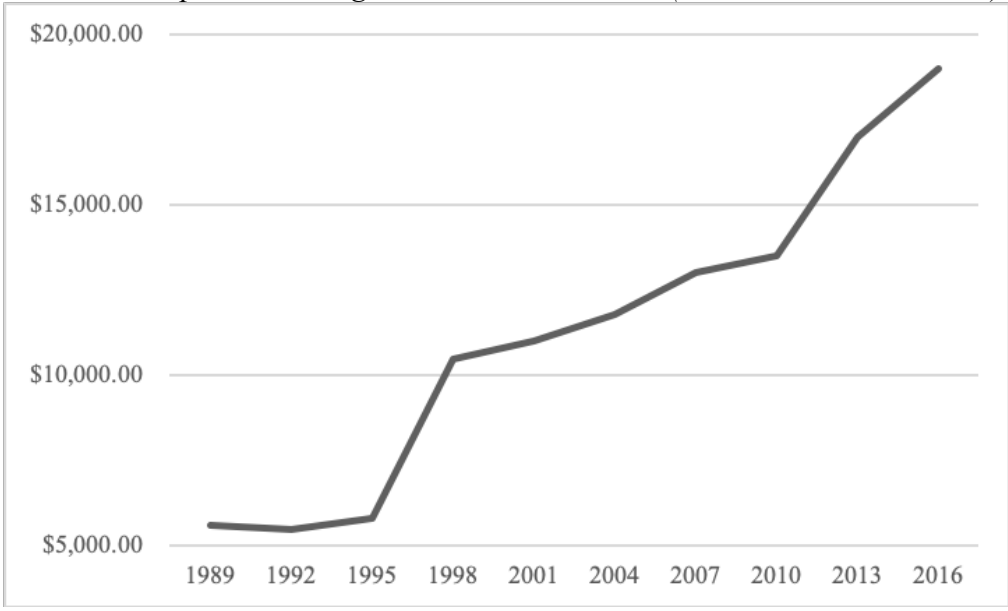
Source: College Board, 2018; United States Census Bureau, 2019.

Fourth, broader macroeconomic trends such as stagnating wages, increasingly precarious employment and the degradation of household wealth as a result of the Great Recession have meant that families increasingly lack the financial resources to cover the cost of college (Fry, 2014a, 2014b). As a result, students – and especially those from socioeconomically disadvantaged families - are increasingly forced to rely on student debt to access educational opportunities that support their economic security and mobility (Dwyer, 2018).

The result of these converging trends is that student loans have become a primary mechanism for financing higher education in the U.S. In turn, holding outstanding student debt

has become a pervasive feature of emerging adults' financial lives. In the past three decades, there has been a significant increase in the overall number of student debtors, total outstanding student loans and average size of these loans. In the federal student loans program (which represents about 90% of all student loans), total outstanding student debt at the end of 2018 was $1.5 trillion, up from $200 billion in 2003, representing a six-fold increase. New borrowing for the 2017-2018 school year was $94 billion, representing 61% of active federal loans (Dynan, 2019). Student loans make up 10.7% of household debt (Haughwout et al., 2019), and four in ten individuals under the age of 30 have outstanding student loan debt (Baum et al., 2016). The share of older households with debt is also growing, largely due to parents' taking out loans to finance their children's degrees[5]. Adjusting for inflation, median student debt per borrowing household was $19,000 in 2016, up from $5,600 in 1989 (Survey of Consumer Finances, 2016; as cited in Dynan, 2019) (see Figure 3).

Figure 3.
Median debt per borrowing household, 1989-2016 (in 2016 constant dollars)



Source: Survey of Consumer Finances, as cited in Dynan, 2019.

Importantly, default rates suggest that emerging adults struggle to manage their outstanding student debt. In 2018, more than 10% of borrowers were more than 90 days

[5] These are typically in the form of PLUS loans (Parent Loans for Undergraduate Students) delivered by the U.S. Department of Education.

delinquent or in default, and another 32% were in forbearance or deferment (Federal Reserve Bank of New York, 2020).

1.2.2 Student Debt in Canada: Historical Development and Current Trends

Like in the U.S., rising student loan debt in Canada is the result of a convergence of economic, political and social trends. First, enrolment in PSE has risen steadily over the last few decades (McIvor, 2018). Enrolment rose from roughly 1.1 million students in 1992 to more than 1.8 million in 2018 (Statistics Canada, 2019). In 2018, in Canada, 61.75% of adults aged 25-35 had completed postsecondary education (PSE), with the country ranking third for attainment in the OECD. By comparison, the U.S. ranked 11th, with 49.37% of adults in the same age range having completed PSE (OECD, 2019). At the same time, the share of university graduates holding student debt at graduation rose from 41% in 1980 to 54% in 2017 (Statistics Canada, 2017a), and average student loan amounts have risen. In 2015, among undergraduates, average debt owed at graduation was $28,000, up from $20,500 in the year 2000 (Statistics Canada, 2017a) (see Figure 4). However, rising student debt use and size of loans is not only the by-product of increased participation, but also governments' fiscal choices and macroeconomic trends.

Figure 4.a
Share of graduates by student debt status, 2000-2015

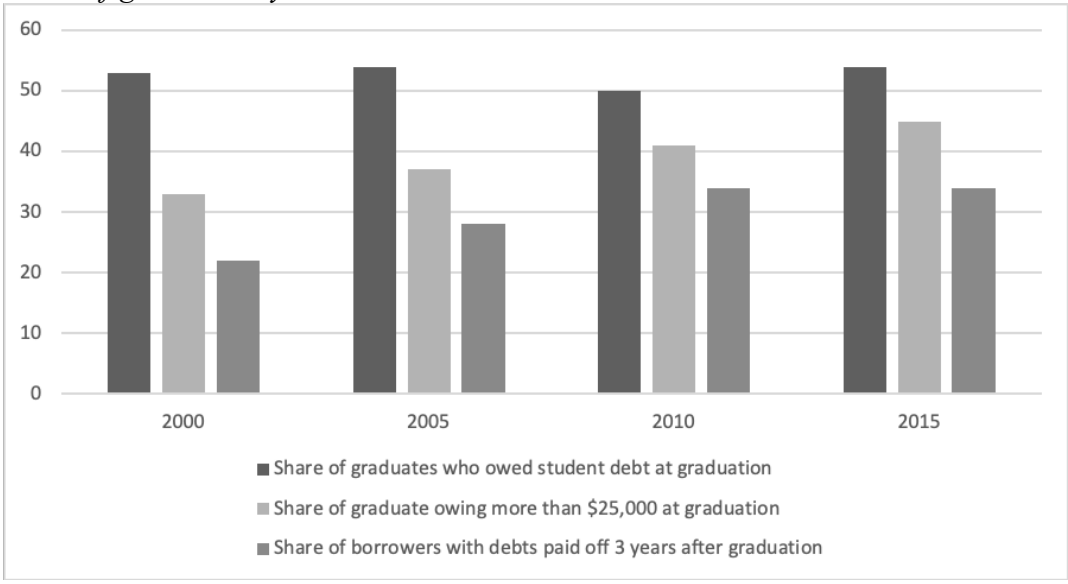
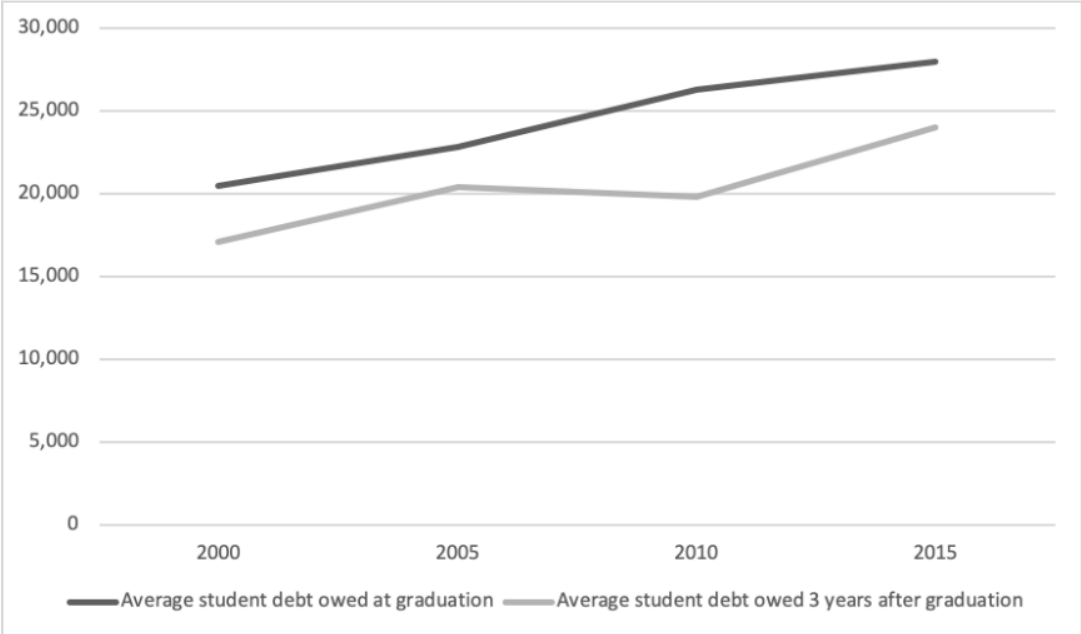


Figure 4.b
Share of graduates by average debt amounts, 2000-2015



Source: National Graduates Survey

Second, from the federal government's perspective, using cost-effective fiscal mechanisms to ensure access to PSE – which is essential for economic growth and equality of opportunity – has been a priority for decades (McIvor, 2018). Like in the U.S., families cover the rising cost of

PSE using personal and family financial resources, needs-based student grants, student loans, and a mixture of tax credits, education savings programs and institutional scholarships (depending on accessibility and eligibility). However, student loans are an optimal mechanism for governments because they provide students with capital for PSE, but cost substantially less than direct funding to universities because they are eventually repaid (Berger & Parkin, 2009). As such, since the 1980s, there has been large-scale expansion of student loan availability in Canada, and today, student loans make up the largest share of student financial aid. In 2016-2017, need-based aid totalled approximately $7 billion, of which 62% was delivered in the form of loans, and the remainder in non-repayable grants (Usher, 2018)[6].

Third, reduced public spending on PSE has meant that the cost burden has increasingly shifted to students and their families. In the 1980s, in an attempt to address public concern over the growing budget deficit resulting from a dramatically expanded welfare state, the federal government dramatically reduced cash transfers to provinces for health, education and social programs (Jones, 2014). The education sector was hit relatively hard by these cuts and spending on PSE fell from 6.5% to 5.3% of the GDP between 1980 and 2002, representing a reduction of $21.1 billion during this period (McIvor, 2018). This meant that the proportion of PSE costs funded directly by federal and provincial governments declined significantly, from 78% in 1970 to 51% by 2011 (McIvor, 2018). In response to declining public spending, PSE institutions raised tuitions. Tuition fees as a share of university operating revenue increased from 20% in 1992 to 37% in 2012 (Shaker & Macdonald, 2015). Between 1970 and 2018, national average undergraduate tuition fees more than tripled, from $2,140 to $7,677[7] (McIvor, 2018; Shaker & Macdonald, 2015; Usher, 2018). The cost has become increasingly prohibitive for many students – and especially those with insufficient family or individual financial resources to draw from - resulting in the rising use of credit to finance PSE.

Fourth, broader macroeconomic trends including stagnating incomes (Berger & Parkin, 2009) and high levels of asset poverty (Blumenthal & Rothwell, 2018) have made it increasingly

[6] There are two sources of data for looking at trends in student debt over time: the National Graduates Survey (NGS) and the Canadian Undergraduate Survey Consortium (CUSC). The NGS surveys every fifth graduating class three years after graduation – the extended timeline for data collection means that the data is largely outdated by the time it is released. The CUSC data is collected every three years and released quickly but uses an inconsistent and non-representative sample. The CSLP releases its annual statistical review (based on administrative data) at least two years after collection. As such, the data is typically outdated by the time it is available. While most provinces release aggregate data on public funds spent on financial aid, most provinces do not release data on average loan and grant amounts. Statistics Canada provides data on the federal program only. As such, it is possible to estimate total student loans and grants based on CSLP data, but precise data is unavailable (Usher, 2019).

[7] Adjusting for inflation.

difficult for students and families to cover the cost of college without relying on student debt. Like in the U.S., students from lower socioeconomic backgrounds in Canada rely more heavily on student debt than their more advantaged counterparts, and are more likely to hold higher levels of outstanding debt at graduation (Berger et al., 2009; Lachance et al., 2006). As such, the use of student debt is inextricably tied to students' socioeconomic status and exacerbates existing inequalities.

The result of these trends is that student debt is the primary way by which young adults in Canada finance their PSE, and borrowing has become a common feature of young adult life. As mentioned above, the share of university graduates holding student debt at graduation and average undergraduate debt owed at graduation have risen steadily over the last two decades (Statistics Canada, 2017a). Borrowers also hold substantial debt loads in the years after graduating. Average debt amounts held three years post-graduation rose from $17,100 in 2000 to $24,000 in 2015 (adjusting for inflation) (Statistics Canada, 2017a). This means that holding, managing and repaying large student debt loads increasingly undergirds young adults' financial lives, and may shape financial decision-making and well-being for an extended period of time. And there is a significant segment of the population that is struggling to repay their debt. In 2015-2016, 9% of debtors defaulted on their loans within three years after graduation[8] (Employment and Social Development Canada, 2019). Default is a relatively conservative measure of debt burdens – the proportion of debtors struggling to manage and repay their debt while balancing other financial priorities is likely to be much higher (Dynan, 2019).

1.3 Conceptual Frameworks

Much of the academic and popular writing on student debt focuses on patterns of debt accumulation and repayment (Houle, 2014a, 2014b), its impact on psychological distress and objective financial outcomes (Elliott & Lewis, 2015a; Houle & Berger, 2015; Rothstein & Rouse, 2011; Walsemann et al., 2015), and the ways in which student debt can exacerbate social and economic inequality (Baker et al., 2017; Elliott & Nam, 2013; Mettler, 2014). However, we know less about how young adults experience indebtedness, and how this affects key developmental outcomes (Dwyer et al., 2011, p. 20), such as SFWB. On the one hand, student loans help emerging adults gain access to and complete PSE and secure the social and economic

[8] A loan is deemed in default when it is in arrears for greater than 270 days under the direct lending regime (Employment and Social Development Canada, 2019)

returns associated with obtaining a degree. If perceived as a tool for accessing opportunities and generating financial stability, student debt may provide emerging adults with a sense of financial well-being. On the other hand, student debt bears financial risk and can limit choices and wealth accumulation in the short- and long-term (Elliott & Lewis, 2015a; Houle & Berger, 2015; Rothstein & Rouse, 2011), and may therefore cause worry and stress about one's present and future financial well-being. Also, student debt may impact well-being in varying or even contradictory ways, depending on the family financial resources to which they have access (Walsemann et al., 2015). Further, this impact is likely to change over time in relation to their changing financial opportunities and obligations (Salignac et al., 2019). In this section, I review conceptual frameworks (see Table 1 for summary review) and empirical tests that inform my understanding of the influence of student debt on SFWB.[9]

Table 1

Review of Key Conceptual Frameworks and Theories

Conceptual framework/theory	References	Description	Relevance for dissertation
Student debt and SFWB			
The role of debt in the stress process model	Pearlin, Leonard I. "The Sociological Study of Stress." *Journal of Health and Social Behavior*, 1989, 241–256. Thoits, Peggy A. "Stress, Coping, and Social Support Processes: Where Are We? What Next?" *Journal of Health and Social Behavior*, 1995, 53–79. Drentea, Patricia, and John R. Reynolds. "Where Does Debt Fit in the Stress Process Model?" *Society and Mental Health* 5, no. 1 (2015): 16–32.	Race, SES, gender, etc. determine exposure to stressors. Exposure to stressors influences mental health. Social and personal resources increase or buffer impact of stressors on mental health. Debt may operate in the stress process model through three pathways: 1) debt may be a money-related stressor that directly affects mental health; 2) impact of debt on mental health may be mediated by personal or social resources; or 3) debt may be a financial resource that buffers negative effect of economic hardship on mental health.	Student debt may impact young adult SFWB along three pathways: 1) student debt may be a money related stressor that directly impacts mental health; 2) the impact of student debt on mental health may be mediated by size of debt load, demographics, family and personal financial resources, etc.; or 3) by providing capital at a time when financial resources are typically limited, student debt may act as a buffer against the negative impact of limited resources on SFWB.
Dual character of debt	Dwyer, Rachel E., Laura McCloud, and Randy Hodson. "Youth Debt, Mastery, and Self-Esteem: Class-Stratified Effects of Indebtedness on Self-Concept." *Social Science*	Student debt has a 'dual character' in its association with objective and subjective outcomes. Young adults often experience student debt as both a resource and a liability.	Student debt may be viewed as a resource that helps borrowers invest in their own human capital, which may ultimately help them to obtain greater financial security and opportunities, and thus, improve their SFWB.

[9] In each article, I review related empirical work in more detail.

	Research 40, no. 3 (2011): 727–741. Dwyer, Rachel E., Laura McCloud, and Randy Hodson. "Debt and Graduation from American Universities." *Social Forces* 90, no. 4 (June 1, 2012): 1133–55.		Student debt obligations may make borrowers feel financially constrained or unstable, both in the short and long term, and thus detract from their SFWB.
Factors shaping the influence of debt on SFWB			
Social causation perspective	Bradley, Robert H., and Robert F. Corwyn. "Socioeconomic Status and Child Development." *Annual Review of Psychology* 53, no. 1 (February 2002): 371–99. Conger, Rand D., and M. Brent Donnellan. "An Interactionist Perspective on the Socioeconomic Context of Human Development." *Annual Review of Psychology* 58, no. 1 (January 2007): 175–99. Conger, Rand D., Katherine J. Conger, and Monica J. Martin. "Socioeconomic Status, Family Processes, and Individual Development." *Journal of Marriage and Family* 72, no. 3 (2010): 685–704.	Social conditions lead to variations in health and well-being. There is a link between family of origin socioeconomic status and child and adolescent development and well-being. Families with greater economic resources are able to make significant financial, educational and social investments in their children's development, and these investments accrue significant benefits for their children's well-being over time, and across life domains.	Family of origin economic resources convey developmental advantage over the life course, specifically in the context of postsecondary education financing. Socioeconomic advantage accrues direct and indirect benefits that may mitigate the stress associated with student debt. Background socioeconomic status may moderate the association between student debt use and level and SFWB.
Ecological life-course approach	Salignac, Fanny, Myra Hamilton, Jack Noone, Axelle Marjolin, and Kristy Muir. "Conceptualizing Financial Well-being: An Ecological Life-Course Approach." *Journal of Happiness Studies*, June 22, 2019.	Relational, social, structural and temporal dynamics influence SFWB. Individuals' financial condition is situated within the context of individual, community, and societal-level predictors, all of which influence their SFWB. Individuals' assessment of their financial condition changes over the life course, in response to different life course stages and events. The nature and extent to which features of an individual's environment influence their financial well-being is linked to their life course stage and changing financial circumstances over time	The impact of student debt is likely to vary relative to how much one holds, whether one is in the borrowing or repayment period, and other financial circumstances and commitments in one's life.

1.3.1 Debt and Well-being

The 'stress process model' encompasses three central conceptual areas: sources of stress, mediators of stress, and manifestations of stress. Advantages and disadvantages associated with race, gender, income and other demographic and socioeconomic categories shape (i.e., mediate) our exposure to stressors, which leads, in turn, to manifestations of stress, including behavioural and emotional expressions. Social and personal resources can increase or buffer the impact of stressors on mental health outcomes (Pearlin, 1989; Thoits, 1995).

Drentea and Reynolds (2015) sought to determine the role of debt in the stress process model, and proposed three pathways for the impact of debt on mental health. First, debt may be a money-related stressor that has direct effects on mental health. In other words, the strain of carrying debt may, on its own, cause anxiety or depression. Second, the impact of debt on mental health may be mediated by the presence of personal resources (such as a sense of control or mastery) and social resources (such as social support). Holding debt may make people feel like they are unable to effectively manage their financial situation or may generate feelings of embarrassment or shame, thus wearing away at their social and personal resources. Third, debt may act as a financial resource that buffers the negative effect of economic hardship on mental health. Individuals may use debt to meet immediate needs or make longer term investments, thereby alleviating the impact of economic hardship on mental health. The authors' thinking on the role of debt in the stress process model is useful for informing our understanding of the association between student debt and SFWB. Though not directly conceptualized as such in this dissertation, student debt may be considered an economic 'stressor' that influences SFWB, which may be considered a manifestation of stress.

In their empirical analysis, the authors found that debt was directly and negatively associated with mental health, that its impact was not mediated by its impact on personal or social resources, and that it did not buffer the negative effect of economic hardship on mental health. However, the authors did not distinguish between the effect of different debt types, or differences in the effect of debt across population subgroups. The direction and magnitude of the effect of student debt on emerging adults SFWB may be unique as a result of its nature as a tool for investment in human capital, and because of the stage of the life course during which it is typically acquired.

Other researchers have investigated the specific impact of student debt on the well-being of young adults. Dwyer and colleagues (2011, 2012) proposed that student debt has a 'dual character' in its association with educational attainment and self-concept. They asserted that student debt is a "double-edged sword representing both a resource and a liability and it is often experienced by debt holders in its full contradictory nature" (Dwyer et al., 2012, p. 1136). The view of student debt as a resource for securing the future emphasizes that credit allows young adults to achieve goals that their current income may not. During young adulthood, individuals typically have lower incomes and fewer assets. Borrowers may perceive taking on student debt as an informed and active investment decision that will ultimately secure social and economic mobility for themselves and their families. Debt may improve self-concept by generating a sense of control over one's present and future (Dwyer, 2011). Further, it may function to support educational attainment by minimizing the stress associated with financial hardship and reliance on employment income (Dwyer, 2012).

On the other hand, taking on student debt is associated with financial risk and vulnerability that may diminish self-concept and negatively impact educational outcomes (Dwyer, 2011). Taking on student debt may be viewed not simply as a rational decision of an informed investor, but as the only option available. Young adults may be particularly vulnerable to the stress associated with debt because they have fewer financial resources and less experience making financial decisions. Regardless of the utility of student debt for supporting educational and longer-term financial goals, debtors are likely to experience significant stress while holding and repaying it. Debtors may feel a lack of control and lower self-regard, and the stress associated with debt burdens may detract from educational attainment. Dwyer and colleagues tested their hypotheses regarding the impact of student debt on educational attainment (operationalized as college completion) and self-concept (operationalized using measures of mastery and self-esteem) (Dwyer et al., 2011, 2012). They found that student debt supported college completion only up to a certain debt amount, and that holding too much debt reduced the likelihood of completion. The findings of these empirical tests support the proposition that student debt influences both subjective and objective outcomes, and that its influence may have a 'dual character' in that it can be alternately (or simultaneously) positive or negative. These findings also inform the notion that student debt may be particularly consequential for young adults' perception of and feelings about their financial condition.

1.3.2 Social Stratification in the Relationship Between Debt and Well-being

Theory and evidence suggest that social and economic conditions - which grow out of historical and structural disparities in access to employment, income and wealth - lead to variations in health and well-being (Elgar et al., 2015; Marmot & Wilkinson, 2005; Pickett & Wilkinson, 2015). Families with more economic resources are able to make more significant financial, educational and social investments in their children's development. These investments convey significant advantages across life domains and over time (Bradley & Corwyn, 2002; Conger & Donnellan, 2007). This is especially true in the context of PSE, in which economic and social disparities directly and indirectly shape both opportunities and outcomes.

Mounting evidence indicates that those who face the most significant barriers to PSE - including socioeconomically disadvantaged populations – are also most vulnerable to the risks associated with student debt (Goldrick-Rab, 2016; Houle & Addo, 2018; Looney & Yannelis, 2015). While the direct pathway from the amount of financial resources that a family has to whether and how much student debt young adults use has been well-documented (Houle, 2014), no known studies have examined stratification in the impact of student debt on SFWB. Ultimately, the goal of the studies in this dissertation is to further our understanding of how inequality, in general, and specifically with regard to student debt, operates in the lives of individuals and families.

1.3.3 Trajectories of Change in the Relationship Between Debt and Well-being

SFWB changes over time and in relation to individual circumstances. Given that individuals' assessment of their financial condition changes over the life course, in response to different life course stages and events (Salignac et al., 2019), the impact of student debt is likely to vary relative to how much one holds, whether one is in the borrowing or repayment period, and other financial commitments in one's life. Building on existing conceptualizations of SFWB used in the literature, studies measuring SFWB in different population groups, and their own qualitative data collection, Salignac et al. (2019) developed a useful 'ecological life-course' approach that considers the 'relational, social, structural and temporal dynamics' that influence SFWB. The authors draw on Bronfenbrenner's ecological systems theory, which suggests that individual development is influenced by features of their immediate (e.g., family) and broader (e.g., community, institutional, societal) environment (Bronfenbrenner, 2005). A person's financial condition is situated within the context of individual, community, and societal-level

predictors, all of which influence their evaluation of that condition – or, in other words, their SFWB. The authors also draw on the ecological life-course approach, which suggests that developmental, social and historical age influences development (Elder & Rockwell, 1979). A person's assessment of their financial condition changes over the life course, in response to different life course stages and events. In other words, the nature and extent to which features of an individual's environment (i.e., factors that are part of their ecological system) influence their financial well-being is linked to their life course stage and changing financial circumstances over time (i.e., factors that are part of the individual's life course).

Extant research has explored the impacts of student debt at different time points within the young adult period. For example, Dwyer and colleagues (2012) found that positive effects of student debt on mastery and self-esteem diminished with age. They suggest that among younger borrowers, cognitive disconnect from the burden of repayment buffers them from its negative impacts. In contrast, among older borrowers, the full weight of the financial burden becomes clear. However, most studies on the relationship between debt and well-being among young adults use cross-sectional data, and focus on limited time periods (Archuleta et al., 2013; Solis & Ferguson, 2017). Further, no known studies have directly investigated the link between student debt and SFWB over time. Understanding the association between student debt and SFWB provides insight into the mechanisms and processes that generate inequalities across the life course.

1.4 Overview: Purpose, Methods and Findings of Dissertation Studies

This dissertation includes three separate studies that investigate the association between student debt and SFWB, and how background and concurrent factors shape this relationship. The overarching goal of all three studies is to deepen our understanding of how student debt impacts the lives of young people in the U.S. and Canada, and to inform the nature, timing and targeting of programmatic, policy and direct interventions that reduce or alleviate its negative effects. In this section, I provide an overview of the overarching goals of each study, the methodological and analytic approaches employed in each, and a brief summary of the findings.

1.4.1 Study 1 - Understanding the Impact of Student Debt on Subjective Financial Well-being: Uncovering Inequalities

In the first study, I examined the association between student debt and SFWB, and variation in this association *between* groups based on family background socioeconomic status.

This paper was motivated by evidence of differences in academic, economic and physical and mental health outcomes for college students with and without student debt and with different levels of debt, and differences in outcomes for student-debt holders from different socioeconomic backgrounds (e.g., see Baker et al., 2017; Cilluffo, 2019; Dwyer et al., 2011, 2012; Elliott & Lewis, 2015; Gross et al., 2009; Gutter & Copur, 2011, 2011; Henager & Wilmarth, 2018; Nau et al., 2015; Zhang & Kim, 2019), and by the lack of empirical evidence of the relationship between student debt and SFWB in the research literature. This between-group analysis focused on three major group distinctions: 1) between young adults with and without debt, 2) between young adults with differing levels of debt, 3) between young adults from different socioeconomic backgrounds with and without debt, and with differing levels of debt.

I used secondary quantitative data from the Arizona Pathways to Life Success for University Students (APLUS) study, a longitudinal survey of emerging adults who attended a large public university in the southwest United States. I used three waves of data: when most students in the sample were 1) their first year of college (aged 18-21), 2) in their final year of college (aged 21-24) and working or in graduate school (aged 23-26). I narrowed the sample to include respondents who had complete data on the dependent (SFWB) and main independent (student debt) variables at each wave.

SFWB was measured at each wave on a three-item scale. The key independent variables were student debt status (dichotomous) and amount (continuous) at each wave. Background SES was operationalized using parental income. While income, education and occupational status are considered reasonable indicators of background SES, I used parental income as the key measure of background socioeconomic status because it is an important determinant of the resources that parents can provide to help students pay for college, the amount of non-repayable financial aid that students have access to, and the size of student loans that borrowers take on.[10] I also controlled for demographic, other background socioeconomic and emerging adult factors.

I estimated pooled Ordinary Least Squares (OLS) regressions to estimate the direction and magnitude of the association between student debt status and SFWB, and the effect having more debt or less student debt on SFWB among debtors. I also included models that controlled for demographic, socioeconomic background, and emerging adult factors, as well as models that

[10] See Paper 1 for extended discussion of strengths and weaknesses of this measure, as well as sensitivity checks using parental education.

interacted debt status and amount with parental income. For interaction models, I performed pairwise contrasts of marginal linear predictions to investigate whether there were significant differences across parental income groups.

The findings of the first study confirmed heterogeneity in the impact of student debt on SFWB. Student debtors had significantly lower SFWB than their non-debtor counterparts (b=-1.892; p<.001). Further, borrowers who took on more student debt struggled more with that debt. More specifically, an increase in student debt was associated with a decrease in SFWB, above and beyond the effect of debt status (b=-0.163, p<0.001). Additionally, while the negative effect of student debt on SFWB was consistent across the socioeconomic spectrum, the most disadvantaged borrowers had lower SFWB than all other debtors and non-debtors across parental income groups. These findings suggest the need for the targeting of policy changes and programmatic interventions that address the needs of the vulnerable borrowers from socioeconomically disadvantaged backgrounds.

1.4.2 Study 2 - Subjective Financial Well-being During Emerging Adulthood: The Role of Student Debt

As described, the focus of the first study was on between-group differences in the association between student debt and SFWB. In that study, I also found differences in the association between student debt and SFWB across the young adult trajectory (i.e., at entry into PSE, end of PSE, and employment or graduate school). However, little is known about how changes in student debt across the emerging adult years relate to changes in SFWB, or how this relationship varies according to background socioeconomic and concurrent financial circumstances. In Study 1, because I used pooled OLS regressions to model the overall association between student debt and SFWB, I could not conduct a robust investigation of changes in this association over time. As such, in the second study, I investigated the role of *time* more explicitly.

Study 2 was motivated by evidence that SFWB is inherently dynamic because of its relationship to changing financial resources and needs over the life course, and especially during young adulthood (Headey & Muffels, 2017; Lucas & Donnellan, 2007; Plagnol, 2011). As such, the second study investigated: 1) the effect of changes in outstanding student debt on trajectories of SFWB over time, and; 2) how these trajectories vary according to family socioeconomic and emerging adult financial factors. Over and above identifying the groups most vulnerable to the

negative consequences of student debt (as explored in study 1), understanding the changing impacts of student debt during the turbulent young adult period of the life course is important for informing the timing and targeting of interventions that address burdens associated with holding and repaying student debt.

For this study, I used the same narrowed sample from the APLUS data described above. Because I was interested in understanding both the changes in the effect of student debt within people over time and the differences in this effect across people, I controlled for a slightly wider set of background, contextual and personal factors. I estimated a series of growth curve models to understand young adults' initial SFWB at entry into college, and changes in their SFWB over time as a function of outstanding student debt, and control variables. I also estimated a hybrid model to parse out differences in the effect across people, and within people over time. The findings of study 2 confirmed that SFWB was modestly negative over time, and that student debt was negatively associated with SFWB at each time point under study. Fixed-effects models revealed that changes in student debt were a modest source of change in SFWB within people over time. Further, family socioeconomic factors accounted for some of the relationship between changes in debt and changes in SFWB overtime. Finally, between-person differences in SFWB were more significant than changes in SFWB within people over time.

1.4.3 Study 3 - "Once you have debt, it kind of becomes Priority Number One": The Impact of Student Debt on Emerging Adults in Canada

In the third study, I switched focus to investigate the impact of student debt on the financial well-being of young adults in Canada. There is limited empirical evidence on the impact of student debt in Canada, and popular media coverage of the 'student debt crisis' in the U.S. can make it seem that this is a uniquely American phenomenon (Hoffower & Akhtar, 2019; Kaur, 2020). However, the rising cost of college (Usher, 2019), growing student debt use and levels (Statistics Canada, 2017a), rising rates of student loan default and bankruptcy among student debtors (Hoyes Michalos, 2019), and increasingly difficult macroeconomic context into which students graduate and attempt to repay their debt are present in Canada (CHMC, 2019; Lewchuk, 2017; Tomaszczyk & Worth, 2018), and show no sign of slowing. Study 3 contributes to the literature by establishing an empirical basis for study of the student debt experiences and outcomes among young adults in Canada, and by highlighting the voices and perspectives of young adults themselves.

For this study, I – along with a co-researcher[11] – collected data through focus groups with young adults in Toronto, Canada. The two questions that guided this study were: 1) how do young adults understand the impact of student debt on their financial well-being and life course transitions? And; 2) how does socioeconomic background influence young adults' experiences with student debt, and its impact on their financial well-being? Because we were interested in understanding their experiences with debt during both the debt accumulation and repayment periods, and evolution in their thinking over time, we recruited participants between the ages of 22 and 35 who had used student debt, and who had completed their undergraduate studies in the previous decade. Recruitment and data collection took place during the fall of 2019. We conducted two focus groups with a total sample of 19 participants. After data was collected and transcribed, we engaged in qualitative coding to identify pertinent themes and segments of text.

The findings of this study shed light on the way that student debt impacts the lives of young adults in Canada. They highlighted the dual quality of debt – that borrowers can simultaneously perceive debt as both an investment and a stressor. Further, debt constrained financial freedom and life course transitions. Importantly, family background shaped participants' debt experiences, both directly through the financial resources that they had access to and could rely on, and through processes of financial socialization. These findings confirmed that concerns around student debt are not a uniquely American problem. Further, the qualitative approach used in this study provided nuance and depth to phenomena that have largely been explored quantitatively.

1.5 Conclusion

In the following chapters, I include three separate manuscripts, each of which contains and independent study on the relationship between student debt and SFWB. In each, I review the theoretical and empirical literature informing the specific research questions, describe the data and methods employed, explain the findings, discuss how the study builds on or contrasts with existing theoretical and empirical evidence, and consider the implications of each for future research, policy and/or practice.

[11] The 'Debt and Well-being of Young Adults in Canada Study' was conducted by me and Dr. Jodi Letkietwicz, Associate Professor in the School of Administrative Studies at York University.

Chapter 2: Study 1 – Understanding the Impact of Student Debt on Subjective Financial Well-being: Uncovering Inequalities

Abstract

In this study, I examined the 1) direction and magnitude of the association between student debt (status and amount) and SFWB at different time points in emerging adulthood, and 2) stratification in this association across the family of origin socioeconomic spectrum. I used three waves of longitudinal data from the APLUS study and used pooled OLS models to analyze the data. Emerging adults with student debt had significantly lower SFWB than their non-debtor counterparts, and, among debtors, debt amount was negatively associated with SFWB. Further, the impact of student debt on SFWB was stratified across the family of origin socioeconomic spectrum. Findings suggest that student debt creates disparities within the college educated population in that the ability to acquire college credentials without using student loans confers significant economic advantage (as a result of not having to hold or repay debt) and psychological advantage (as a result of not experiencing stress associated with holding or repaying debt). As such, disparities in student debt use and amounts and their impact on SFWB exacerbate existing socioeconomic inequalities. Policy and practice interventions to reduce the burden created by student debt are discussed.

2.1 Introduction

The use of student debt is a central concern of the American public and a key feature of emerging adults' financial lives. More than four in ten individuals under the age of 30 hold student debt (Baum et al., 2016), and at the end of 2019, outstanding student debt stood at more than 1.5 trillion dollars (Haughwout et al., 2019). Many studies have examined aggregate trends in student debt (Houle, 2014a, 2014b), its impact on financial, mental health and life course outcomes (William Elliott & Lewis, 2015a; Houle & Berger, 2015; Rothstein & Rouse, 2011; Walsemann et al., 2015), and the ways in which student debt can exacerbate social and economic inequality (Baker et al., 2017b). However, we know little about the association of student debt with emerging adults' subjective financial well-being (SFWB), and how this association varies across the socioeconomic spectrum.

In this study, I examine the association of student debt with SFWB, which captures individuals' perceptions and evaluations of their own financial condition (Sorgente & Lanz, 2017). Given heterogeneity in the association between student debt and a broad range of

financial and well-being outcomes, it's unclear how student debt influences SFWB. On the one hand, student loans help emerging adults gain access to and complete postsecondary education (PSE), and secure the social and economic returns associated with obtaining a degree (Heller, 2008; Marx & Turner, 2019). If perceived as a tool for accessing opportunities and generating financial stability, student debt may provide emerging adults with a sense of financial well-being. On the other hand, student debt bears financial risk and can limit choices and wealth accumulation in the short and long term (William Elliott & Lewis, 2015a; Houle & Berger, 2015; Rothstein & Rouse, 2011), and may therefore cause worry and stress about one's present and future financial well-being.

Student debt may impact emerging adults' SFWB in varying or even contradictory ways, depending on the resources they have access to and the challenges they face. Mounting evidence indicates that the risks associated with student debt are concentrated among those who face the most significant barriers to PSE, including socioeconomically disadvantaged populations (Goldrick-Rab, 2016; Houle & Addo, 2018; Looney & Yannelis, 2015). As such, I also examine stratification in the association between student debt and SFWB across family of origin socioeconomic status.

This study contributes to the growing body of knowledge on the consequences of student debt in several ways. First, many studies focus on aggregate patterns of debt use and its objective financial consequences, but very few investigate the subjective experience of debt, and how emerging adults perceive and understand their student debt in the broader context of their financial lives (Drentea & Reynolds, 2015).[12] Given the significance attached to student debt in contemporary political, economic and social life and the power of student debt for shaping emerging adults' financial profiles, its effects are likely to reverberate beyond the objective financial domain. Understanding this effect is important because emerging adults' SFWB is fundamental to their financial decision-making, their success in other life domains, and their overall health and well-being (Rea et al., 2019; Sorgente & Lanz, 2017).

Second, most studies examine the impact of student loan debt on financial well-being without considering borrowers' family of origin socioeconomic status (Dwyer et al., 2011). Given that emerging adults from lower socioeconomic status backgrounds are more likely to rely on student debt and take on higher debt loads (Houle, 2014b; Serido et al., 2013), leaving out this

[12] For example, with regard to the role of student debt in widening the racial wealth gap, see Houle and Addo (2018).

confounding factor may lead researchers to overstate the positive or negative influence of student debt. I control for measures of parental socioeconomic status to more accurately assess the independent effect of student debt on SFWB. Also, beyond simply controlling for social class, I examine how it shapes – or moderates - the relationship between student debt and SFWB. Ultimately, by examining how this subjective outcome is stratified across class lines, I further our understanding of how inequality operates in the lives of individuals and families (Liu et al., 2004). This work is part of a broader push to view inequality not only as "matters of levels and gaps but also ongoing matters of meaning-making, identity and feeling" (Cooper & Pugh, 2020, p. 274).

Third, I examine debt effects in a sample of college-educated emerging adults, thereby controlling for the effect of having a college education. Studies that look at wider samples of emerging adults with and without debt – including those without debt but also without a college education - may conflate the effects of debt with the effects a college education.

In the following sections, I describe trends in student debt in the United States, delve deeper into the concept of SFWB, and review existing research that informs our understanding of potential associations between student debt and the SFWB of emerging adults, and socioeconomic stratification in this association.

2.2 Literature Review

2.2.1 Student Debt in the United States

Retrenchment of the state from direct financing of colleges and universities has led to rising cost of tuition for PSE and increasing financial burdens for students and their families (Dwyer, 2018; Hacker, 2019). The cost of tuition and related expenses has risen dramatically over the last three decades and has outpaced both inflation and incomes, especially for individuals and families on the lower end of the income distribution. Between 1999 and 2019, the cost of tuition at private institutions increased by 54%, and by 78% at public 2- and 4-year institutions. During the same period, median family incomes increased by only 18% (College Board, 2018).

A consequence of this widening gap between household incomes and the cost of higher education has been a rapid increase in students' and families' reliance on credit and debt to

access educational opportunities[13]. Student loans have become the primary mechanism for financing higher education. Total outstanding federal student debt rose from $200 billion in 2003 to 1.5 trillion 2018, representing a six-fold increase[14]. In the 2017-2018 school year, new borrowing totaled $94 billion, representing 61% of active federal loans (Dynan, 2019). Four in ten individuals under the age of 30 have outstanding student loan debt (Baum et al., 2016), and student loans make up 10.7% of household debt (Haughwout et al., 2019). Adjusting for inflation, median student debt per borrowing household rose from $5,600 in 1989 to $19,000 in 2016. Median outstanding debt held by recent graduates has more than doubled since the early 1990s, from $12,434 in 1993 to $25,885 in 2012 (Dynan, 2019). Importantly, default rates suggest that emerging adults struggle to manage their outstanding student debt. In 2018, more than 10% of borrowers were more than 90 days delinquent or in default, and another 32% were in forbearance or deferment (Federal Reserve Bank of New York, 2020)

2.2.2 Subjective Financial Well-being

There has been an enormous rise in the number and proportion of individuals and households saddled with outstanding student debt, and facing difficulty repaying this debt. As a result, researchers, policy makers and the public have become increasingly concerned with the impact of student debt on borrowers' financial well-being and mental and physical health. In her qualitative investigation of students' and families' experiences with student debt, Zaloom (2019) wrote that the "accumulation of debt – and speculation for the purposes of future gains – shapes people's understandings of their responsibilities and exerts control over the course of their lives" (p. 24). Student debt may be particularly consequential for emerging adults' SFWB.

SFWB consists of an individual's perceptions and evaluations of their own financial condition (Sorgente & Lanz, 2017). SFWB is important to human development because of its positive association with overall subjective well-being, and with mental and physical health (Shim, Xiao, Barber, & Lyons, 2009; Tay, Batz, Parrigon, & Kuykendall, 2017). In a recent qualitative study, emerging adults reported that feeling financially 'well' was important for their ability to enjoy life, the health of their relationships with friends and family, and their optimism

[13] In the Department of Education's Free Application for Student Aid (FAFSA), the federal government includes parental income in their calculation of the Estimated Family Contribution (EFC). The EFC is assumed to capture the financial resources parents can contribute to their children's postsecondary education (referred to as parents' 'financial strength'). Federal and state governments and PSE institutions then use the EFC to determine the amount of needs-based, non-repayable financial aid offered to each student.

[14] About 90% of all student loans in 2018 were part of the Federal student loans program (Dynan, 2019).

about the future (Rea et al., 2019). SFWB may also shape – and be shaped by - how individuals make financial decisions and plan for the future. Individuals who feel satisfied and confident in their financial situation may be more likely to seek new career opportunities, or form a family (Sorgente & Lanz, 2017).

Aggregate and average student debt is rising in a context of growing economic instability and inequality, which may exacerbate its effects on emerging adults' sense of financial well-being. Precarious employment conditions and low wages are especially common for emerging adults in the United States (Bialik & Fry, 2019), making it increasingly necessary for them to rely on credit and debt to achieve traditional milestones such as purchasing a home or starting a family (Addo, 2014; Joint Center for Housing Studies of Harvard University, 2016). As such, emerging adults are taking on and managing their student debt while facing other significant financial obligations and stressors, and with varying levels of individual and family resources to rely on. While recent research suggests that emerging adults who perceive their financial lives to be unstable have lower SFWB (Vosylis & Klimstra, 2020), the impact of objective financial indicators – including student debt - on subjective perceptions are not well documented.

2.2.3 The Dual Quality of Debt

Debt as Investment or Buffer Against Low SFWB. In classic economic theory, debt is understood as a resource that smooths consumption, facilitates investment in human capital and increases well-being (Modigliani, 1966; Rothstein & Rouse, 2011). In the context of modern capitalism[15], credit is considered a key social good that helps individuals achieve their goals. Conversely, lack of access to credit from formal institutions is considered a critical form of social and financial exclusion (Birkenmaier et al., 2019; Dev, 2006).

Student debt is inherently a tool for investing in higher education, which remains an engine of private and public economic growth, financial security and mobility, and overall well-being (Ma et al., 2019). Using student debt to invest in one's human capital may be posited as a rational behaviour enacted by an informed investor seeking substantial social and economic returns. Borrowing against future earnings may be perceived as "worth it" if taking on this debt will ultimately result in better employment and income (Friedman, 1957). Some empirical evidence suggests that borrowers perceive their debt as helpful – or at least not harmful - for

[15] For a comprehensive review of the historical evolution of the current credit-based system, and its merits and pitfalls, see Dwyer (2018) and Zaloom (2019).

their financial and overall well-being. Dwyer, McCloud and Hodson (2012) found that education debt increased mastery and self-esteem among emerging adults, and suggested that the perception of student debt as a tool for investment and economic mobility may generate positive impacts for some borrowers. Berger, Collins and Cuesta (2016) found that student debt was not associated with depressive systems, while credit card debt was. The authors suggest that because student debt is associated with the acquisition of skills or credentials assumed to have future earning and employment premiums, borrowers may worry less about this type of debt. Similarly, Archuleta, Dale and Spann (2013) found no impact of student debt on financial anxiety after controlling for demographic and other financial variables. However, the data used in this study were collected while students were in college and not yet repaying their debt – the full implications of their outstanding student debt for their financial lives may not have been clear to respondents at the time. Further, data used in each of these studies was collected in the 1990s, when tuition and debt amounts were much lower, and public concerns about student debt were less prevalent in daily life.

Debt as Liability or Cause of Low SFWB. Using student loans and holding student debt after graduation may exert economic pressure that increases financial instability and stress and diminishes the economic and social returns of obtaining a college degree. Zaloom (2019) explains that in taking on student loans, students and their families engage in a process of social speculation in which borrowers "place bets" on whether or not paying for college will jeopardize their financial security and whether a college degree will ultimately be worth it. In her in-depth qualitative study, Zaloom found that these unknowns created enormous uncertainty and stress for borrowers.

The risks associated with student debt holding, and the micro and macroeconomic conditions that shape one's ability to pay off that debt in the future, are likely to influence how individuals understand and experience their debt. The financial consequences of defaulting on student loans can include garnished wages, withheld tax returns and lower credit scores (U.S. Department of Education, 2019). Student debt cannot be discharged by filing bankruptcy and there are heavy penalties for missing payments. Yet student loan default rates continue to rise, suggesting that student debt is becoming harder for emerging adults to repay (Consumer Financial Protection Bureau, 2015a). Further, macroeconomic circumstances compound the risks associated with taking on student debt. Stagnating wages and increasing job precarity (Mishel et

al., 2015) mean that there is no guarantee that students will graduate and secure stable and sufficient employment that allows them to pay back their loans in a timely manner.

Student loan debt can weaken financial stability and growth and constrain life choices over the short and long run. Student loan debt is associated with lower likelihood of enrolling in graduate school, lower home equity value and low rates of homeownership (Cooper & Wang, 2014; Houle & Berger, 2015), lower net worth and asset accumulation (William Elliott & Lewis, 2015a; Zhan et al., 2016), and delayed parenthood (Nau et al., 2015). Elliot and Lewis (2015) warn that long term and aggregate effects of 'derailed asset aspirations' (e.g., the negative effects of rising student debt loads on household balance sheets, credit scores, and home ownership rates), "may constrain economic mobility and threaten the financial security of student borrowers throughout their lives, and these effects could transmit significant, albeit indirect, economic fallout from student loans" (p. 622).

A strong body of evidence suggests that debt has significant negative effects on well-being. While not all studies reviewed here employ SFWB as an outcome, they help to inform our understanding of emerging adults cognitive and emotional responses to student debt. Objective debt amounts and subjective measures of worry about debt are associated with depressive symptoms and anxiety (Brown, Taylor, & Wheatley Price, 2005; Drentea & Lavrakas, 2000; Sweet et al., 2013b). Studies focused specifically on student debt in the emerging adult population found disparate outcomes for student debtors versus non-debtors, highlighting the economic and psychological advantage associated with financing PSE without incurring student debt. Gutter and Copur (2011) found that college students with no financial aid or with merit-based scholarships (which can be considered proxies for higher socioeconomic status[16]) had higher SFWB than those who used student loans or needs-based grants. Cilluffo (2019) found that college graduates with student loans were more likely than their non-debtor counterparts to report that they were struggling financially and to provide a negative assessment of their financial situation. Specifically, graduates aged 25 to 39 with outstanding loans were more likely than those without loans to report finding it difficult to get by financially (22% versus 11%) and less likely to report that they were living 'comfortably' (32% versus 51%). Further, holding outstanding debt shaped the way that students understood and valued their PSE. Approximately

[16] Socioeconomically advantaged students are more likely to finance PSE without using financial aid (Fry & Cilluffo, 2019), and are more likely to receive merit-based scholarships (Woo & Choy, 2011).

one third (36%) of student loans borrowers felt that the costs associated with their degree outweighed the benefits, whereas only 15% of those without student loans felt that the same.

Other studies have found a negative association between *amount* of student debt held by borrowers and their well-being. In a longitudinal study using nationally representative data, Zhang and Kim (2019) found that higher student loan balances were associated with higher psychological distress. Heckman and colleagues (2014) found that expected amount of student loan debt at graduation was significantly associated with financial stress while students were in college. Henager & Wilmarth (2018) found that among adults over the age of 35, holding a student loan was associated with lower odds of having a higher score on a financial wellness index (as compared to not holding a student loan).

Thus, while there is a substantial body of literature on the impact of debt on objective financial circumstances, psychological distress and broader measures of subjective well-being less is known about the impact of student debt on SFWB, especially among emerging adults. In this study, I investigate whether and how emerging adults' SFWB varies with student debt use and level.

2.2.3 Social Stratification and Student Debt

Student debt may impact emerging adult well-being in varying or even contradictory ways, depending on personal characteristics and contextual circumstances. The theory of 'emerging adulthood' was developed to draw attention to the important and largely normative demographic changes that have taken place in the lives of emerging adults across developed countries over the last five decades (Arnett, 2006). Despite broad similarities in key features of emerging adult life - including identity explorations, instability, self-focus, feeling 'in-between', and a sense of possibilities and optimism – evidence suggests that there is considerable variation in individual paths through this developmental period, especially according to socioeconomic status (Arnett, 2016). To understand how family background socioeconomic status shapes the impact of student debt on the SFWB of emerging adults, I draw from the social causation perspective, which posits that social conditions lead to variations in health and well-being. A significant body of evidence points to a causal link between family of origin socioeconomic status and child and adolescent development and well-being (Conger et al., 2010; Gariepy et al., 2017; Huston et al., 2005; Morris et al., 2005). Families with greater economic resources are able to make significant financial, educational and social investments in their children's development,

and these investments accrue significant benefits for their children's well-being over time, and across life domains (Bradley & Corwyn, 2002; Conger & Donnellan, 2007). In this study, I investigate how family of origin economic resources convey developmental advantage over the life course, specifically in the context of PSE financing. I hypothesize that socioeconomic advantage accrues direct and indirect benefits that may mitigate the stress associated with student debt. As such, background socioeconomic status may moderate the association between student debt use and level and SFWB.

A central focus of stratification research in higher education has been on disparities in college access, persistence and completion, highlighting significant gaps between those with and without a college degree (Engle & Tinto, 2008; Grodsky & Jackson, 2009; Shavit, 2007). More recently, researchers have focused their attention on how disparities in college financing can exacerbate social and economic inequality (Baker et al., 2017b). Student financial aid policies are a key element in this equation; they shape both the opportunities that students have access to and the returns on their human capital investments. While facilitating upward mobility for some, the growth of student loan use has also contributed to growing economic inequality in the United States (Mettler, 2014).

With rising tuition prices, relatively low values of non-repayable grants, and declining or stagnating income and wealth among American households, the share of students who can finance their degree using only family financial resources or non-repayable financial aid is on the decline, especially among the middle class (Fry, 2014a). As a result, students from across the socioeconomic distribution rely increasingly on student debt. However, the risks and consequences associated with student debt are not equally distributed, and may be much higher for borrowers from economically vulnerable families (Dwyer, 2018). For example, first generation college students and borrowers from families with low income are more likely to default on their student loans (Gross et al., 2009; Hillman, 2014).

Socioeconomic advantage accrues direct and indirect benefits that may mitigate the stress associated with student debt use. As compared to socioeconomically disadvantaged emerging adults, those from advantaged backgrounds are more likely to have family financial resources to draw on (Arnett, 2016; Bea & Yi, 2019). They are also likely to earn substantially more after college, even when controlling for PSE institution, major and academic performance (Witteveen

& Attewell, 2017). Thus, both access to family financial resources and higher earnings may facilitate debt repayment.

Holding student debt also appears to compound existing socioeconomic disadvantage. Despard and colleagues (2016) found that among individuals with low and moderate income, those with student debt are more likely to experience material and financial hardship than their non-debtor counterparts, even when controlling for a host of important characteristics. The authors used propensity score matching to reduce the selection bias that may have impacted the relationship between student debt and financial hardship.

Despite clear inequities in college financing and disparate impacts of student debt on mental health and financial well-being, there are no known studies that directly examine socioeconomic stratification in the impact of student debt on emerging adults' SFWB. However, some studies indirectly inform our current understanding. Using National Student Loan Survey data, Baum and Schwartz (2006) found that Pell Grant recipients (an indicator of lower parental income) were more likely than non-recipients to report that student loans helped them access college, but also more likely to feel burdened by their debt and to feel the costs associated with student debt use outweighed the benefits. Group differences remained even when student debt amounts and debt-service ratios were held constant. Similarly, in a IPSOS survey of undergraduate students and parents of students, researchers found that low- and middle-income respondents were more likely than their higher income counterparts to experience stress related to future loan payments (*Sallie Mae*, 2016). These findings suggest that student debt may create a psychological burden for socioeconomically disadvantaged borrowers.

In contrast, there is some evidence to suggest that manageable levels of student debt are positively associated with educational, financial and psychological outcomes for some borrowers. Dwyer and colleagues (2011) found a positive effect of student debt amount on mastery and self-esteem among students from lower- and middle-class origins, but not for those from upper-class origins. Importantly, these effects were consistent in a restricted sample of college students, suggesting the positive effect of student debt over and above the positive effects of attending college for socioeconomically disadvantaged emerging adults. The authors suggested that "lower-class origin youth taking on more debt may view their activities as guided by purposive planning – like an investment – and not primarily a financial stress" (p. 734). However, the positive effects of debt diminished with age, suggesting that debt repayment –

rather than debt holding – may be the key stressor. Importantly, data for this study were collected prior to the Great Recession, which was associated with a major downward shift in borrowers' perceptions of student debt on their financial lives (Stone et al., 2012).

In another study, Walsemann and colleagues (2015) found that student loans were associated with better psychological functioning among emerging adults from socioeconomically disadvantaged families. The opposite was true for more socioeconomically advantaged respondents. Though the authors were unable to test mechanisms explaining this effect, they hypothesize that disadvantaged students may be more likely to perceive student loans as a vehicle for upward mobility rather than a stressor. However, the findings may also be biased by selection effects. Socioeconomically disadvantaged students who overcome significant barriers to PSE participation may also have better baseline mental health and may be more likely than their non-PSE participant counterparts to be future oriented, highly motivated, and optimistic.

While not the focus of this study, it is important to state that both race and gender are fundamental sources of variation in both debt use and debt outcomes (Roxburgh, 2009). Significant racial disparities in student debt use and repayment difficulties reinforce intergenerational wealth disparities that place Black borrowers at a disadvantage from the outset. Specifically, Black emerging adults are more likely than whites to hold debt and have higher debt (Houle & Addo, 2018), to default on their student loans after college (Huelsman, 2015), and to hold significantly larger loan balances than White borrowers decades after entering repayment (Sullivan et al., 2019). Evidence also points to differences in financial well-being across racial and ethnic groups. Specifically, Black college students reported significantly lower SFWB being and higher levels of financial stress than their non-Black counterparts (Grable & Jo, 2006; Gutter & Copur, 2011). Black borrowers were also more likely than their non-Black counterparts to worry about the affordability of student loan repayments (Ratcliffe & McKernan, 2013).

There are also important gender disparities in student debt use and outcomes. Women hold a disproportionate share of student debt in the United States. Women make up 57% of the undergraduate students in the US (National Center for Education Statistics, 2016), and hold almost one third of total outstanding student loan debt (Miller, 2017). The gender pay gap also makes it significantly more difficult for women to repay their student debt than men. A recent study found that women take about two years longer than men to repay their student loans, and that women were more likely to put off saving for retirement, buying a home or starting a

business as a result of their debt burdens (Miller, 2017). Women are also more likely to report feeling financially stressed or strained, and to have lower SFWB (Gutter & Copur, 2011; Heckman et al., 2014). These disparities in student debt use and outcomes exacerbate extreme racial and gender gaps in other economic outcomes, particularly among the college educated (Emmons & Noeth, 2015). Future research must examine racial and gender disparities in the impact of student debt on SFWB.

2.3 Study Purpose and Research Questions

Prior evidence suggests that student debt influences financial outcomes, mental health, and general well-being. However, little is known about the relationship between debt and SFWB, or variation in this relationship across socioeconomic groups.

The first goal of this study was to determine the direction and magnitude of the relationship between student debt status and level and SFWB. Given the significance attached to student debt in political, economic and social life and its impact on emerging adults' financial profiles and well-being, student debt is likely to shape how emerging adults feel about their financial lives. Understanding this effect is important because emerging adults' SFWB is fundamental to their financial decision-making, their success in other life domains, and their overall health and well-being (Rea et al., 2019; Sorgente & Lanz, 2017). Therefore, I tested whether and to what extent borrowers felt more or less financially well than their non-debt holding counterparts, and whether SFWB varied according to the amount of student debt that borrowers held.

The second goal of this paper was to determine whether student debt status and level had differential effects on SFWB depending on parental socioeconomic status. Given disparities in the resources and supports available to emerging adults throughout this transitional period, I expected heterogeneity in the impact of student debt on SFWB across groups of different socioeconomic positions. The findings of this study are important for determining the types and targeting of both policy and practice level interventions that can help alleviate the stressful impacts of debt on SFWB.

1. What is the direction and magnitude of the association between holding student debt and SFWB?
2. Among debtors, how does SFWB vary in relation to student debt amount?
3. How does family background socioeconomic status shape the association between student debt (holding and amount) and SFWB?

2.4 Methods

2.4.1 Data and Analytic Sample

I used data from the Arizona Pathways to Life Success for University Students (APLUS) study, a longitudinal survey of emerging adults who attended a large public university in the southwest United States. In 2007, a multi-step recruitment plan was initiated. The study was announced via print and digital media, email and presentations in classrooms and dormitory buildings. All first-year students (n=6231) received information about the study and a direct link to the online survey via email. Nominal incentives for participation were offered. Researchers followed up with participants four times (between spring 2009 and summer 2016).

I used data from three study waves: when students were aged 18-21, 21-24, and 23-26. [17] I limited our sample to respondents who had supplied complete data pertaining to student debt and SFWB (n=903) and restructured the data into a person-wave format (2709 person-waves).[18,19] In the early undergraduate phase, all respondents were first-year undergraduate students. In the late undergraduate phase, the majority of respondents were still enrolled in an undergraduate degree program (n=881). In the post-undergraduate phase, the majority had graduated from their undergraduate program (n=812) and were either working full-time (n=479), part-time (n=208) or were self-employed (n=21), and/or in graduate school (n=147)[20].

I excluded cases where SFWB or student debt data were missing. I conducted bivariate tests to assess differences in the characteristics of the analytic sample and respondents excluded due to missing data. Excluded cases had slightly lower SFWB at each phase of the PSE cycle, and slightly higher student debt in the early undergraduate phase (see Appendix A). This is unsurprising, given that both financial stress and larger debt loads are associated with dropping out of PSE (S. L. Britt et al., 2017; Dwyer et al., 2012). On included cases where data on covariates was missing, I replaced missing values on covariates with the sample mean (for continuous variables) or zero (the reference category for categorical variables).[21]

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[17] I did not include data from waves 1.5 and 4 in my analysis because of inconsistencies in survey questions at those waves.
[18] In person-wave (or 'long') format, each row of the data set captures one time point per subject. In this case, each subject (person) has data in three rows. Variables that do not change across time have the same value in each row for the given subject.
[19] The sample size at wave 1 was n = 2098. Response rates at subsequent waves were 72% (wave 2), and 55% (wave 3).
[20] The survey did not ask directly about graduate school attendance. We considered holding outstanding graduate debt a proxy for being in graduate school (n=147). However, only respondents who indicated that they had planned to go to graduate school after completing their undergraduate degree were asked about their graduate debt. Graduate students who had not planned to attend graduate school after completing their undergraduate degree, who funded their education without debt, or who had already finished paying off their graduate debt may not have been counted.
[21] Mean imputation is considered an acceptable method for dealing with missing data when the proportion of missing cases is very low (Cheema, 2014).

2.4.2 Measures

Subjective Financial Well-being (SFWB). SFWB consists of an individual's perceptions and evaluations of their own financial condition (Sorgente & Lanz, 2017). SFWB is important to human development because of its positive association with overall subjective well-being, and with mental and physical health (Shim, Xiao, Barber, & Lyons, 2009; Tay, Batz, Parrigon, & Kuykendall, 2017). SFBW is typically measured using a multi-item scale, with scores ranging from low to high financial well-being. The measure of SFWB used in this study was composed of three statements with responses ranging on a scale from 1 (strongly disagree) to 5 (strongly agree). The items were, "I am satisfied with my current financial status", "I have difficulty paying for things" and "I am constantly worried about money". In empirical analyses, I used the summary score of the three items. I also reversed negatively worded items so that a higher summary score represented more positive SFWB. This transformation results in scores of 3-15, where higher numbers indicated higher SFWB. Previous research reported acceptable internal consistency with a coefficient alpha of 0.84 (Serido, Shim & Tang, 2013).

Student Debt. The key independent variables in the analysis were outstanding student debt status (dichotomous) and amount (continuous) at each phase of the PSE cycle. I used measures of outstanding undergraduate student debt in the early and late undergraduate phases, and a combination of outstanding undergraduate and graduate student debt in the post-undergraduate phase. To remove outliers, I applied a 99th percentile top code to the reported debt amount, and I adjusted values for inflation across years (represented in 2016 dollars). In empirical models, I used the natural log of debt which truncates values from a positively skewed distribution, pulling them closer to the mean and creating a normal distribution (Friedline et al., 2105). I added a value of one to the raw debt amount as it is not possible to take the log of zero and centered the mean of the log-transformed debt amount variable to facilitate interpretation.[22]

Race/Ethnicity and Gender. I included standard demographic measures of gender and race/ethnicity. Gender was comprised of male [referent] and female. Because of documented large racial inequities in student debt loads and impacts, especially for Black students (Houle & Addo, 2018), I included an indicator of race/ethnicity as white [referent], black, and other.

[22] Mean centering the debt amount variable allows the constant to be interpreted as the SFWB of an individual with mean debt, rather than zero debt (which does not exist in this is sub-sample). Therefore, the coefficient for the effect of debt amount on SFWB is the effect of a 1-log-unit increase in student debt, relative to a person with the mean debt amount. Note that centering the data does not change the coefficients.

Parental Income. I operationalized background socioeconomic status using parental income measured at early accrual phase. The survey asked, "what is your parent(s)' combined annual gross income (before taxes)?". Respondents were asked to select one of the following: under $50,000, $50,000-$99,999, $100,000-$199,999, and >$200,000. I recoded respondents into three categories based on the national income distribution. In 2008 (the year that parental income data was collected), median household income was $54,412 (Congressional Budget Office, 2012). I categorized households below the median (under $50,000 in our data set) as low income, between $50,000 and $199,999 as middle income, and above $200,000 as high income.

Socioeconomic status is a construct that captures dimensions of social position, including economic well-being and household resources (Diemer et al., 2013). In the current study, I used *background* socioeconomic status - as opposed to emerging adulthood socioeconomic status - as the key measure of social stratification because I was interested in understanding how the transmission of family resources shapes the way that emerging adults understand and feel about their student debt. Emerging adult income is often negatively associated with background socioeconomic status especially among college students (Kalenkoski & Pabilonia, 2010), and does not capture the broader resources that individuals have access to.

Income, education and occupational status are all considered reasonably good indicators of background socioeconomic status. Each has different levels of stability over time and differentially predicts short-, medium- and long-term human development and well-being outcomes (Duncan & Magnuson, 2003). Parental occupation was not measured in the APLUS study. I used parental income – rather than parental education - as the key measure of background socioeconomic status because it is an important determinant of the resources that parents can provide, the amount of non-repayable financial aid that students have access to, and the size of student loans that borrowers take on. The U.S. federal government includes parental income in its calculation of the Estimated Family Contribution (EFC)[23], which is assumed to capture the financial resources parents can contribute to their children's PSE (referred to as parents' 'financial strength'). Federal and state governments and PSE institutions then use the EFC to determine the amount of needs-based, non-repayable financial aid offered to each student. Students fill the gap between the cost of college and what is covered with government and institutional financial aid using a combination of parental contributions, personal savings,

[23] This is calculated in the Department of Education's Free Application for Student Aid (FAFSA).

employment income and student loans (Kelechen, 2017). While additional measures of parental resources and liabilities (i.e., assets, benefits, family size and other family members attending college) are used to calculate the EFC, such measures were not available in the APLUS data.

There are arguments for using parents' educational level, rather than parental income, to measure background socioeconomic status. First, emerging adults may report their parents' education more accurately than parents' income. Second, using income brings up complications around whose income to include (for example, non-custodial parents, grandparents, other family members who may contribute financially, but may not be present in the home or considered in a survey). Third, parental income is more dynamic than parental education over the course of childhood and the transition into emerging adulthood. One must then consider whether to measure income during childhood, during emerging adulthood, or some combination of both (Arnett, 2015). I tested parental educational attainment (see variable definition below) as an alternative measure of background socioeconomic status (see Appendix B). The results were very similar, whether parental income or education was used.

Parental Education. We included a measure of the education level of the highest educated parent. The categories were: high school or less [referent], some college, and bachelor's degree or more.

Emerging Adult Income. Income is an important predictor of SFWB (Sorgente & Lanz, 2017). Also, emerging adult employment – especially during college – is associated with parental financial transfers and the cost of college (Kalenkoski & Pabilonia, 2010). As such, I included a measure of respondents' income at each wave. During the early and late undergraduate phases, the survey asked about monthly income earned as a student. During the post-undergraduate phase, the survey asked about annual employment income. We regrouped the income categories in all three phases into none/low, medium, and high. In the early and late undergraduate phases, the categories represented: none/low (<$250), medium ($250-$500), and high (>$500). In the post-undergraduate phase, the categories represented: none/low (<$25,000), medium ($25,000-$60,000), and high (>$60,000).

Phase of the Postsecondary Education Cycle. I included an indicator for phase of PSE cycle based on normative educational trajectories. This allowed me to control for movement through the educational trajectory, which is likely to influence how debt status and level shape SFWB (Dwyer, 2012; 2018). As students start their degree and begin to accumulate debt, their

cognitive distance from repayment may shield them from debt-related stress. Later, as they near the end of their undergraduate degree and then graduate and either begin working or taking on more debt to finance graduate school, the prospect of repayment, and then repayment itself, may cause them to perceive their debt as a burden that detracts from financial stability and well-being. The three phases of the educational trajectory corresponded with the three waves of data collection. The phases were 1) early undergraduate (first wave of data collection, as students entered college), 2) late undergraduate (second wave of data collection, as students neared the end of the undergraduate degree), and 3) post-undergraduate (third wave of data collection, as students either started working [and therefore likely started repaying their debt if owed] or entered graduate school [and potentially took on more student debt]).

2.4.3 Analysis strategy

First, I estimated a pooled Ordinary Least Squares (OLS) regression of student debt status on SFWB to estimate the direction and magnitude of this relationship. The resulting estimates quantified the difference in the SFWB of emerging adults with and without student debt. Next, I added demographic, socioeconomic background, and emerging adult factors to the model to assess change in the effect of student debt on SFBW when adjusting for these factors.

Next, I modeled an interaction of debt status with parental income to determine whether parental income moderated the effect of debt status on SFWB. I also performed pairwise contrast analyses of marginal linear predictions to determine 1) whether there were statistically significant differences in the mean SFWB of debtors and non-debtors within parental income groups, and 2) whether there were statistically significant differences in the mean SFWB of debtors across parental income groups. I used Tukey's Honest Significant Difference (HSD) to compare group means. Tukey's HSD is considered a rigorous test for pairwise comparisons when sample sizes are not equal, population variances are not homogenous, and distributions are non-normal (Jaccard et al., 1984).

Second, I estimated a pooled OLS regression of student debt amount on SFWB in a sample of respondents who held student debt at any point during the study. The resulting estimate quantified the effect having more debt or less student debt on SFWB among debtors. Next, I added demographic, socioeconomic background, and emerging adult factors to the model to assess change in the effect of student debt amount on SFWB when adjusting for these factors. I also modeled an interaction of student debt amount with parental income group to estimate

whether parental income moderated the effect of debt amount on SFWB and performed contrast analyses of marginal linear predictions to investigate whether there were differences in this effect across groups.

2.6 Results

Table 1 shows the characteristics of the overall sample and compares characteristics of debtors and non-debtors. Mean overall SFWB in the full sample was 9.517 (SD=3.08). At each phase of the PSE cycle, the mean SFWB of debtors was statistically significantly lower than that of non-debtors. Among debtors, the mean student debt amount was $7,267 (SD=$6,374) in the early undergraduate phase, $17,655 (SD=$15,810) in the late undergraduate phase, and $34,127 (SD=$33,290) in post-undergraduate phase[24]. By comparison, the mean national annual loan amount for undergraduate students at 4-year public colleges was just under $7,000 (in 2016-2017 dollars) for the years covered in APLUS study (National Center for Education Statistics, 2017). Loan amounts for borrowers in this sample were slightly higher than national averages.[25]

The majority of respondents were female (65%) and white (67%). The majority were in the middle parental income group (67%), and the majority of respondents' parents had a bachelor's degree or more education (70%). At each phase of the PSE cycle, the majority of respondents had no or low income (76%, 47% and 49%, respectively). Women were more likely to be debtors than non-debtors, while the opposite was true for males. Respondents who were Black and from other non-white racial and ethnic groups, whose parents had low income, whose parents had a high school diploma or less were more likely to be debtors than non-debtors. In contrast, respondents who were White, whose parents had middle or high income, and who had a bachelor's degree or more education were more likely to be non-debtors than debtors.

During the early and late undergraduate phases, respondents with no or low income were more likely to be non-debtors, while those with medium or high income were more likely to be debtors. In contrast, during the post-undergraduate phase, respondents with low or no income were more likely to be debtors, while those with medium or high income were more likely to be non-debtors.

[24] Mean debt is highest in the final phase because some respondents (n=147) took on additional student loans for graduate school.
[25] Student loan amounts from APLUS data correspond to the years 2008/2009, 2010/2011 and 2012/2013 school years, in 2016 dollars. Note that national average student loan amount presented here includes only loans directed to students and does not include loans directed to parents to pay for their children's postsecondary education. In the APLUS survey, respondents reported on total student loans, which may include PLUS loans directed to parents – this may explain slightly higher average loan amounts.

Table 1

Sample Characteristics, or Full Sample, and for Non-debtors and Debtors

	Full sample			Non-debtors			Debtors		
	n	M	SD	n	M	SD	n	M	SD
SFWB									
Overall	903	9.517	3.08	397	10.56	2.85	506	8.69	3.01
Early undergraduate	903	9.75	3.11	674	10.33	2.98	229[a]	8.05	2.81
Late undergraduate	903	9.23	2.98	549	10.15	2.81	354[a]	7.81	2.66
Post-undergraduate	903	9.55	3.13	458	10.49	2.94	445[a]	8.59	3.03
							M		SD
Debt amount[c]									
Early undergraduate		-			-		$7,267		6,374
Late undergraduate		-			-		$17,655		15,810
Post-undergraduate		-			-		$34,127		33,290
		%			%			%	
Gender									
Male		35			38			33	
Female		65			62			67	
Race/ethnicity									
White		67			72			64	
Black		3			2			4	
Other		30			26			32	
Parental income									
Low		18			12			23	
Middle		67			68			67	
High		15			20			10	
Parental education									
High school or less		12			7			15	
Some college		18			12			21	
Bachelor's degree or more		70			81			64	
Emerging adult income									
Early undergraduate									
None/low		76			82			71	
Medium		13			10			16	
High		11			8			13	
Late undergraduate									
None/low		47			51			45	
Medium		25			23			27	
High		27			26			28	
Post-undergraduate									

None/low	49	42	54
Medium	43	48	40
High	8	10	6

Note. Percentages shown for categorical variables. Means shown for continuous variables.

[a] Mean of debtors is statistically different from mean of non-debtors at $p<0.001$.

[b] Calculation of mean and standard deviation of student debt is based on respondents with student debt at given phase of the debt cycle.

Table 2 displays estimated coefficients from the regression of student debt status on SFWB (Model 1), the addition of demographic, background socioeconomic and emerging adult covariates (Model 2), and the interaction of student debt status with parental income (Model 3).

Table 2

Debt Status and SFWB

	Model 1		Model 2		Model 3	
	b	SE	*b*	SE	*b*	SE
Student debt status						
Has student debt (ref: no student debt)	-2.11***	0.12	1.89***	0.12	-1.64***	.26
Gender						
Female (ref: male)			-0.47***	0.12	-0.47***	0.12
Race/ethnicity (ref: white)						
Black			-0.84*	0.33	-0.86**	0.33
Other			0.15	0.12	0.15	0.12
Parental income (ref: low)						
Middle			0.53***	0.16	0.69**	0.21
High			1.32***	0.21	1.44***	0.26
Parental education (ref: high school or less)						
Some college			0.18	0.21	0.18	0.21
Bachelor's degree or more			0.61***	0.19	0.61***	0.19
Income (ref: low)						
Medium			0.36**	0.13	0.36**	0.13
High			0.58***	0.16	0.58***	0.16
Phase of PSE cycle (ref: early undergraduate)						
Late undergraduate			-0.40**	0.14	-0.40**	0.14
Post-undergraduate			0.16	0.14	0.16	0.14
Interactions						
Has student debt # middle parental income					-0.33	0.29
Has student debt # high parental income					0.19	0.44
Constant	10.32***	0.07	9.37***	0.23	9.26***	0.26

Observations (n)	903	903	903
Adjusted R^2	0.11	0.15	0.15

Note. n=903 in all models.
Model 1 is the base model and includes only student debt status. Model 2 adds demographic, background socioeconomic and emerging adult factors. Model 3 adds the interaction of debt status with parental income.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In Model 1, I regressed the student debt status variable on SFWB to estimate the direction and magnitude of the effect of holding student debt on SFWB (i.e., the difference in the SFWB of debtors versus non-debtors). The coefficient for debt status demonstrates that emerging adults with debt had significantly lower SFWB than their non-debtor counterparts (b=-2.11; p<.001).

In Model 2, I added demographic, background socioeconomic and emerging adult covariates. The coefficient for student debt status was reduced slightly, but remained significant (from b=-2.11, p<.001 to b=-1.89, p<0.001), indicating that student debt status accounts for a substantial degree of variation in SFWB, even when controlling for a host of covariates.

The results of Model 2 also suggest variation in SFWB according to demographic, background socioeconomic and emerging adult covariates. Female and Black respondents had significantly lower SFWB than their male and White counterparts (b=-0.47, p<.001, and b=-0.84, p<0.05, respectively). Parental income and education were positively associated with SFWB. Specifically, respondents with middle and high parental income had significantly higher SFWB than their low parental income counterparts (b=0.53, p<.001; and b=1.32, p<.001, respectively). Respondents whose parents had a bachelor's degree or more education had significantly higher SFWB than those whose parents had a high school diploma or less education (b=0.61, p<.001). Emerging adult income was also positively associated with SFWB. Emerging adults with medium and high income had higher SFWB than their lower income counterparts (b=0.361, p<.01; and b=0.58, p<.001, respectively). Finally, SFWB was negatively associated with phase of the education cycle. As compared to the early undergraduate phase, emerging adults had significantly lower SFWB at the late undergraduate phase (b=-0.40, p<.01).The increase in the adjusted model R^2 (from R^2=.11 to R^2=.15) confirmed that the addition of covariates improved model fit.

Family financial resources determine, in part, whether students take on debt and how much debt they take on. In the current sample, there was variation in debt status across parental income groups (see Table 1). Specifically, respondents in the lowest parental income group were more likely to use student debt than their higher parental income counterparts, reflecting the

national trend in the United States (Pew, 2014; Pew, 2019).[26] Of interest in this study is whether parental income also shaped the effect of student debt status on emerging adults' SFWB. In model 3, I interacted debt status with parental income to determine to whether parental income moderated the effect of debt status on SFWB. The overall interaction of debt status with parental income was not significant ($F(2,2694)=0.64$, $p>.05$).

Despite the lack of statistical significance in the overall interaction, it is possible that specific within and between-group differences in SFWB exist. The marginal linear predictions for the SFWB of debtors and non-debtors within each parental income group are depicted in Figure 1. Contrast analyses of marginal linear predictions, displaying specific 1) differences in the mean SFWB of debtors and non-debtors *within* parental income groups, and 2) differences in the mean SFWB of debtors *between* parental income groups are reported in Table 3.

Results show that within each parental income group, the mean SFWB of debtors was statistically significantly lower than that of non-debtors. The effect of student debt status (i.e., the gap between debtors and non-debtors) was strongest in the middle-income group. All mean differences in the SFWB of debtors and non-debtors were significant at $p<.001$. Turning to differences in the SFWB of debtors across parental income groups, contrast analyses revealed that there was a statistically significant difference in the predicted mean SFWB of debtors in the low and high parental income groups. Other between-group differences were not statistically significant. Finally, the mean SFWB of debtors with high parental income was not significantly different than that of non-debtors with low parental income.

Figure 1
Predictive margins for SFWB by student debt status, by parental income level

[26] I am also interested in whether parental income shaped the effect of student debt *amount* on SFWB. This is explored in Table 3.

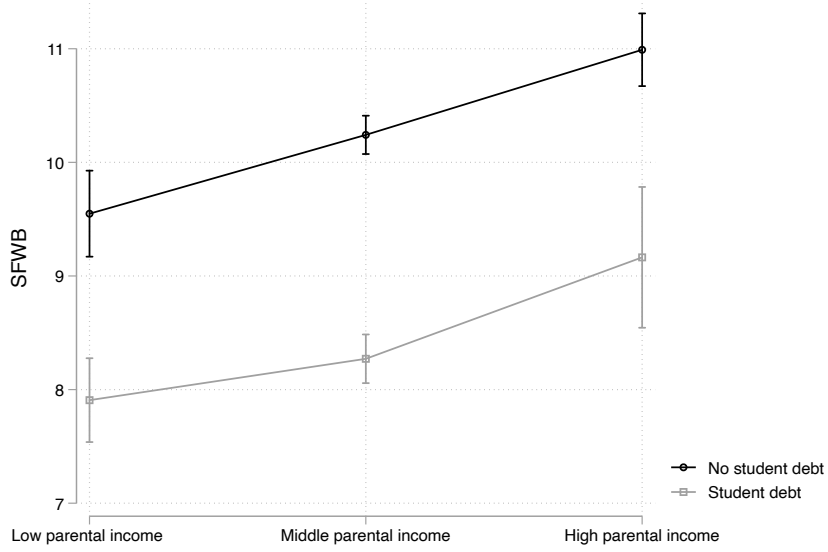

Table 3

Pairwise Contrast Analysis of Mean SFWB of Debtors and Non-debtors Within Parental Income Groups, and for Debtors Across Parental Income Groups

	Contrast		Tukey's HSD
	b	*SE*	
Within-group contrasts			
No debt medium parental income vs. debt, medium parental income	-1.64	0.26	6.24***
No debt, high parental income vs. debt, high parental income	-1.97	0.14	14.04***
No debt, high parental income vs. debt, high parental income	-1.83	0.35	-5.16***
Between-group contrasts (debtors only)			
Low parental income vs. medium parental income	0.36	0.22	1.69
Low parental income vs. high parental income	1.26	0.37	3.41**
Medium parental income vs. high parental income	0.89	0.33	2.68

Note. Standard errors in parentheses.
See Appendix B for full list of pairwise comparisons.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4 displays estimated coefficients from the regression of student debt amount on SFWB (Model 1), the addition of demographic, background socioeconomic and emerging adult covariates (Model 2), and the interaction of student debt status with parental income (Model 3).

Table 4

Debt Amount and SFWB, Among Debtors

	Model 1		Model 2		Model 3	
	b	SE	*b*	SE	*b*	SE
Log of student debt amount	-0.16***	0.02	-0.18***	0.02	-0.15***	0.04
Gender						
Female (ref: male)			-0.68***	0.16	-0.68***	0.16
Race/ethnicity (ref: white)						
Black			-0.59	.39	-0.61	.39
Other			0.14	0.16	0.14	0.16
Parental income (ref: low)						
Middle			0.48**	0.19	0.60**	0.22
High			1.15	0.29	1.20	0.32
Parental education (ref: high school or less)						
Some college			0.40	0.25	0.39	0.25
Bachelor's degree or more			0.83***	0.22	0.82***	0.22
Income (ref: low)						
Medium			0.35*	0.17	0.36*	0.17
High			0.68**	0.22	0.67**	0.22
Phase of PSE cycle (ref: early undergraduate)						
Late undergraduate			-0.26	0.19	-0.26	0.19
Post-undergraduate			0.56**	0.20	0.56**	0.20
Interactions						
Log of student debt amount # middle parental income					-0.04	0.04
Log of student debt amount # high parental income					-0.04	0.04
Constant	9.15***	0.09	8.26***	0.28	8.18***	0.28
Observations (n)	506		506		506	
Adjusted R^2	0.06		0.11		0.11	

N*ote.* Standard errors in parentheses. Model 1 is the base model and includes only log of student debt amount. Model 2 adds demographic, background socioeconomic and emerging adult factors. Model 3 adds the interaction of debt amount with parental income.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In Model 1, I regressed student debt amount variable on SFWB to estimate the effect of a 1 log-unit increase in student debt on SFWB among debtors. The coefficient for student debt amount was negative and significant (b=-0.16, p<0.001), suggesting that an increase in student

debt amount was associated with a decrease in SFWB, above and beyond the effect of debt status.

In Model 2, I added demographic, background socioeconomic and emerging adult covariates. The coefficient for student debt amount increased slightly and remained significant (from b=-0.16, p<.001 to b=-0.18, p<0.001), indicating that student debt amount accounts for a substantial degree of variation in SFWB, even when controlling for a host of covariates.

The results of Model 2 also suggest that, among debtors, SFWB varied according to demographic, background socioeconomic and emerging adult factors. The increase in the adjusted model R^2 (from R^2=.06 to R^2=.11) confirmed that the addition of covariates improved model fit. Female respondents with student debt had significantly lower SFWB than their male counterparts (b=-0.68, p<.001). Surprisingly, there was no significant variation in SFWB across racial and ethnic groups. Similar to the full sample (Table 2), with regard to background socioeconomic status, parental income and education were positively associated with SFWB among debtors. Specifically, respondents with middle and high parental income had significantly higher SFWB than their low parental income counterparts (b=0.48, p<.01; and b=1.15, p<.001, respectively). Respondents whose parents had a bachelor's degree or more education had significantly higher SFWB than whose parents had a high school diploma or less (b=0.83, p<.001). Emerging adult income was also positively associated with SFWB. Emerging adults with medium and high income had higher SFWB than their low-income counterparts (b=0.35, p<.05; and b=0.67, p<.01, respectively). Finally, as compared to the early undergraduate phase, respondents with student debt had significantly higher SFWB in the post-undergraduate phase (b=0.56, p<.01). This result was surprising, given evidence suggesting that one's capacity to repay their student debt may be more stressful than debt holding itself (Dwyer, 2011), and that that most debtors in the current sample were required to start repaying their debt during the post-undergraduate phase[27]. In supplementary analyses, I investigated the impact of repayment status on SFWB during the post-graduate period and found significant variation across repayment status, even when controlling for debt amount. I found that compared to borrowers whose student debt payments were not yet due, those who were having difficulty repaying their loans (i.e.

[27] There are several reasons why some borrowers had not started repaying their debt during the post-undergraduate phase: n=36 had not yet completed their undergraduate studies, n=46 took on more debt to finance graduate school, and n=43 had debts that we not yet due for unknown reasons (this is could be due to measurement issues or being in the 6-month-grade period allowed for most federal student loans).

making late payments or in deferment or default) had significantly lower mean SFWB (*b*=-1.69, p<0.001). See Appendix B for results.

Prior to testing the interaction of student debt amount with parental income, I examined differences in debt amount by parental income (Table 5). Although debt use is prevalent across the income distribution, emerging adults in the middle of the parental income distribution rely more heavily on student debt than others (Houle, 2014). This is because emerging adults from socioeconomically disadvantaged families typically have better access to non-repayable grants, and those from more advantaged families have better access to parental financial support. In the current sample, in all phases of the PSE cycle combined, and in the late undergraduate and post-undergraduate phases, mean student debt was highest among respondents in the middle parental income category (M=$16,156, SD=24,595.41 for all phases combined; M= 13,056.94, SD=15,938.19 in the late undergraduate; and M=$32,041.24, SD=33,264.37 in the post-undergraduate phase[28]).

Table 5

Mean Student Debt Amounts Overall, and for Each Phase of the PSE cycle, by Parental Income Category

		All phases combined		Early undergraduate		Late undergraduate		Post-undergraduate	
	n	M	SD	M	SD	M	SD	M	SD
Full sample	506	$15,217	24,067	$3,288	5,608	$12,351	15,503	$30,013	33,137
Parental income									
Low	116	$12,830	20,228	$3,646	5,960	$11,064	12,581	$23,779	28,838
Middle	338	$16,156	24,595	$3,372	5,587	$13,056	15,938	$32,041	33,264
High	52	$14,441	27,937	$1,949	4,787	$10,639	18,290	$30,735	39,623

Note. Standard deviation in parentheses.
Student debt amounts displayed in 2016 dollars.
Calculation of mean and standard deviation overall and at each phase of the PSE cycle includes all respondents who had student debt at any phase of the debt cycle. Mean debt here is lower than in Table 1 because it includes respondents who had zero debt at a given wave if they ever had student debt. See Appendix A for mean and standard deviations at each phase of the PSE cycle for those who had student debt in the given phase.

In Model 3, I Interacted student debt amount with parental income group to estimate whether parental income moderated the effect of having more debt on SFWB. The overall interaction between debt amount and parental income group was not significant (F(2,1503)=0.54, p>.05). This suggests that, on average, the negative effect of debt amount on SFWB did not vary across parental income groups. The marginal linear predictions for the SFWB of debtors within each

[28] In the post-undergraduate phase, debt amounts were higher in the middle and high parental income groups because emerging adults in these groups are more likely to go on to graduate school and take on more debt to do so.

parental income group are depicted in Figure 2. Slopes confirm the negative association of debt amount and SFWB within each parental income group. Table 6 reports contrast analysis of marginal linear predictions, displaying differences in the effect of debt amount on SFWB in each parental income group. Results confirm the lack of statistically significant differences in this effect across groups.

Figure 2

Predictive margins for SFWB at different values of log of student debt amount for each parental income group

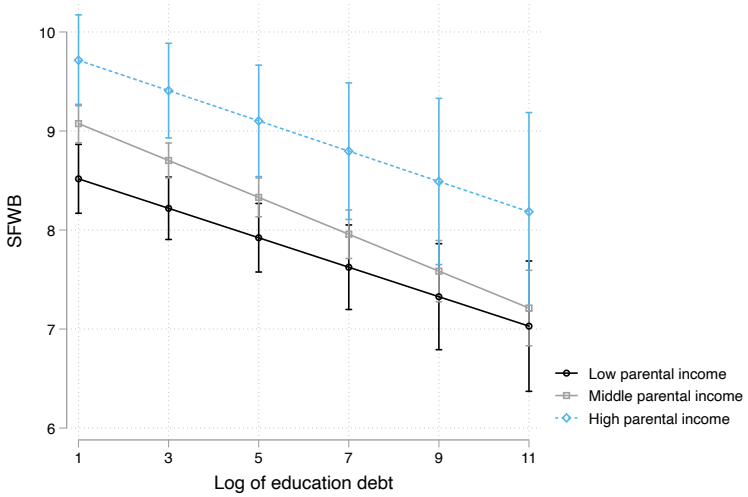

Table 6

Pairwise Contrast Analysis of Mean SFWB of Debtors Across Parental Income Groups

	Contrast		Tukey's HSD
	b	*SE*	
Low parental income vs. medium parental income	-0.04	0.04	-0.91
Low parental income vs. high parental income	0.00	0.06	-0.07
Medium parental income vs. high parental income	0.03	0.05	0.65

Note. Standard errors in parentheses
Not all pairwise comparisons are included. See Appendix B for full list of pairwise comparisons.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

2.7 Discussion

Evidence suggests that student debt negatively impacts the objective financial circumstances and mental health of emerging adults, and that these impacts vary according to the resources that borrowers have access to and the financial context in which they live. However,

little is known about the relationship between student debt and SFWB, or variation in this relationship across socioeconomic groups.

The findings of this study suggest that holding student debt and amount of debt held are powerful determinants of SFWB among emerging adults. Earlier research points to how differential access to PSE creates disparities in employment, income, health and well-being in emerging adulthood and beyond (Arnett, 2016; Mettler, 2014; William T. Grant Foundation, 1988). The findings of this study suggest that similar disparities exist according to student debt use and amounts borrowed. Emerging adults with student debt had significantly lower SFWB than their non-debtor counterparts, even when controlling for a host of covariates. This SFWB gap between debtors and non-debtors suggests that student debt creates disparities within the college-educated population in that the ability to acquire college credentials without using student loans confers significant economic advantage (as a result of not having to hold or repay debt) and psychological advantage (as a result of not experiencing stress associated with holding or repaying debt). While borrowers' financial lives are structured around managing and repaying their debt, non-borrowers are free from this stress. Future prospects also vary greatly for debtors and non-debtors – the long-term financial consequences of prioritizing debt payments and missing out on asset accumulation opportunities have reverberating effects across domains and over the life course and are sure to impact how emerging adults perceive and feel about their financial situation.

The findings of this study also suggest that the negative impact of student debt holding on SFWB is a consistent feature of emerging adulthood across the socioeconomic spectrum. Within each parental income group, emerging adults with debt had significantly lower SFWB than their non-debtor counterparts. Theis consistent negative effect of student debt on SFWB reflects existing evidence of the ubiquity of stress and anxiety in emerging adulthood across social classes (Arnett, 2016). Conversely, this highlights that being able to finance one's education without debt is a protective factor during emerging adulthood, even among socioeconomically disadvantaged populations.

Despite the negative impact of debt status across socioeconomic groups, the findings of this study suggest that family background socioeconomic status confers important advantages, even for those who take on student debt. Specifically, emerging adults with high parental income had higher SFWB than their lower income counterparts, regardless of debt status. This may be

because more advantaged borrowers typically have greater parental financial resources on which they can rely. In the sample used for this study, among debtors, 86% of emerging adults from the highest parental income category received some funds from their parents or other family members to help pay for their studies. In contrast, only 39% from the lowest parental income and 69% from the middle parental income group received funds from parents or other family members.[29] The availability of parental financial resources may reduce debt-related stress by acting as a real and perceived private safety net.

The findings of our study suggest that some borrowers fare worse than others. The SFWB gap between debtors and non-debtors was present in all parental income groups, but the gap was most pronounced in the middle parental income group, and least pronounced in the lowest parental income group. Borrowers from the middle parental income group may be more likely to see their debt as a 'necessary evil' rather than a tool for social and economic mobility. They may perceive their debt as a threat to their position in the middle class, rather than a foothold into it. In their mixed method study on class identity in emerging adulthood, Thomas and Azimitia (2014) discussed the ways in which individuals' definitions of their 'middle class' status changed over time, largely in relation to their evolving understandings of the privileges held or challenges faced by other middle-class peers. Student debt may be an important factor in the social comparisons that emerging adults make about their financial lives and well-being. The use of student debt may cause those who have previously perceived themselves as solidly 'middle class' to re-evaluate their social standing, and thus more negatively assess their financial well-being.

Student debt status appeared to have a smaller within-group effect on SFWB amongst socioeconomically disadvantaged respondents, as compared to middle- and higher-parental income borrowers. Specifically, the SFWB gap between debtors and non-debtors in the lowest parental income group was narrower than in other parental income groups. At the same time, debtors in the lowest parental income group had lower SFWB than all other debtors and non-debtors across income groups, suggesting that this group experiences cumulative disadvantage as a result of both background socioeconomic and debt status. Emerging adults with limited

[29] I include 'other sources of funding' as a variable in sensitivity checks and find no significant differences in debt effects. I chose not to include this in the main analyses for parsimony, and because the variable was only measured in the early accrual phase and so would be less reliable to use as a time-invariant measure. See Appendix A for crosstab of percentage receiving money from parents/family for education by parental income group.

personal and family financial resources face a multitude of financial constraints and challenges in the management of their day to day financial lives. Borrowers may perceive their student debt as one of many financial stressors, thus resulting in a less distinct negative effect of student debt on SFWB. Importantly, Serido and colleagues (2010) found that college students from lower socioeconomic status backgrounds experienced greater financial stress than their more advantaged peers, despite the greater use of active financial management techniques, such as budgeting. The financial stress that disadvantaged emerging adults face may be due more to a broader and longer-term lack of access to sufficient financial resources, rather than the direct effect of holding student debt during college. The findings from Serido and colleagues (2010) and the current study suggest that for the most disadvantaged borrowers, the impact of debt on SFWB detracts from the financial and non-pecuniary benefits that PSE is purported to facilitate (Dwyer, 2018).

Though not tested directly in this study, it is important to consider the mediating role of mental health in the relationship between socioeconomic status and SFWB. There is strong evidence of the link between socioeconomic status and adverse mental health outcomes (Freeman et al., 2016; Jo et al., 2011). In a study of emerging adults, Arnett (2016) found that individuals from lower socioeconomic backgrounds were more likely than their more advantaged counterparts to report feeling depressed and being concerned that their lives were not going well. Evidence also suggests that individuals who experience depression and related mental health issues are more likely to report experiencing financial stress or problems with debt (Bridges & Disney, 2010). Given that socioeconomic disadvantage predicts both worse mental health and financial well-being outcomes, it is unsurprising that disadvantaged emerging adults have lower SFWB than their more advantaged peers, regardless of debt status. Given that financial stress has damaging effects on mental and physical health over the life course (Kahn & Pearlin, 2006) and may be detrimental to the development and well-being of children (Conger et al., 2010; Ponnet et al., 2015), the long-term and intergenerational implications of economic insecurity and vulnerability are a major concern.

I found that debt amount was negatively associated with SFWB, over and above the effect of debt status, suggesting that borrowers who took on more debt struggled more with that debt. However, the effect of debt amount on SFWB did not vary across socioeconomic groups. In other words, conditional upon taking on student debt, the effect of debt amount on SFWB is

consistent across groups. This finding contradicts that of earlier studies that found positive impacts of student debt amounts on mental health (Walsemann, 2014) and self-esteem and mastery (Dwyer, 2012) among emerging adults from socioeconomically disadvantaged backgrounds. These authors suggest that disadvantaged borrowers may have been more likely to view their debt as an investment in human capital that would help them achieve social and economic mobility, and that taking on more debt would better allow them to meet their consumption needs. Contradictory findings in the current student may be due to cohort differences. Earlier findings were based on data collected from students and graduates prior to the Great Recession, when student debt levels were significantly lower and employment and income prospects for recent graduates were stronger. The positive perception of student debt among more financially vulnerable groups may have been eroded over the past decade. Also, lack of variation may be due to increasing financial burdens and uncertain futures among borrowers across the socioeconomic spectrum since the Great Recession.

Importantly, the negative effect of student debt on the SFWB of borrowers does not rule out the possibility that borrowers perceive their debt as a useful tool for investing in their human capital. It is possible that borrowers perceive their debt as an investment *and* a financial stressor at the same time. Arnett (2016) found that regardless of social class, a substantial majority of emerging adults reported feeling that a college education is one of the key factors in life success. At the same time, the majority also felt that they had not been able to secure sufficient financial support to obtain the education they believed they needed. The findings of the present study demonstrate that even if the investment perspective *is* present, this may not be a strong enough buffer against current and anticipated financial stress associated with student debt.

In addition to examining the impact of student debt on SFWB, I examined variation in SFWB according to demographic, background socioeconomic and emerging adult factors in the full sample and in the narrowed sample of debtors only. Gender, race and ethnicity, and background socioeconomic status were associated with SFWB. Specifically, I found that female and Black respondents and those from families with lower parental income and education had lower SFWB than their male, White and socioeconomically advantaged counterparts, confirming earlier findings (Grable & Jo, 2006; Gutter & Copur, 2011). In the debtor-only sample, the gender and socioeconomic differences in SFWB persisted, but variation by race and ethnicity was no longer present. This may be explained, at least in part, by the direct effect of class on

racial inequality. In his examination of racial gaps in economic, academic and other outcomes in the United States, Conley (1999) found that when class was controlled for, racial differences all but disappeared. In the present study, beyond standard measures of background socioeconomic status, I also indirectly controlled for socioeconomic status by narrowing the sample to include only respondents with student debt. If racial differences in SFWB are, in fact, the direct result of underlying class issues, this may explain the disappearance of racial variation in SFWB. However, it's important to note that this finding may also be shaped by underrepresentation of Black respondents in the sample. Further investigation of racial differences in SFWB and the mechanisms that explain them is crucially important.

While demographic and background factors are important for SFWB, emerging adults' own financial resources and the changing context in which they live also shape how they perceive and feel about their financial condition. Accordingly, I found that emerging adult income was positively associated with SFWB, both in the full sample and among debtors only. This reflects earlier evidence of the strong relationship between income and subjective well-being (Diener, 1984; Easterlin, 1974), and income and financial satisfaction (Ed Diener & Biswas-Diener, 2002), as well as more recent evidence that income is an important predictor of financial well-being during emerging adulthood (Rutherford & Fox, 2010; Vlaev & Elliott, 2014).

Results also suggest a complicated relationship between SFWB and phase of the education cycle. In the full sample, mean SFWB declined in the late undergraduate and post-undergraduate phases. This pattern was unsurprising, given that financial resources, needs and obligations often change dramatically across this period (Brüggen et al., 2017). As emerging adults become increasingly financially independent and take on greater financial responsibilities, they may worry more and find it increasingly difficult to meet financial needs. However, I found that in the debtor-only sample, mean SFWB was not significantly lower in the post-undergraduate phase than in the early undergraduate phase. This was surprising given that during this later phase, many borrowers faced the burden of student debt repayment. I conducted supplementary analysis of the post-undergraduate phase only and found that repayment difficulties were negatively associated with SFWB, even when controlling for outstanding student debt amount. Specifically, compared to those whose debts were not yet due, borrowers who were making late payments or whose loans were in deferment or default had significantly

lower SFWB. This reflects concerns that the real crux of the student debt crisis may lie not in amounts borrowed, but instead in borrowers' capacity to repay. In 2018, 42% of borrowers either defaulted or put their loans into deferment or forbearance, signalling that they were struggling to repay (Dynan, 2019). Also, given that socioeconomically disadvantaged borrowers are even more likely to face repayment difficulties (Blagg, 2018; Gross et al., 2009), further investigation of stratification of the impact of repayment on SFWB is needed.

The findings of this and other studies signal a need to focus on policy changes that would help ease the process of repayment for students who are struggling with their debt. For example, income-drive repayment (IDR) programs that limit payments to a percentage of borrowers' income (usually 10-15%) above a certain threshold (usually 150% of the poverty line) can prevent debt-to-income ratios from becoming unsustainable. Evidence suggests that default rates in IDRs are much lower than in other programs, but that take-up rates are very low (Abraham et al., 2020). Simple technical changes like making IDR the default option on the federal student aid website could have powerful effects on take-up, and, ultimately, on borrowers' repayment success (Cox, Kreisman, & Dynarski, 2018).

2.7.1 Limitations and Suggestions for Future Research

This study has several limitations. First, despite the importance of examining racial subgroup differences in the impact of debt on SFWB, the data used for this study were not appropriate for this analysis. Black students make up approximately 13% of the undergraduate student body at degree-granting institutions in the United States (National Center for Education Statistics, 2018), but only 3% of the sample used for this study. The underrepresentation of Black students limits the ability to make inferences about the wider population from any subgroup analyses. In the future, researchers must pay significant attention to racial disparities at each stage of the research - from study design and sampling through to analysis and interpretation. Without adequate representation of Black emerging adults in social science research, the full extent and impact of these racial disparities cannot be fully understood or addressed. Further, future research must examine the ways in which women are differentially impacted by student debt. The gender pay gap makes it dramatically more difficult for women to repay their loans (Miller, 2017), and women borrowers experience higher levels of financial stress, strain and lower SFWB (Gutter & Copur, 2011; Heckman et al., 2014). Importantly, the intersectionality of race, gender and socioeconomic status make it vital that we study these disparities from the

perspective of interacting categories of identity, rather than as separate but related social dimensions.

Second, estimates may be subject to attrition bias, both as a result of respondents dropping out of the study and as a result of dropping out of college and therefore being left out of subsequent waves of data collection. Student debt use and amounts are associated with college persistence and graduation, and socioeconomically disadvantaged students are especially likely to drop out at lower levels of debt (Dwyer, 2012). Further, the consequences of holding outstanding debt may be more severe for emerging adults who do not complete college (Jabbari et al., 2020). As such, the full impact of student debt on the SFWB of the most vulnerable borrowers may be underestimated in this study. Research into the financial experiences and perspectives of borrowers who leave college is vital understanding how debt-related stress impacts college completion, and for developing policies and interventions that encourage persistence and relieve the financial burdens of non-degreed debtors.

Third, findings may not be generalizable beyond college students and graduates of 4-year public colleges in the United States, especially with regard to stratification analysis. Low income students who attend public 4-year colleges are more likely than those at private and for-profit colleges to have access to needs-based grants (Protopsaltis & Parrott, 2017), to persist and graduate (Engle & Tinto, 2008), and to have better employment and income outcomes (Cellini & Turner, 2019). These factors shape emerging adults' debt use, capacity to repay their debt, and experience with debt. Further research should investigate differences in the impact of student debt on SFWB across institution types.

Fourth, the analysis does not factor in variation in effects across different loan types and sources. Respondents reported on total outstanding student debt held at each wave of data collection but were not asked to differentiate by loan source. There are various types of Federal student loans, including Direct Subsidized and Unsubsidized Loans to students, and Direct PLUS loans to graduate students and the parents of dependent undergraduate students. Students may also draw on private student loans, bank loans or lines of credit, or personal loans from family or friends, among other sources. Each loan type has different borrowing and repayment terms, and the risk associated with each debt type varies. As such, I would expect that the impact of holding and repaying debt on borrowers' perceptions of their financial situation would vary according to these terms and risks. Further research that captures variation in effects by loan type would help

to identify the most problematic loan terms and inform policy changes needed to ease the pressure associated with student debt.

Fifth, this study does not fully capture the complex interplay between parents' and children's financial lives when it comes to paying for college. Since the Great Recession, parents have drawn from increasingly varied sources to help their children pay for college, including taking on Direct PLUS loans, and using home-equity lines of credit and personal savings (Sallie Mae, 2019). Family financial resources determine the sources that parents can draw from, and the impact that this will have on their own financial well-being. Zaloom (2019) explains that students' college financing options and experiences don't happen in a vacuum, and parents' own financial experiences are likely to shape how students feel about their debt. While the current study investigates the connection between objective background socioeconomic status and emerging adults' experiences with student debt, it does not delve into the ways that students' subjective financial experiences are intertwined with those of their parents. The lack of statistical significance in the overall interactions between parental income and the effect of student debt on SFWB suggests that other important family-level forces may be at play here. Future research that explores the role of family financial experiences and socialization in shaping both parents' and children's debt experiences is needed.

Sixth, the SFWB measure used in this study has some weaknesses. Based on their review of studies of financial well-being during emerging adulthood, Sorgente and Lanz (2019) suggest that SFWB is a multidimensional construct that includes cognitive, relational, behavioural and temporal dimensions. While cognitive (i.e. "I am satisfied with my current financial status", and "I am constantly worried about money") and behavioural (i.e. "I have difficulty paying for things") dimensions are captured in the SFWB measure used in this study, relational (i.e. comparison to peers and friends) and temporal (i.e. future orientation) dimensions are not. Social comparisons and perceptions of future well-being are particularly important during emerging adulthood (Consumer Financial Protection Bureau, 2015a; Thomas & Azmitia, 2014). Further, the measure used in this study was not designed specifically for use in an emerging adult population, and does not reflect the distinct, transitional nature of their financial lives. Methodologies and variables used to study this group should be tailored specifically to this developmental phase. Finally, although this measure has been used in earlier studies with the same sample (Serido et al., 2010; Shim et al., 2010, 2012), it has not been tested in different

populations. Future research should employ measures that are multidimensional, specific to emerging adult populations, and externally validated.

Finally, the findings of this study suggest heterogeneity in the impact of student debt on SFWB across phases of the PSE cycle. This reflects extant evidence of the inherently dynamic nature of SFWB in relation to changing financial resources and needs over the life course. However, the use of pooled OLS models in this study limits my ability to directly asses how changes in student debt impact changes in SFWB within people over time. In the second manuscript for this dissertation, I used growth curve modeling to further explore changes over time. I found that student debt had a consistent negative impact on SFWB at each phase of the education cycle, and that disparities in SFWB according to parental income and childhood financial situation that existed during the first year of college trended toward convergence over time. However, both dissertation studies are limited by the short time frame of data collection and the homogeneity of the study sample. Further research should follow extended trajectories to assess the long-run impacts of student debt repayment on well-being, financial decision making and life course transitions across a broader segment of the emerging adult population.

2.7.2 Implications

One important way to narrow the SFWB gap between borrowers and non-borrowers and to ease the financial and psychological burden associated with student debt is to reduce emerging adults' reliance on student debt in the first place. A key starting point is to reverse the trend of retrenchment from PSE funding at the state and federal level. Governments should make significant investments in high-quality, affordable and accessible public higher education. Institutions, states and the federal government can also bolster needs-based, non-repayable grants, which would reduce debt loads for students from lower- and moderate-income families. The majority of institutional grant aid at public four-year institutions is non-needs-based (Zaloom, 2019), and needs-based grants at the institutional and state level are small (College Board, 2019).[30] The share of federal grants that were needs-based fell form 85% in 2008-09 to 70% in 2018-19, and the percentage of undergraduates receiving Pell Grants[31] fell from 37% in 2010-12 to 31% in 2018-19 (College Broad, 2019). Even when students do receive Pell Grants,

[30] The average annual grant for full-time equivalent student was only $634 in 2017-2018 (College Board, 2019).
[31] Federal Pell Grants are typically awarded to undergraduate students who display high financial need. Pell Grants do not have to be repaid.

they cover only a small share of college costs[32]. In the context of the rising cost of education and difficult macroeconomic circumstances impacting families' capacity to pay, targeting needs-based supports for students in the lower end and middle of the income distribution would help to alleviate the student loan burden for these borrowers and strengthen the mobility-generating effects of PSE.

Strengthening the social safety net available to children and families across the life course would also function to reduce stratification in the effect of debt on SFWB and the cumulative disadvantage faced by borrowers from lower socioeconomic backgrounds. Families with greater economic resources are able to make significant investments in their children's development, and these investments accrue significant benefits for their children's well-being over time, and across life domains (Bradley & Corwyn, 2002; Conger & Donnellan, 2007). Families with greater income and wealth can also provide a safety net that protects emerging adults from the real and perceived financial consequences associated with student debt. Governments should play a central role in providing supports and making investments that reduce economic insecurity for vulnerable families, and ultimately, help mitigate the negative impact of borrowing on SFWB.

In addition to policy changes that reduce student debt burdens, micro-level interventions that aim to directly prevent or mitigate financial stress may also be useful. Financial education interventions have proliferated over the past few decades, including on college campuses, but evidence suggests that these are not enough to increase financial knowledge, change behaviour or improve well-being (Fernandes et al., 2014). Simply providing students with information about student loans and making them aware of their debt loads has been shown to increase debt-related stress (Britt et al., 2015; Theodos, 2015). During college, students may employ avoidance as a short-term coping strategy: when they become aware of their debt load, the short- and long-term implications may become more apparent, and, in turn, more stressful. As such, interventions that simultaneously address both borrowers' concrete financial situation and the emotional and psychological stress that it causes may be more beneficial (Archuleta, Grable, et al., 2015). Also,

[32] The College Board reported that in 2019-20, the maximum Pell Grant covered only 59% of average published tuition and fees, and 28% of average tuition, fees, room, and board, at public four-year colleges and universities (College Board, 2019). Further, most students don't receive the maximum Pell Grant because they are enrolled part time (for example, mature students and students who work throughout their degree to help cover cost, who are also more likely to be low income), or because family income and assets reduce aid eligibility (even if their parents don't actually help pay for college, which is the case for many middle class students).

evidence suggests that the financial issues faced by students and emerging adults are complex, and thus interventions should not target a single stressor (such as student debt), but instead should address the broad spectrum of financial issues in individuals' lives (Choi et al, 2016). Emerging evidence supports the potential effectiveness of financial therapy interventions that integrate cognitive, emotional, behavioural, relational and economic factors to promote financial health (Archuleta, Burr, et al., 2015).

Financial interventions can only be useful if they reach those who need them, when they need them. Heckman et al (2014) found that while students with high student loan balances and who experienced financially stressful events were more likely to seek financial help, only a small minority of students took advantage of services available on campus. They also found that those who did seek help were most likely to do so earlier in their PSE trajectory. Outreach during the early years of college may be a key for increasing awareness of financial services that students can take advantage of throughout their degree. However, administrators and service providers should also target students near the end of their degree, when student loan balances are high and they face mounting financial responsibility as they transition to employment and loan repayment. Ultimately, given limited institutional budgets and scant evidence on the effectiveness of more therapeutic interventions, institutional investments in financial well-being may be more helpful if they prioritize direct financial aid and emergency lending.

Study 1 explored beyond between- and within-group differences in the association between student debt and SFWB. In Study 2, I examine trajectories of change within emerging adults over time. This is motivated by evidence of the dynamic relationship between changing financial resources and needs over the life course, and especially during emerging adulthood (Headey & Muffels, 2017; Lucas & Donnellan, 2007; Plagnol, 2011). Understanding this association during the emerging adult is important for informing the timing and targeting of interventions that address burdens associated with holding and repaying student debt.

Study 2 was published in *Emerging Adulthood*.[33] As the lead author, I cleaned, coded and analyzed the data, and wrote and revised the manuscript. As co-authors, Drs. David Rothwell, Joyce Serido and Soyeon Shim helped to improve the quality of the work by providing constructive feedback throughout the process. Emerging Adulthood's Re-Use Guidelines permit the use of contributions published in the journal for the author's dissertation.[34] Further, all study co-authors have provided written consent for use of the manuscript in this dissertation.

[33] Cherney, K., Rothwell, D., Serido, J., & Shim, S. (2020). Subjective Financial Well-Being During Emerging Adulthood: The Role of Student Debt. *Emerging Adulthood*, *8*(6), 485-495. https://doi-org.proxy3.library.mcgill.ca/10.1177/2167696819879252

[34] See Sage Re-Use Guidelines here: https://us.sagepub.com/en-us/nam/journal-author-archiving-policies-and-re-use

Chapter 3: Study 2 - Subjective Financial Well-being During Emerging Adulthood: The Role of Student Debt

Abstract

In this study, I examined (1) the effect of changes in outstanding student debt on trajectories of subjective financial well-being (SFWB) over time and (2) how these trajectories vary according to family socioeconomic and emerging adult financial factors. We used three waves of longitudinal data from the APLUS study and used growth curve models to analyze the data. Net of family socioeconomic and emerging adult financial factors, student debt was significantly and negatively associated with SFWB across the emerging adult period. Trajectories of SFWB varied slightly in relation to changes in student debt. Between-person differences in debt mattered more for trajectories of SFWB relative to within-person changes in debt over time. Family socioeconomic factors had a strong influence on changes in SFWB. These findings illustrate how student debt may suppress postsecondary education's impact as an inequality reducing mechanism. They also suggest the need for both individual and policy level intervention.

3.1 Introduction

The events that unfold as emerging adults complete postsecondary education (PSE) and transition to independence are part of the foundation on which later social inequalities are built. During this life stage, individuals assume increasing economic responsibility and rely less on institutional and family supports, because of need, preference or social pressures. Emerging adults' well-being is determined, in part, by the degree to which there is a match between the resources that they have access to and the challenges to which they are exposed (Wood et al., 2018). Financial debt plays a large role in this process. Debt may be a resource that smooths consumption, facilitates investment in human capital, and increases well-being (Modigliani, 1966; Rothstein & Rouse, 2011). Debt may also exert economic pressure that increases financial instability and stress, and diminishes well-being (Drentea, 2000; W Elliott & Nam, 2013). Further, the effects of debt may be offset or exacerbated by other aspects of individuals' background and concurrent life circumstances.

The goals of this study are to examine the relationship between changes in levels of outstanding student debt and trajectories of SFWB of emerging adults over time, and to examine variation in these trajectories according to family-of-origin socioeconomic and emerging adult

financial factors. SFWB is important because an individual's perception of their financial condition is likely to influence their decision-making around financial and other life-course milestones and their overall sense of well-being (Netemeyer et al., 2018). Student loans are often the first and most significant financial responsibilities that many emerging adults assume. Understanding changes in student debt over time is important because the impact of student debt varies relative to how much one holds, whether one is in the borrowing or repayment period, and other financial commitments in one's life. These findings can inform the timing and targeting of public policies and practice interventions that address burdens associated with holding and repaying student debt.

3.2 Literature Review

3.2.1 Student debt in the United States

In the US, holding student debt is a pervasive feature of emerging adults' financial lives. In the past three decades, there has been a significant increase in the overall number of student debtors, total outstanding student loans and average size of these loans. Four in ten individuals under the age of 30 have outstanding student loan debt (Baum et al., 2016). Total borrowing for PSE rose from $46.5 billion in 1997 to $106.5 billion in 2017, and the median debt of recent graduates more than doubled from $12,434 in 1993 to $26,885 in 2012 (Fry, 2014b). Default rates suggest that emerging adults struggle to manage their outstanding student debt. In 2018, more than 10% of borrowers were more than 90 days delinquent or in default (Federal Reserve Bank of New York, 2020). Comparable international data from household economic surveys suggests that median student debt amounts in the US ($20,000) are almost double that of Canada, the UK and Australia ($9,448, $10,846 and $10,217, respectively) (Luxembourg Wealth Study, 2019).[35]

3.2.2 Student debt and trajectories of subjective financial well-being

Subjective well-being captures individuals' cognitive and affective evaluations of their own life (Deiner, Lucas, & Oishi, 2002), and is important because it provides a universal measure of the quality of human experience (Layard, 2011). Subjective well-being is conceptualized as an amalgam of constructs spanning life domains (e.g., relationships, career,

[35] While there is increasing public concern in some countries about how student debt impacts young households (Calma-Brown, 2018; Inman, 2018), the specific impact of this debt may vary across contexts because of differences in borrowing and repayment policies.

and health) (van Praag, Frijters, & Ferrer-i-Carbonell, 2003). In this study, we focus on the financial domain. SFWB consists of an individual's perceptions and evaluations of their own financial condition (Sorgente & Lanz, 2017). SFWB is important to human development because of its positive association with overall subjective well-being, and with mental and physical health (Shim, Xiao, Barber, & Lyons, 2009; Tay, Batz, Parrigon, & Kuykendall, 2017).

Subjective well-being may be unstable during certain developmental periods, and instability may depend on personal and contextual circumstances (Headey & Muffels, 2017; Lucas & Donnellan, 2007). Brüggen et al. (2017) explain that SFWB is inherently dynamic because of its relationship to changing financial resources and needs over the life course. Plagnol (2011) found that declines in debt between one's mid-thirties and mid-seventies were associated with increased financial satisfaction over time.[36] However, how trajectories of SFWB unfold during emerging adulthood, and specifically in relation to changes in student debt, is not well understood.

There is limited research on the relationship between student debt and SFWB. In a review of related literature, Nissen, Hayward and McManus (2019) found that most studies identified deleterious effects of student debt on economic, physical and mental well-being. Walsemann et al. (2015) found that student loans were significantly associated with poorer psychological functioning among college students. Outstanding student debt was also associated with weaker financial health and lower net worth (W Elliott & Nam, 2013; Fry, 2014b), lower retirement savings (Elliott, Grinstein-Weiss & Nam, 2013), and lower likelihood of purchasing a home (D. Gicheva & Thompson, 2015).

The impact of student debt on emerging adult well-being may not be negative across the entire developmental period, or for all borrowers (Dwyer et al., 2013). Student debt may be perceived as a resource because it provides access to the social and economic premium associated with degree attainment in the United States (Carneiro et al., 2010), and, therefore, may positively impact SFWB in the long run. However, whether this positive impact is present during the emerging adult period while individuals are still holding or repaying their student debt is unclear.

[36] There is lack of clarity in the literature with regard to the SFWB construct (Brüggen et al., 2017). Financial satisfaction is often synonymous with – or considered a component of – subjective financial well-being (Shim et al., 2009).

3.2.3 Family Background and Concurrent Factors

The impact of student debt on SFWB is likely shaped, in part, by other aspects of emerging adults' lives, including, but not limited to, family of origin and personal financial resources. Studies show that emerging adults from socioeconomically disadvantaged backgrounds are more likely than their more advantaged counterparts to take on student debt and accrue excessively high levels of debt (Fry, 2014b; Houle, 2014b), to report feeling burdened by their student debt (Robb, 2017), and to experience its detrimental impact on psychological functioning (Walsemann et al., 2015). Further, declining household wealth across the income distribution as a result of the Great Recession of 2008 has made it increasingly difficult for many emerging adults to rely on family financial support (Fry, 2014b). Regarding personal financial resources in emerging adulthood, evidence suggests that low- and moderate-income earners with student debt are more likely to experience financial hardship than their counterparts without student debt (Despard et al., 2016). And, emerging adults who receive financial support from family and have relatively low debt-to-income ratios (as compared to other borrowers) have an easier time repaying, and thus coping with, their outstanding debt (Baum & Schwartz, 2006; Schoeni & Ross, 2005). Overall, taking on student debt is likely to generate, or at least exacerbate, inequalities between those with and without personal and family resources. To our knowledge, this study is the only one to examine disparities in the impact of student debt on emerging adult SFWB based on family socioeconomic and emerging adult financial factors.

Other non-economic individual-level factors – including race and mental health - may also shape the relationship between debt and SFWB. Black young adults are more likely than whites to hold debt and have higher debt (Houle & Addo, 2018), to worry about the affordability of student loan repayments (Ratcliffe & McKernan, 2013), and to default on their student loans after college (Huelsman, 2015). Further, as mentioned, previous research shows a clear negative association between student debt and mental health (Sweet et al., 2013b; Walsemann et al., 2015). While we include these factors in our analysis, our central focus is on how family socioeconomic and emerging adult financial factors shape the relationship between student debt and SFWB.

3.3 Study Purpose and Research Questions

Prior evidence suggests that student debt has negative impacts on well-being, that this impact may be more acute for borrowers from socioeconomically disadvantaged backgrounds (as

compared to their more advantaged counterparts), and that the relationship between student debt and well-being is likely to change over time and across people in relation to personal and contextual factors. However, little is known about how changes in student debt across the emerging adult years relate to changes in SFWB, or how this relationship varies according to background socioeconomic and concurrent financial circumstances. Our study aims to address these limitations by asking:

1. What is the effect of changes in outstanding student debt on trajectories of SFWB over time?
2. How do these trajectories vary according to family socioeconomic and emerging adult financial factors?

We hypothesize that there is a negative impact of student debt on the SFWB of young adults, and that the magnitude of this impact increases just prior to or during repayment. Further, we hypothesize that the impact of student debt on SFWB depends on the size of the debt and other financial and non-financial dimensions of emerging adults' lives.

Most studies on the relationship between debt and SFWB-related constructs use cross-sectional data, focus only on students while in college (Archuleta et al., 2013; Solis & Ferguson, 2017), or include samples that span a wide age range (Robb, 2017). In this paper, we examine the effect of changes in outstanding student debt on trajectories of SFWB over time. Examining trajectories - rather than point-in-time estimates - from entry to college through the early career period allows us to describe within-individual change in the relationship between debt and SFWB over time. Further, we examine how these trajectories vary according to family socioeconomic, emerging adult financial, and personal factors that the literature identifies as having an influence on student debt accumulation and impacts. Examining inter-individual differences in these trajectories illuminates how the impact of debt may be shaped both by intergenerational and concurrent socioeconomic and financial inequities. Together, findings on changes within emerging adults over time, and across subgroups of emerging adults, can help inform the timing and targeting of policy, programmatic and practice interventions that ease the burden of, and help emerging adults cope with, outstanding student debt.

3.4 Methods

3.4.1 Data and analytic sample

We used data from the APLUS study, a longitudinal survey of emerging adults who attended a large public university in the southwest United States. We used data from three

waves: when students were aged 18-21, 21-24, and 23-26. We limited our sample to respondents who had supplied complete data pertaining to student debt and SFWB (n=903) and restructured the data into a person-wave format[37] (2709 person-waves)[38]. At wave 1, all respondents were full-time, first-year students. At wave 2, the majority of respondents were still enrolled in an undergraduate degree program (n=881). At wave 3, the majority had graduated from their undergraduate program (n=812) and were either working full-time (n=479), part-time (n=208), or were self-employed (n=21), and/or in graduate school (n=147).[39]

We replaced missing values on covariates with the sample mean (for continuous variables) or zero (the reference category for categorical variables). We conducted bivariate tests to assess differences in the characteristics of our analytic sample and respondents excluded due to missing data. We found no significant differences in baseline SFWB or student debt, and only slight differences at other time points[40].

3.4.2 Measures

Subjective Financial Well-being (SFWB). We measured SFWB using three statements with responses ranging on a scale from 1 (strongly disagree) to 5 (strongly agree). The items were, "I am satisfied with my current financial status", "I have difficulty paying for things" and "I am constantly worried about money". In empirical analyses, we used the summed score of the three items, and reversed negatively worded items so that a higher summed score represented more positive SFWB. Previous research reported acceptable reliability with a coefficient alpha of 0.84 (Serido, Shim & Tang, 2013).

Student Debt. We used measures of outstanding undergraduate student debt at waves 1 and 2, and a combination of outstanding undergraduate and graduate student debt at wave 3. To remove outliers, we applied a 99th percentile top code to the reported debt amount and adjusted values for inflation across years (represented in 2016 dollars). In our empirical models, we used the natural log of debt which truncates values from a positively skewed distribution, pulling them

[37] In person-wave (or 'long') format, each row of the data set captures one time point per subject. In this case, each subject (person) has data in three rows. Variables that do not change across time have the same value in each row for the given subject.
[38] The sample size at wave 1 was n = 2098. Response rates at subsequent waves were 72% (wave 2), and 55% (wave 3).
[39] The survey did not ask directly about graduate school attendance. We considered holding outstanding graduate debt a proxy for being in graduate school (n=147). However, only respondents who indicated that they had planned to go to graduate school after completing their undergraduate degree were asked about their graduate debt. Graduate students who had not planned to attend graduate school after completing their undergraduate degree, who funded their education without debt, or who had already finished paying off their graduate debt may not have been counted.
[40] Please see Appendix A for additional detail on missing data.

closer to the mean and creating a normal distribution (Friedline et al., 2105). We added a value of one to the raw debt amount as it is not possible to take the log of zero.[41]

Family Socioeconomic Factors. Three variables were used to operationalize family socioeconomic factors: parental income, parental education, and childhood financial situation. Parental income was measured categorically: less than $50,000 [referent], $50,000-$99,000, $100,000-$200,000, and over $200,000. Parental education included high school or less [referent], some college, and bachelor's degree or more. The measure of childhood financial situation was derived from three questions that asked about participants' perception of their financial situation in childhood.[42] Negatively worded items were reversed so that a higher score represented a more positive perception of financial situation in childhood. In empirical analyses, we divided respondents into three quantiles to create low, medium and high positive perception of childhood financial situation.

Emerging Adult Financial Factors. We included measures of respondents' income and financial independence from parents at each wave. In waves 1 and 2, the survey asked about monthly income earned as a student. In wave 3, the survey asked about annual employment income. We first regrouped the student income categories into low (<$500) and high (>$500), and the employment income into low (<$25,000) and high (>$25,000). We then created a time-invariant variable by recoding into the following categories: always low, always high, and varies across waves. In the survey, financial independence was measured using the item: "I am financially independent from my parents (i.e., parents do not claim you on their tax return)". We created a time-invariant variable for financial independence by recoding into the following categories: financially dependent at all waves; financially independent at all waves; and, varies across waves.[43]

Personal Factors. We included measures of gender, race/ethnicity and depressed mood. Gender was comprised of male [referent] and female. Because of documented large racial inequities in student debt loads and impacts, especially for Black students (Houle & Addo, 2018), we included an indicator of race/ethnicity as white [referent], black, and other. Four items

[41] We also tested models using the Inverse Hyperbolic Sine – an alternative wealth transformation that adjusts for skewness and retains zero and negative values - and a categorical debt variable (0=no debt, 1=below wave median, and 2=above wave median), and found similar results.
[42] See Appendix A for full list of questions.
[43] See Appendix A for additional detail on these measures.

measuring depressed mood were included in the survey and measured at each wave.[44] We used the average of each person's score on the four items at each wave.

3.4.3 Analysis Strategy

A series of growth curve models (GCM) (Singer & Willett, 2003) were estimated to understand emerging adults' initial SFWB at wave 1 (intercepts) and changes in their SFWB over time (slopes) as a function of outstanding student debt, and personal, family socioeconomic, and emerging adult financial factors. The composite growth model took the following form:

$$SFWB_{ij} = [\gamma_{00} + \gamma_{10}TIME + \gamma_{20}DEBT_{i1} + \gamma_{30}COVS_{ij}] + [(\gamma_{40}DEBT_{ij} \text{ x } TIME_{ij}) + (\gamma_{50}COVS_{ij} \text{ x } TIME_{ij})] + [\zeta_{0i} + \zeta_{1i}TIME_{ij} + \varepsilon_{ij}].$$[45]

Groups of covariates were added sequentially in order to reveal changes in the coefficient for debt.[46] To better understand the role of debt, we parsed student debt into its between and within effects, creating a 'hybrid model' (Allison, 2009). The between-person coefficient represented the effect of overall mean debt for each participant, while the within-person coefficient represented the effect of the deviation from each person's mean debt. StataIC (version 15) was used for all analyses.

3.5 Results

3.5.1 Descriptive Results

Table 1 provides sample characteristics. The majority of respondents were women (64.89%) and white (67.55%). Mean depressed mood scores declined slightly across waves from 2.73 to 2.57. Most participants' parents were in the middle of the income distribution (a combined 67.44% were in the middle two categories) and had a bachelor's degree or more education (71.21%), yet the largest share of respondents identified their families as falling in the low financial situation category (41.42% were low, 31.78% were medium and 26.80 were high). Finally, most respondents' incomes were either consistently low (34.33%) or varied across time (60.91%), and most were either financially dependent at all waves (46.07%), or at least one wave (47.84%).

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[44] See Appendix A for the full list of items.

[45] The SFWB outcome for emerging adult *i* at wave *j* ($SFWB_{ij}$) was estimated as a function of SFWB at baseline (γ_{00}), time ($\gamma_{10}TIME$), debt at baseline ($\gamma_{20}DEBT_{ij}$) and over time ($\gamma_{40}DEBT_{ij}$ x $TIME_{ij}$), covariates at baseline ($\gamma_{30}COVS_{ij}$) and over time ($\gamma_{50}COVS_{ij}$ x $TIME_{ij}$), a random intercept term, and a random term for the effect of time.

[46] Model 1 served as the baseline and included only the uncontrolled interaction between time and SFWB. Model 2 added student debt intercept and slope terms. Model 3 added intercept and slope terms for personal factors. Model 4 added intercept and slope terms for family socioeconomic factors. Model 5 added intercept and slope terms for emerging adult financial factors.

Table 1

Sample Characteristics

Sample characteristic	% or M
Personal factors	
Gender	
Male	35.11
Female	64.89
Race/ethnicity	
White	67.55
Black	2.88
Other	29.57
Depressed mood[a]	
Wave 1	2.73
Wave 2	2.65
Wave 3	2.57
Family socioeconomic factors	
Parental income	
>$50,000	17.72
$50,000 - $99,000	33.33
$100,000 - $200,000	34.11
>$200,000	14.84
Parental education	
High school or less	11.54
Some college	17.05
Bachelor's degree or more	71.21
Childhood family financial situation	
Low	41.42
Medium	31.78
High	26.80
Emerging adulthood financial factors	
Emerging adult income	
Low	34.33
High	4.76
Varies over time	60.91
Financial independence	

Dependent	46.07
Independent	6.09
Varies over time	47.84

Note. [a] Mean shown for continuous variable.

Mean SFWB was higher overall and at each wave for non-debt holders as compared to debt holders (p<0.001; see Table 2).

Table 2
Mean SFWB Score per Wave and All Waves Pooled, Overall and by Debt Status

	Full sample		Student debt		No student debt	
	M	SD	M	SD	M	SD
SFWB						
Low	9.76	3.11	8.97	3.10	10.76***	2.83
Middle	9.24	2.98	9.39	2.86	10.32***	2.80
High	9.56	3.14	8.73	3.05	10.62***	2.93
All waves	9.52	3.08	8.70	3.01	10.56***	2.85

Note. Full sample: n=903.
With debt: Wave 1, n=229; Wave 2, n=354; Wave 3, n= 445.
No debt: Wave 1, n=674; Wave 2, n=549; Wave 3, n=458.
T-test compares mean SFWB by student debt status.
*p<.05, **p<0.01, ***p<0.001.

Mean outstanding student debt nearly quintupled from $7,268 in wave 1 to $34,128 in wave 3 (see Table 3).

Table 3
Mean Student Debt Levels per Wave and All Waves Pooled

	Wave 1		Wave 2		Wave 3		All waves	
	M	SD	M	SD	M	SD		
Student debt amount	$7,268	6,374	$17,656	15,810	$34,128	33,290	$22,471	26,314

Note. Wave 1: n=229; Wave 2: n=354; Wave 3: n= 445: All waves: n=506.
Includes only student debtors at each wave. 'All waves' includes all individuals who had student debt at least one wave.
Student debt displayed in 2016 dollars.

3.5.2 Growth Curve Model Results

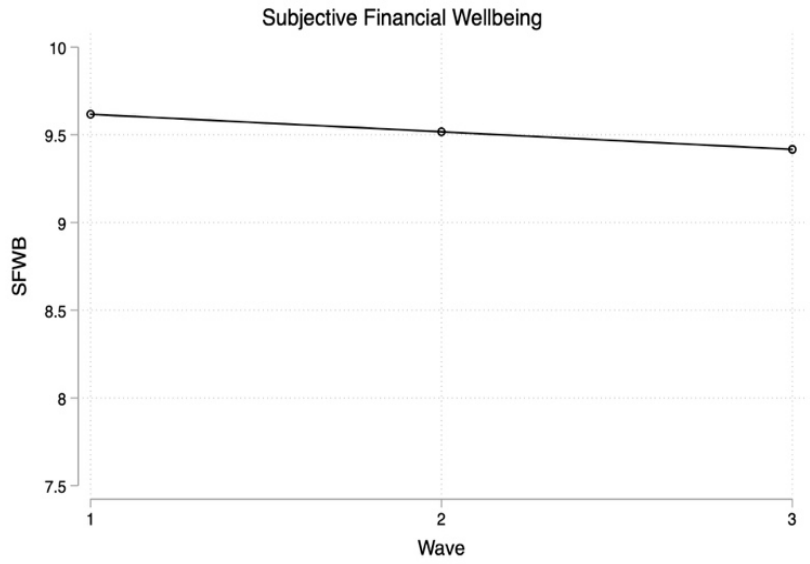
The mean uncontrolled SFWB trajectory over time was modestly negative *(b = -0.10*, p>0.05; see Model 1 of Table 4, and Figure 1).

Table 4

GCM Models Predicting the Effect of Student Debt on SFWB at Baseline (Intercept) and Over Time (Slope)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Intercept estimate										
Log student debt			-0.23***	0.02	-0.23***	0.021	0.18***	0.021	0.17***	0.021
Slope estimate										
Time	0.10	0.06	0.01	0.06	0.46*	0.08	1.19***	0.31	0.50	0.33
Log student debt x time			0.04**	0.01	0.05***	0.01	0.03*	0.01	0.03*	0.01
Constant	9.61	0.10	10.154	0.11	12.54	0.18	10.23	0.45	10.60	0.49
Model fit										
Pseudo R^2	0.07		11.41		21.30		26.34		27.43	
AIC	13263.53		13087.97		12883.19		12765.43		12736.98	
BIC	13298.95		13135.20		12977.66		12942.56		12961.34	
Model covariates										
Intercept covariates										
Personal factors	No		No		Yes		Yes		Yes	
Family socioeconomic factors	No		No		No		Yes		Yes	
Emerging adult financial factors	No		No		No		No		Yes	
Slope covariates										
Personal factors	No		No		Yes		Yes		Yes	
Family socioeconomic factors	No		No		No		Yes		Yes	
Emerging adult financial factors	No		No		No		No		Yes	

Figure 1
Mean uncontrolled SFWB trajectory across waves.

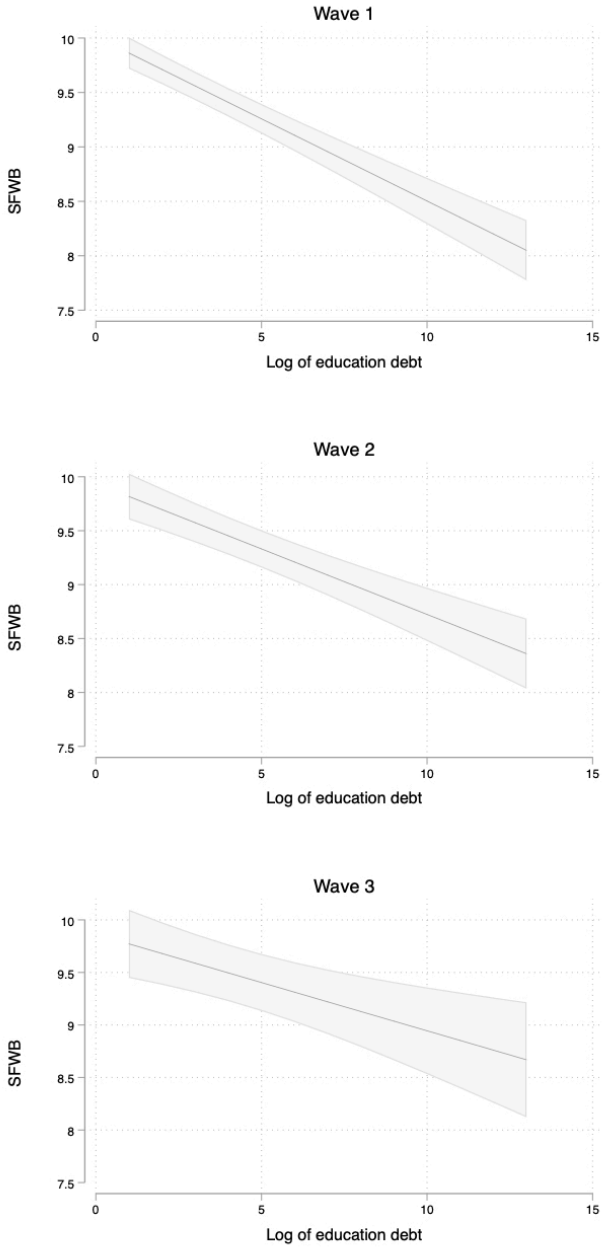


Note. Based on estimates from Table 4, Model 1.

Moving to adjusted models, a significant negative association between initial level of debt and initial SFWB was observed in Model 2 of the GCMs (b = -0.23, p<0.001; see Table 4), along with a positive association between changes in debt and changes in SFWB over time (b=0.04, p<0.01). Higher levels of debt were consistently associated with lower SFWB, regardless of change in debt from the previous period of observation (see Figure 2).

Figure 2

Predicted SFWB scores based on debt, controlling for other covariates, for each wave



Note. Based on estimates from Table 4, Model 5.
Shaded portions indicate 95% confidence intervals.

The addition of personal factors improved model fit but did little to alter the relationship between changes in debt and changes in SFWB (see minimal changes in coefficients between Model 2 and Model 3). A large reduction in the intercept coefficient for student debt was observed when family socioeconomic factors were added (Model 4). The slope coefficient for debt was only slightly statistically significant, indicating that family socioeconomic factors may account for much of the relationship between changing debt and changing SFWB. Model fit also improved considerably with the addition of these variables. Little change was observed when emerging adult financial factors were added (Model 5). In our hybrid model (see Table 5), we found that the between-person differences in average debt did more to explain SFWB trajectories than did the change in debt within-person over time.

Table 5

GCM Models Comparing Within- and Between-person Effect of Debt on SFWB

Effect	Model 4		Model 5		Model 6	
	b	SE	*b*	SE	*b*	SE
Log student debt (intercept)	-0.18***	0.02	-0.18***	0.02		
Log student debt (slope)	0.03*	0.01	0.03*	0.01		
Log student debt (between-person)					-0.21***	0.02
Log student debt (within-person)					-0.07***	0.02
Constant	10.23	0.45	10.59	0.48	10.90	0.48
Model fit						
Pseudo R^2	26.34		27.43		28.29	
AIC	12765.43		12736.98		12710.729	
BIC	12942.56		12961.34		12934.66	

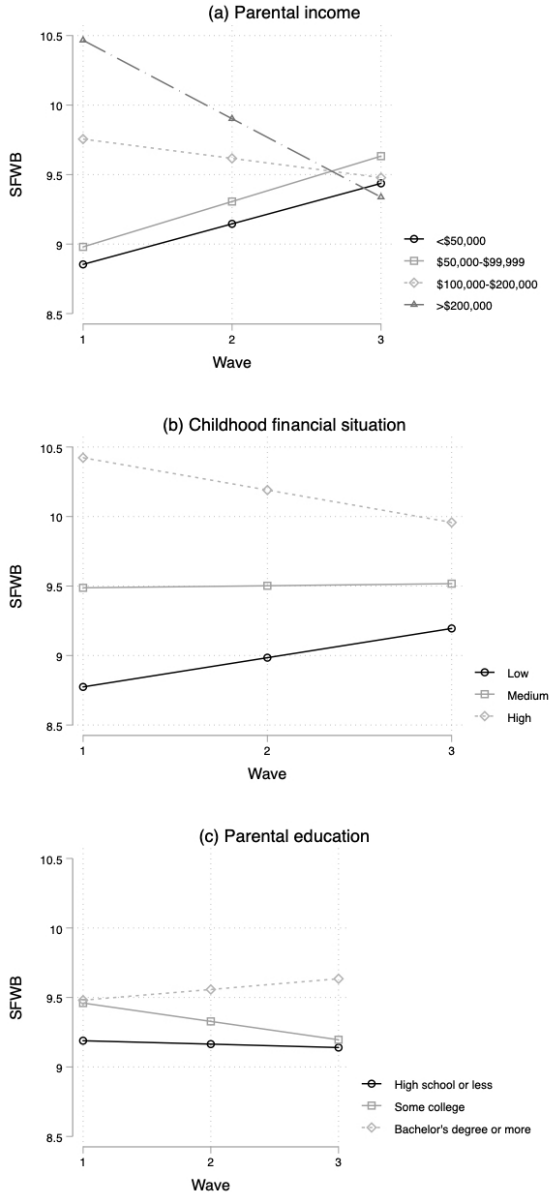
Note. Models 4 and 5 are equivalent to those in Table 4. Model 4 adds parental income, parental education and childhood financial situation. Model 5 adds emerging adult income and financial independence. Model 6 adds the cluster mean of student debt (i.e. average debt amount for each person), and the wave-specific deviations from the cluster mean.
*p<.05, **p<0.01, ***p<0.001

Figure 3 shows disaggregated family socioeconomic factors in order to reveal differences in trajectories across groups. Emerging adults from families with higher parental income had higher initial SFWB but experienced a steady decrease in SFWB across waves (see Fig. 3(a)). In contrast, those with lower parental income experienced a steady increase in SFWB across waves.

Figure 3(b) reflects similar findings with regard to differences across levels of childhood family financial situation. Figure 3(c) shows that emerging

Figure 3

Predicted mean SFWB trajectories over time by family socioeconomic factors



Note. Based on estimates from Table 4, Model 4.

adults with higher educated parents experienced a slight increase in SFWB across waves, and those of less educated parents experienced either a slight decline (some college) or no change (high school or less). However, the coefficients for parental education were not significant.

3.6 Discussion

By examining the relationship between changing debt and changing SFWB our study provides new insights into financial instability in emerging adulthood. The main finding of this study is that student debt had a consistent negative impact on SFWB, regardless of timing. Specifically, student debt was significantly and negatively associated with emerging adults' SFWB at first year of college, towards the end of college, and in the early years afterwards. This finding is consistent with the broader literature on the impacts of debt, generally, and student debt specifically, on mental health and financial satisfaction (Archuleta et al., 2013; Walsemann et al., 2015).

While our growth curve modeling revealed a modest positive association between changes in student debt and changes in SFWB, it seems family socioeconomic factors play an important role. Changes in how families of origin shapes later life SFWB is a key finding of this study. Specifically, disparities in SFWB according to parental income and childhood financial situation that exist during the first year of college trend toward convergence over time. This supports previous work that found a strong parental influence on emerging adults' financial behaviors and attitudes at entry into college, but that weakens over time as factors beyond the family take on more importance (Serido et al., 2015). For SFWB, it is plausible that, for emerging adults from more disadvantaged families, increased physical and temporal distance from family socioeconomic factors and building one's own personal financial resources might increase one's sense of financial well-being. The opposite mechanism may function for those from more advantaged families: socioeconomic status and personal resources are likely to decline as they distance themselves from their parents. Importantly, selection effects may explain this finding, as students from socioeconomically disadvantaged households who enroll and persist in college, compared to those who do not pursue higher education, may have unmeasured characteristics that contribute to higher SFWB (Walsemann et al., 2015).

The Great Recession was a unique macroeconomic phenomenon that likely impacted participants in powerful ways. Participants were first surveyed in 2008, just prior to the Great Recession, and then again in 2010 and 2013. The economic downturn limited future career options and earning potential of emerging adults (Bell et al., 2010), increased deliberation about whether a college degree was 'worth it' (Peralta, 2012) and heightened worry about the impacts of student debt for other aspects of emerging adults' financial lives (Stone et al., 2012).

Together, these factors likely had a unique and substantial effect within this study on individuals' objective financial circumstances and may contribute to the downwards trajectory of SFWB observed in some participants.

The persistent negative effect of student debt on emerging' adults SFWB implies that significant changes are needed at multiple levels. At the policy level, reforms that address the rising cost of tuition, expand access to low-interest subsidized loans, increase availability of non-repayable grants, and tighten regulation around loans limits are vital for structural change. At the individual level, increasing awareness of and access to alternative repayment plans (such as income-driven repayment) may help reduce stress for some borrowers. Further, policymakers, high school staff, and parents can help build knowledge and decision-making capacity among adolescents and emerging adults in the years before and during PSE.

Our study raises key areas for future research. Prolonging the timeframe of the current study would allow us to determine the extended trajectories of student debt and SFWB and might add variation in the impact of debt. This is important because default rates continue to grow a decade into repayment, indicating the borrowers continue to struggle with their debt long after leaving college (M Brown et al., 2015). Also, SFWB is important on its own and because of its relationship to other subjective and objective outcomes, both in emerging adulthood and throughout the life course. Further exploration of the underlying mechanisms linking debt and SFWB, and of the impact of SFWB on other aspects of emerging adult development, including career choice, home ownership, and family formation, is needed.

A limitation of our study is that the average decline in SFWB may indicate a period artifact rather than a reliable developmental pattern. Also, because study participants attended the same university, and were majority female and white, our findings should not be generalized to a wider population. Given evidence of racial disparities in both the use and impacts of student loans (Houle & Addo, 2018), additional research on this dimension is needed. Additionally, despite small rates of missingness, our imputation method may have resulted in slightly biased parameter estimates. Further, our measure of parental income was indirectly reported by participants, rather than by parents, which entails some measurement error.[47]

Overall, student debt is associated with lower SFWB across emerging adulthood in this sample. Practitioners working with emerging adults in the areas of financial and mental health

[47] See Appendix C for additional limitations of the of SFWB measure.

and PSE counselling must be aware of the impact of student debt on SFWB, that this impact may change over time and in relation to contextual factors in individuals' lives, and of the potential spillover effects onto other life domains. Further, there is a pressing need for the detrimental impacts of student debt on well-being to be addressed at various levels of state and federal higher education policymaking.

Study 2 helped to elucidate the relationship between changing student debt and changing SFWB within emerging adults over time and revealed the importance of family socioeconomic factors in shaping this relationship. This study used panel survey data from one postsecondary institution in the United States. Thus, while it revealed much about the financial well-being of emerging adults in that context, there remain questions about the student debt experiences of emerging adults in other places. In Study 3, I switched my focus to investigate the impact of student debt on the financial well-being of emerging adults in Canada, where empirical evidence on the subject is limited. The focus group data used in Study 3 were collected in collaboration with Dr. Jodi Leitkewicz, and she provided critical feedback throughout the analysis and writing process.

Chapter 4: Study 3 – "Once you have debt, it kind of becomes priority number one": The Impact of Student Debt on Emerging Adults in Canada

Abstract

In this study, I examined how student debt shaped the subjective financial well-being (SFWB) and life course transitions of emerging adults in Canada. The data were collected using focus groups. Participants were emerging adults who had attended a large public university in Canada, had graduated from their undergraduate program, and were repaying or had repaid their student debt. I found that while borrowers felt that taking on student debt allowed them to invest in themselves and develop financial management skills, it also caused significant financial and psychological stress. There was heterogeneity in the timing and severity of this stress. Also, during the repayment period, borrowers felt that their debt obligations constrained their financial freedom and life course transitions. Finally, family financial background – including both financial resources and processes of financial socialization – shaped participants' student debt use, experiences and perspectives. The findings illustrate that holding and repaying student debt presents significant challenges to the SFWB and life course transitions of emerging adults in Canada. The findings suggest the need for a large-scale study to determine the magnitude of student debt-related financial stress in Canada, and the mechanisms by which debt shapes emerging adult well-being in the financial domain and beyond.

4.1 Introduction

Obtaining postsecondary education (PSE) is important for economic growth and intergenerational mobility. In Canada, today, more emerging adults than ever attend PSE. In 2016-2017, nearly 1.2 million students were enrolled full time in universities, compared to just over 600,000 in 1992-1993 (Usher, 2019). At the same time, the cost of attendance continues to rise, and students borrow more to fund their education (McIvor, 2018). As a result, student debt has become a common feature of emerging adults' financial lives. Almost one third of households headed by an individual under the age of 35 hold student debt (Statistics Canada, 2018), and undergraduate borrowers hold an average debt load of $28,000 at graduation (Statistics Canada, 2017a).

In the context of stagnating wages, precarious employment, and the rising cost of housing, many borrowers in Canada struggle to manage and repay their student debt (Canadian Federation of Students, 2015; McIvor, 2018). Student debt not only shapes emerging adults'

financial profiles, but also how they feel, how they make decisions and what they believe is possible for their futures (Cherney et al., 2019; Dwyer, 2018; Rea et al., 2019). Importantly, emerging adults from disadvantaged socioeconomic backgrounds rely more heavily on debt and are more vulnerable to debt's negative consequences (McIvor, 2018).

This study investigates how student debt shapes SFWB and life course transitions using focus group data. Much of the research on this relationship is derived from survey data. While useful for informing broad understandings of the nature and magnitude of this relationship, these studies do not explore emerging adults' own perceptions of the ways in which holding and repaying student debt shapes their financial lives. Qualitative inquiry provides nuance and depth of understanding, highlighting the voices of those who are directly impacted by social phenomena. Also, despite media reports and anecdotal evidence of debt-related stress and anxiety (Aldasoro et al., 2018), there is little empirical evidence of the impact of student debt on the SFWB of emerging adults in Canada (Sorgente & Lanz, 2017). While evidence from other countries is a helpful starting point, the distinct economic, policy and social context in Canada is likely to shape the relationship between student debt and SFWB in unique ways. Furthermore, policy around PSE – and specifically, PSE funding - is continuously up for debate. Any arguments for slowing the growing reliance on student debt will have to take into account how debt impacts the students and families who use it, not just financially, but in terms of their mental health, achievement of important milestones, and overall well-being.

4.2 Conceptual framework

SFWB consists of an individual's emotional and cognitive experience of their own financial condition (Sorgente & Lanz, 2017). In the current study, I explore how student debt – a critical component of many emerging adults' financial lives – shapes how emerging adults understand and experience their own financial well-being and make decisions about their futures. I draw on Dwyer's concept of the 'dual quality of debt' to inform my conceptualization of the impact of student debt on SFWB. Debt may impact individuals in varying or even contradictory ways, depending on the type of debt and other life circumstances (Dwyer et al., 2012). Carrying debt may be an economic pressure that causes worry or stress about one's current and future financial condition. At the same time (or alternatively), debt may be a resource that mitigates barriers to consumption and allows for investment in human capital, thereby creating feelings of financial security and hope for one's financial future. There is some empirical evidence of both

the 'stressor' (Bridges & Disney, 2010; S. Brown, Taylor, & Price, 2005; Tay et al., 2017) and 'investment' (Archuleta et al., 2013; L. M. Berger et al., 2016; Dwyer et al., 2012) perspectives on student debt[48]. However, there is little understanding of how holding and repaying student debt impacts the way that emerging adults understand, perceive and experience their financial situation. Given the increasing ubiquity of student debt in emerging adults' financial lives, and the importance of emerging adults' sense of financial well-being for their overall subjective well-being, mental and physical health, and financial decision-making (Shim, Xiao, Barber, & Lyons, 2009; Tay, Batz, Parrigon, & Kuykendall, 2017), understanding the relationship between the two is vital for informing policy and practice responses.

To investigate change and heterogeneity in the relationship between student debt and SFWB, I draw on life course and social causation theories. I draw on the life course approach to understand the impact of student debt on emerging adult's life course transitions (Elder Jr., 1994). According to this approach, life course transitions are influenced by demographic characteristics and socioeconomic standing, but also by historical circumstances and broader social and macroeconomic conditions. The economic pressures that one faces, and one's responses to those pressures, influence both the success of transitions through a given period, as well as longer term outcomes (Elder Jr., 1994). Further, according to Salignac and colleagues' (2019) adaptation of the life course perspective to the study of financial well-being, the nature and extent to which features of an individual's personal financial situation and social and economic context influence their well-being change over time in relation to their circumstances. Emerging adulthood is a particularly challenging and tumultuous period of the life course. Evidence suggests that emerging adults today experience increasingly complex and difficult transitions through this period as a result of extended and more expensive educational trajectories and unstable labour market conditions (CHMC, 2019; Lewchuk, 2017; Statistics Canada, 2018). And student debt further complicates these transitions. Evidence suggests that student debt delays marriage, home buying and childbearing (Dora Gicheva, 2016; Houle & Berger, 2015; A. A. Mezza et al., 2014). The effect of student debt on life course transitions may operate through direct financial mechanisms; for example, holding student debt may make it more difficult to accumulate savings for a down payment or qualify for a mortgage (Mezza et al., 2020). Or this effect may operate through behavioural mechanisms; for example, aversion to

[48] See Paper 1 for full review of these bodies of evidence.

taking on more debt or making further financial commitments. While the relationship between objective financial conditions and life course transitions is well documented, we know little about how emerging adults perceive the impact of student debt on their decision-making and transitions, especially in Canada.

I draw on the social causation perspective to inform my understanding of how family financial background shapes the influence of student debt on SFWB. The social causation perspective posits that social conditions lead to variations in health and well-being (Conger et al., 2010). Families transfer advantages over the life course by providing direct financial support to their children. During the emerging adult period, this may include financial support for college, and income and wealth transfers that support the achievement of normative emerging adult milestones (Bea & Yi, 2019). Emerging adults with fewer family financial resources may be more vulnerable to the financial and psychological pressure associated with holding and repaying student debt. At the same time, explicit and implicit forms of financial socialization (i.e., communication, modeling, teaching) shape how emerging adults make decisions and feel about their financial situation (Lanz et al., 2019; Rea et al., 2019; Shim et al., 2015). Thus, families shape both the resources that emerging adults have access to and the way they see and experience the financial world, both of which are likely to influence how they feel about their debt and its impact on their financial well-being.

4.3 Literature Review

4.3.1 Student Debt Trends in Canada

Student debt has become a common feature of emerging adult life in Canada. The share of university graduates holding student debt at graduation rose from 41% in 1980 to 54% in 2017 (Statistics Canada, 2017a). In 2015, average undergraduate debt owed at graduation was $28,000, up from $20,500 in the year 2000 (Statistics Canada, 2017a). Also, borrowers hold significant debt loads in the years after graduating. Average debt amounts held three years post-graduation rose from $17,100 in 2000 to $24,000 in 2015 (adjusting for inflation) (Statistics Canada, 2017a). This means that holding, managing and repaying large student debt loads increasingly undergirds emerging adults' financial lives, and may shape financial decision-making and well-being for an extended period of time.

There is a significant segment of the population that is struggling to repay their debt. In 2015-2016, 9% of debtors defaulted on their loans within three years after graduation[49] (Employment and Social Development Canada, 2019). Default is a relatively conservative measure of debt burdens – the proportion of debtors struggling to manage and repay their debt while balancing other financial priorities is likely to be much higher (Dynan, 2019).

4.3.2 The Impact of Student Debt on Financial Outcomes and Life Course Transitions

Today, emerging adults' financial futures are more uncertain than they were for preceding generations. Life course trajectories – including education, career and family formation - are less linear and predictable than they were in the past (Tomaszczyk & Worth, 2018). This is due, in part, to rapidly changing macroeconomic circumstances, including rising costs of PSE, rising home prices in urban centres, stagnating wages, and declining permanent, full time employment opportunities (CHMC, 2019; Lewchuk, 2017; Statistics Canada, 2018). Holding and repaying student debt adds uncertainty to these already unstable trajectories.

Evidence suggests that among emerging adults, student debt increases both debt burdens and worry about debt, highlighting the economic and psychological advantage of financing PSE without incurring student debt, or incurring only small amounts of debt. A recent study found that higher student loan balances were associated with increased psychological distress (L. Zhang, 2013). Several studies from the US – including the findings of Study 2 in this dissertation – found that college students with debt had lower SFWB (Cherney et al., 2019; Gutter & Copur, 2011) and were more likely to report experiencing financial stress (Cilluffo, 2019; J. J. Heckman, 2000). In one small study at a university in Canada, researchers found that the large majority of students surveyed reported that student debt caused them mild to extreme stress (Ohio State University Office of Student Life, 2014). Further, these negative effects of debt on perceived financial well-being appear to persist during the post-college years (Henager & Wilmarth, 2018).

Student debt also appears to shape borrowers' labour market decisions and outcomes. Emerging adults today take longer than in the past to secure full-time, permanent employment, and typically experience many job changes along the way (Lyons et al., 2012). Among university graduates, holding student debt appears to exacerbate the challenges associated with labour market entry and limit borrowers' choices. McIvor (2018) found that graduates with high levels

[49] A loan is deemed in default when it is in arrears for greater than 270 days under the direct lending regime (Employment and Social Development Canada, 2019)

of debt were more likely to report that they could not wait for the job that they wanted or were actively looking for a different job. Highly indebted graduates were also more likely to take a first job that they knew was temporary, and to change jobs more frequently after graduating. This evidence suggests that student debt shapes borrowers' employment priorities, and forces borrowers to make suboptimal employment decisions in order to begin repaying their debt.

For socioeconomically disadvantaged borrowers, securing adequate employment appears to be a particular challenge. McIvor (2018) found that highly indebted first-generation graduates had fewer job benefits and lower estimated incomes both two and three years after graduation. Also, compared to all other graduates, highly indebted first-generation graduates reported lower job and life satisfaction. Socioeconomically advantaged borrowers have more access to the social capital required to secure good employment, and are better protected from financial risk and the stress associated with that risk (B. A. Mitchell et al., 2004; Sandberg-Thoma et al., 2015).

Student debt also appears to shape life course transitions, including the timing of homeownership, marriage and childbearing. Emerging adults live at home with parents longer than in the past in order to save money and pay down their debt (Moos, 2014). The share of emerging adults aged 20 to 34 living with their parents rose from 30.6% in 2001 to 34.7% in 2016 (Galarneau et al., 2013; Statistics Canada, 2017b). Among college graduates, student loan borrowers are less likely to own a home than their non-debtor counterparts (Luong, 2011). And as emerging adults stay at home longer, milestones such as forming one's own family are also delayed. Between 2001 and 2016, the share of all emerging adults aged 20 to 34 living with their own family (i.e., partner and/or kids) decreased from 49.1%, to 41.9% (Statistics Canada, 2017b). While evidence of the direct impact of holding and repaying student debt on life course transitions in Canada is scant, research from other contexts suggests real and perceived financial barriers due to debt burdens may make these traditional milestones feel either less relevant or less attainable (Bozick & Estacion, 2014; Dora Gicheva, 2016; Houle & Berger, 2015).

4.2.3 The Impact of Family Background on Student Debt Use and Outcomes

The use of student debt is inextricably tied to students' socioeconomic status and is exacerbating existing inequalities. The rising cost of PSE and stagnating household incomes for all but the highest earning Canadians has limited students' and families' capacity to finance PSE without relying on student debt (Berger et al., 2009). McIvor (2018) calculated that in 2010[50], the

[50] This is the last year for which this data is available.

cost of tuition comprised just under one quarter of average after-tax income for households in lowest income quintile, making it all but impossible for families to cover the cost of PSE. Conversely, tuition comprised just under 5% of after-tax income for households in the highest income quintile.

Students from lower socioeconomic backgrounds in Canada rely more heavily on student debt than their more advantaged counterparts, and are more likely to hold more outstanding debt at graduation (J. Berger et al., 2009; Lachance et al., 2006). Unfortunately, evidence on socioeconomic disparities in debt use in Canada is relatively outdated. A report from 2006 found that among dependent students (i.e., those whose parental income was factored into their Canada Student Loans Program needs assessment), parental income was positively associated with student debt use and average loan size (Kapsalis, 2006). Given that tuition increases continue to outpace income growth and inflation since the Great Recession (Shaker & Macdonald, 2015), we can assume consistency in this trend.

Greater cost burdens for students and families and rising student debt use are particularly problematic in the context of growing overall household debt (Cateau et al., 2015), rising income inequality (Heisz, 2016), and increasing financial precarity, especially for families at the lower end of the income and wealth distribution (Lewchuk et al., 2015). The average household debt to after-tax income ratio in Canada rose from 86% in 1980 to just under 180% in 2018 (McIvor, 2018). This overleveraging is even more pronounced in large urban centers, among low-income families, and among younger households. In Toronto, the debt-to-income ratio doubled from just over 100% in 1999 to over 200% in 2016 (this is the third largest ratio in Canada). Among families in the lowest income quintile, the ratio was over 420% of debt relative to disposable income – more than twice the national average (Gellatly & Richards, 2019). And across Canada, the incidence of highly indebted households (i.e., with a debt-to-income ratio of more than 250%) was highest amongst those 35 years of age and under (Cateau et al., 2015). Households that must allot a significant portion of their income to debt servicing are particularly vulnerable to income and interest rate shocks, and are more likely to default on their debt payments (Office of the Parliamentary Budget Officer, 2017).

Families are not prepared to weather unforeseen expenses. In Canada, just over 8.4% of households have less than $500 in wealth. Among families in the lowest and second lowest income quintiles, this proportion jumps to 19% and 12%, respectively (Gellatly & Richards,

2019). And among families with children, rates of asset poverty are much higher than rates of income poverty (Blumenthal & Rothwell, 2018). Rising inequality and economic precarity among disadvantaged households make it increasingly difficult for many families to finance even part of their children's PSE or act as a safety should emerging adults face financial difficulties.

The impact of student debt on emerging adults' SFWB is therefore likely to be shaped by their families' financial resources and experiences of their families. The greater reliance on debt by socioeconomically disadvantaged students is not inherently problematic – student loans are designed to fill the gap between the cost of participation and financial resources available to students. However, disadvantaged students are not only more likely to use debt but may also be more sensitive to the impact of student debt holding and repayment on life outcomes and well-being. Notably, research suggests that economic insecurity, which is disproportionately experienced by emerging adults from socioeconomically disadvantaged backgrounds, influences the ease with which emerging adults' make long-term life plans (Anderson et al., 2005). Together, this suggests that emerging adults from across the socioeconomic spectrum are likely to experience their debt in very different ways, and that disadvantaged students may be more likely to perceive their debt as a threat to their short and long-term financial well-being. This inequality highlights the need to consider the impact of family financial resources when exploring the effects of student debt on financial well-being in Canada.

4.4 Study Purpose and Research Questions

The purpose of this study is to examine how student debt shapes both the SFWB and life course transitions of emerging adults. While survey data have been useful for identifying this relationship and assessing its magnitude (see Study 1), the mechanisms through which student debt impacts the lives of borrowers are less clear. This study draws on the voices and perspectives of emerging adults who have held and are repaying student debt. Further, this study examines the Canadian context, which has received little attention in the research literature, even though Canada is facing a mounting student debt crisis (Canadian Federation of Students, 2015; McIvor, 2018).

I posed two guiding questions in this study:

- How do emerging adults understand the impact of student debt on their financial well-being and life course transitions?

- How does socioeconomic background influence emerging adults' experiences with student debt, and its impact on their financial well-being?

4.5 Methods

4.5.1 The Toronto Context

The data for the present study are drawn from two focus groups with 19 college-educated emerging adults between the ages of 25 and 35 in Toronto. The convergence of the rising of cost of PSE, high rates of borrowing and high cost of living in Toronto make this a particularly challenging context for emerging adults to graduate into. In an earlier study conducted at a large public university in Toronto, the majority of participants reported that they experienced financial stress and were worried about their student debt (OSUOSL, 2014).

There is wide provincial variation in the cost of PSE and, in turn, levels of student borrowing across Canada (Usher, 2018). The cost of PSE in Ontario is among the highest in Canada, thus student debt use is more common and debt loads are higher. In 2018-2019, average annual tuition fees in Ontario were $9,729, which was more than 20% higher than the national average (Usher, 2018). And in 2015, 60% of undergraduates in Ontario held student debt at graduation, as compared to 54% in the rest of Canada. The average amount owed at graduation was $30,000 in Ontario, compared to $28,000 in the rest of Canada.

The macroeconomic conditions into which students graduate also differ across provinces, thereby shaping students' ability to secure sufficient income and employment after graduation, the share of income they are required to dedicate to housing and living expenses, and, in turn, the speed and ease with this they can repay their debt.

Toronto is the largest city in Canada with a socio-economically, racially and ethnically diverse population. Macroeconomic conditions in Toronto reflect many of the most striking trends of the late 20th and early 21st century, including growing income and wealth inequality, increasingly unstable employment, and the rising cost of housing (Dinca-Panaitescu & Walks, 2015). While a greater share of graduates in Ontario had paid off their debt three-years post-graduation (38% in Ontario versus 34% in Canada) (Statistics Canada, 2017a), borrowers in Ontario were amongst the most likely to use the CSLP's Repayment Assistance Program (RAP) and to default on their student loans (Employment and Social Development Canada, 2019). These conflicting statistics may reflect the stark degree of income and wealth inequality in Ontario, and in Toronto (Dinca-Panaitescu & Walks, 2015). While graduates in Ontario have

relatively high employments rates and median incomes post-graduation (Weingarten et al., 2015), averages may mask the vulnerability of borrowers with fewer resources on which to draw, less access to employment opportunities, and lower incomes.

4.5.2 Recruitment

We recruited postsecondary alumni in order to explore participants' experiences with, and evolution of, thinking around student debt while in school and as they transitioned into the repayment period. Recruitment took place during September and October 2019 and occurred in two stages. In stage 1, we disseminated an online survey[51] (using LimeSurvey) to inform individuals about the study and collect contact information of those interested in participating. The survey was disseminated via social media, researchers' personal and professional networks, and a university alumnus mailing list[52].

We sought participants between the ages of 22 to 35 in order to learn about a breadth of experience during the post-college period. The survey included questions regarding individuals' age, region of residence, highest level of education obtained, current living arrangement, home ownership, whether they ever used student loans, and current debt status (student, credit card, mortgage, auto/car and other debts). This information was used to select a somewhat homogenous group of students with respect to age and debt use. A certain degree of homogeneity on topics central to the research topic is considered important for generating discussion (Grønkjær et al., 2011). We followed up with those who had provided complete information on the initial survey. In total, 96 respondents provided complete responses to the initial survey, and 18 provided incomplete responses.

In stage 2, we followed up with respondents of the first survey who had ever had student debt (n=25). We assigned respondents to a focus group based on their availability and willingness to participate. In order to keep group sizes small to promote discussion, we randomly assigned participants to one of the two focus groups for those who were available on both dates. In total, 19 respondents confirmed availability with 8 participating in the first focus group, and 11 participating in the second focus group.

[51] See Appendix D for online survey questions.
[52] See Appendix D for recruitment poster.

4.5.3 Procedure

Both focus groups took place in October 2019. The purpose of using focus groups was to gather 'focused' data on a specific concrete situation or experience from the perspectives of multiple people. Focus groups allow for in-depth discussion of shared experiences that elicits contrasting views and ideas (Stewart et al., 2007). The focus groups were moderated by two researchers, each with clinical and interview skills and extensive knowledge of the substantive topic of the research. Participation in the focus groups was entirely voluntary. The participants were asked to read and sign a consent form[53] and were requested to maintain the confidentiality of other participants. Both focus groups lasted approximately 1.5 hours and were audio-recorded. The researchers ended the focus groups by thanking participants, reminding them of confidentiality, and compensating them with a small stipend and reimbursement for travel costs. The study received approval from the Institutional Review Boards of both York University (Certificate # e2019-206) and McGill University (File #101-0719)[54].

A preliminary moderator guide[55] was developed based on the overarching goals of the research project. The questions were structured around the two main research questions. Within each topical area, we ordered questions from more general to more specific, starting with broad definitional questions (e.g., 'how do you define 'financial well-being'), to more focused questions around experiences and perspectives (e.g.. how they felt that holding debt impacted their financial well-being). Within each question group, we included probes to stimulate discussion. After the first focus group, the researchers met to discuss the order and phrasing of the questions. Following principles set out by Stewart et al. (2007), some small changes were made to simplify wording, prioritize discussion of important themes and ensure clarity around our working definitions of key concepts. For example, in the first focus group, the researchers asked participants to broadly describe how they understood debt growing up, and whether their families' discussion around debt influenced their perspective on debt. While participant responses were interesting, these questions did not elicit explicit discussion of perspective on socioeconomic disparities in experiences with debt. In the second focus group, we expanded on the initial questions to ask more directly about how one's family financial situation influenced

[53] See Appendix E for Informed Consent Form.
[54] See Appendix E for IRB documentation.
[55] See Appendix E for moderator guides.

their need to take on student debt, and whether they felt that their family financial situation influenced their experience with debt.

Upon completion of the focus groups, audio recordings were transcribed by an external transcription service. I then uploaded the transcriptions into NVivo12 software, which was used for analysis.

4.5.4 Analysis strategy

In qualitative inquiry, the purpose of data analysis is to use the words of participants to infer broader connections between concepts. Drawing loosely from the approach set out by Crabtree and Miller (1999), I conducted close and repeated readings of the transcripts to gain familiarity with the data and to identify the presence of text that reflected key concepts. Based on these readings, I created a list of emergent codes (Padgett, 2016). Through this process, patterns were identified and recorded, and comparisons and contrasts were made across participants and ideas. After the initial, independent coding stage, I validated themes with co-researcher, who is an expert in the field. I then reviewed and refined the codes, and identified major and sub themes and important quotes. A final review and refinement of themes and relevant quotes led to the findings described below.

4.6 Results

4.6.1 Sample Description

The average age of participants was 29 years (see Table 1). The majority reported that they were Asian Canadian (58%), while others reported that they were Caucasian (11%), Black (16%) or other (16%). The majority had obtained a college or university degree (n=15) and lived in the Greater Toronto Area (n=14). The majority of respondents lived with a partner (n=7) or with parents/family of origin (n=7), while a small number lived with roommates (n=4) or alone (n=1). Respondents owned their own homes (n=6), rented (n=8) or lived with family or friends at no cost (n=5). In terms of current outstanding debts, more than half held some outstanding student debt (n=11), while fewer than half held credit debt (n=9), car/auto debt (n=5), mortgage debt (n=6), and other debts, including a personal line of credit or “bank loan” (n=2).

Table 1

Sample characteristics for full sample (n=19)

Sample characteristic	Frequency	%
Age	29	
Race/ethnicity		
Asian Canadian	11	58
Caucasian	2	11
Black	3	16
Other	3	16
Highest educational level		
Some college/university	1	5
College/university degree	15	80
Graduate degree	3	15
Region		
Greater Toronto Area	14	74
Downtown Toronto	5	26
Current living arrangement		
With partner	7	37
With parents/family of origin	7	37
With roommates	4	21
Alone	1	5
Home ownership		
Own home	6	32
Rent	8	42
Live with family/friends at cost	5	26
Currently have outstanding[b]:		
Student debt	11	58
Credit card debt	9	48
Car/auto debt	5	26
Mortgage debt	6	31
Other debt	2	10

Note. [a] Mean age.
[b] Number/reporting that they current had given outstanding debt type.

4.6.2 Themes

Several overarching themes emerged in this study. Some borrowers perceived positive impacts of student debt holding and repayment on their financial well-being and financial management skills. At the same time, student debt caused significant financial and psychological stress, although the timing and severity of this stress varied across borrowers. Further, financial experience was not enough to buffer against debt-related stress, and for some borrowers, a full understanding of the implications of increased stress and deterred further borrowing. In addition,

during the student repayment period, borrowers felt that their debt obligations constrained their financial freedom and life course transitions. Finally, family financial background, including both financial resources and processes of financial socialization, shaped participants' student debt use, experiences and perspectives.

4.6.3 Some Borrowers Perceived Positive Impacts of Student Debt on Financial Well-being and Financial Management Skills

Some participants explained that they thought of their debt as helpful for their current and future financial well-being. They viewed their debt as a tool for investing in their own human capital, providing access to better employment opportunities and higher earnings. Further, holding and repaying debt helped them learn how to manage their money and build financial confidence. Using debt management skills helped some participants reduce their debt-related stress.

Student debt as an investment. With regard to viewing debt as an investment, Donald[56] said:

> The first thing that came to my mind is investment. I think you're investing in yourself. When it's a student loan it means you're investing. It's your education, furthering your career, furthering your income. You could make the same argument about houses and mortgage loans. But I think specifically investing in yourself is just a sure-fire investment that will just continue to pay dividends in the long run.

Similarly, Wesley made the direct connection between taking on debt to access an earnings premium. He said:

> I was fortunate just because I felt like the debt - to a certain extent - helped finance the next part of my career. It put me in a position to have higher income which was able to pay off my debt.

Some participants discussed the non-pecuniary returns to their investment in PSE. In addition to the purely financial returns, Wesley saw his education – and, by extension, his student debt – as vital to his personal growth and development:

> There's intrinsic value you can get from [student debt] and I think that's all factored into it (…) You're not going to make money on the debt that you take on […] It is going to put

[56] All participants were given pseudonyms.

you in a position to further your cognitive abilities, your ability to develop professionally as well as personally.

Student debt as a motivator. Darren explained that despite the negative impact it had on his social relationships, the pressure associated with taking on student debt motivated him to work hard and remain focused on his studies.

> I knew that this was costing me money and I was going to go into debt because of it. That set it up as a motivator. 'I'm here. I'm paying for this. I'm taking a loan for this. This is a priority for me'. And I'm typically a person who does really well under stress. The problem with me is if I don't have stress then things don't have priorities in my life. I didn't have to take out a huge loan, but it was always on the back of my mind that there was money that I was owing. And because of that, I tried really hard in everything that was associated to that. And that may have also cost me things like friendships and social interactions with people. That came second priority. But [my debt] was a main priority and I attribute that to why I did so well in school.

Student debt as a way to learn about money management. Some participants felt that the student debt application, management and repayment processes helped them learn how to manage their financial lives. They reflected on how taking on debt helped them learn to be financially responsible and to save. For example, Amanda explained: "Debt taught me how to be much more disciplined and how to save. Having debt just encouraged me to save so much more, so that when I don't have debt, I don't even know what I'll do with my money".

Some employed explicit debt-management strategies to minimize their debt loads, and, in turn, alleviate or reduce debt-related stress. These included working and budgeting carefully while in school. Manush explained*:*

> I worked part-time and then full-time during my studies to help manage that debt. That was something that was always top of mind. I wanted to pay that off as quickly as possible before or just after I graduated. I managed my course loads accordingly so that I wouldn't go too deep into debt that I couldn't recover from it.

Similarly, Nadereh explained:

> It was a priority for me not to graduate with debt. Luckily the program I was in had classes all year long so I was able to work through school and pay my expenses that way. I also got some loans but the day I graduated, I just paid off the whole lump sum balance.

For some participants, the skills they developed through managing their debt created feelings of pride and accomplishment. For example, Nadereh said: “It is a source of pride for me that I was able to fund myself and pay off my debts and take care of my other responsibilities as well.”

4.6.4 Student Debt Caused Significant Financial and Psychological Stress

Although a minority of emerging adults conceived of student debt as an investment that helped them build financial well-being and learn financial management skills, many also experienced serious debt-related stress and worried about the impact of debt holding and repayment on their current and future well-being. Further, there was normative progression of debt-related stress: its timing and severity varied across people.

For some, debt stress emerged while in school. For some participants, debt caused stress all throughout their education, and influenced the degree to which they could focus on coursework, engage socially, and feel 'well' while in school. Wesley reflected on intense emotional and psychological distress associated with debt during his studies:

> I remember it was a gut-wrenching feeling. Every day you wake up, you're thinking about it. First thing when I'd wake up, I'd be thinking about it. I'd be going to sleep, I'd be thinking about it. I'd be like ‘How can I get rid of this debt? I know it's not going to happen till I'm done school. I need to get a job. I need to line this up’. And I remember that period - I think it was like 15 months - it was one of the most difficult periods of my life, when I actually think back on it now.

While not everyone shared so openly, many participants said that they could relate to this profound experience of debt-related stress while they were in school.

For some, debt stress emerged during the repayment period. Other participants explained that feelings of stress and worry around their debt only started to set in as they entered the repayment period. Lack of information about their debt and cognitive distance from the prospect of repayment buffered them from stress while they were still in school, but these feelings set in later on in the debt cycle. For example, for Timothy, when he was first starting university, the availability and ease with which a student loan could be acquired made borrowing feel like a “no brainer”:

> I think when you're 18 - I know for myself and people that I knew at the time – debt, what school you want to go to, which program … it was pretty easy. Everyone didn't

think about the ramifications of taking on debt. So that's how it was at the time. It wasn't a factor at all.

Over time, the burden of being ultimately responsible for repaying that debt became increasingly clear. Marrion described how her perceptions of and feelings around student debt changed when she entered the repayment period:

> When I first applied for my student loan, I don't think I was concerned at all. I thought 'okay, it's going to get me through school, I'm going to graduate, I'm going to pay it off'. I didn't really have a worry at that point. I really only started focusing on it and worrying about it when I started paying. I graduated, and I had the six month grace period. As soon as I started paying - that's when my anxiety got a lot worse.

Another participant explained: "Later on, you become aware. If you've taken on OSAP[57] and you have no one else to pay but yourself, you have to work for it. Then it kind of puts things in perspective later on in life."

4.6.5 Experience Does Not Buffer Against Debt-related Stress

Our findings revealed a complex relationship between level of education, experience with debt and debt-related stress. The findings above suggest that a lack of information and foresight functioned to protect some borrowers from debt-related stress while they were in school. In contrast, participants who had returned to school to pursue advanced degrees explained that they had a better understanding of the financial risks and benefits associated with borrowing based on prior experience. However, they felt extreme debt-related stress while pursuing those degrees. For others, aversion to taking on more debt. developed in part through previous negative experiences with debt, was a deterrent to going back to school at all.

Rational and informed decision-making did not reduce debt-related stress. Wesley employed a highly rational decision-making process to ultimately arrive at his decision to pursue an MBA in his mid-twenties.

> I was acutely aware of the risks and benefits associated with taking on a large debt load. When I was making the decision for my MBA the price tag was just enormous. It was close to $90,000 when you take into consideration all the expenses associated with it. But

[57] Ontario Student Assistance Program (OSAP). OSAP is funded through a mixture of federal (Canada Student Loans Program) and provincial dollars. OSAP offers funding for college or university through non-repayable grants and student loans. Applicants are automatically considered for both funding sources, and the proportion of non-repayable and repayable funding depends on personal financial situation (personal and family income, family size, dependents, etc.). Recipients can decide whether or not to accept the funding type offered to them. The OSAP also offers repayment assistance programs.

> I did a lot of research in terms of identifying what would be the ROI [return on investment], what companies come recruiting on campus, what the chances of me being hired were, how many people from this institution would end up at specific organizations. So I kind of mapped all this out and then I made a decision: 'Okay, I'm going to do this at this specific time, I'm going to take on this debt, and then I'm going to see if I can pay it back within a specific period of time based on these assumptions that I've made'.

At the same time, Wesley experienced intense emotional distress while in the program. He explained that his focus on securing future employment in order to pay his debt off quickly took away from his capacity to enjoy and fully benefit from his educational experience:

> I was like 1,000% consumed and hyper focused on getting a job**,** more so than the education part of it. I was so concerned about the debt and having to pay it back and doing it at such an aggressive pace that I kind of neglected the education aspect of being in school. Because I'm like, 'listen I'd love to learn. I'd love to sit here and go through every lecture'. But at the same time I'm thinking to myself, 'this person standing at the front of the room doesn't know that I have like 70-80K that I have to pay off, and if I don't pay this off, I'm not in a position to help my family, help people that are close to me.' What am I going to do, right? And there was so much stress in thinking 'how am I going to pay for it?' that it was kind of taking away from giving me that energy to actually study, to actually be productive."

Debt aversion deterred investment in further education. For some participants, a clearer understanding of the financial implications of taking on a large debt load – and the stress associated with that debt load – was enough to deter them from returning to graduate school entirely. For Marrion, the stress associated with holding debt outweighed the potential returns on investment in a graduate degree. She explained:

> I think to myself 'I want to go back to school because I want to invest in myself, and I want to grow, and I want to develop'. But I don't want to have to apply for OSAP again. It's such an investment. And I think going to university and getting a degree really boosts morale and well-being and your confidence. But having that weight on my shoulders has pushed me away from doing it again.

4.6.6 Student Debt Repayment Impacted Financial Choice

During the repayment period, prioritizing debt payments made some participants feel financially constrained, both in their day-to-day spending and with regard to making larger purchases or investments. These constraints caused emotional and financial stress, and made borrowers feel that they lacked financial freedom. For some, feelings of constraint and stress faded over time as their outstanding debt load lessened.

Repaying student debt constrained financial freedom. Several participants explained that prioritizing their student debt payments prevented them from spending money on experiences that they valued, such as time with friends or traveling. Wareesha said:

> My friend that I live with owns the house [that we live in]. She doesn't have to pay the rent. She has much lower expenses than I do and I pay big, big rent. She's very socializing - she goes out all the time and she always asks me to join her. But she knows that I cannot, that I'm in debt, I have to pay it off. So she doesn't force me. For me - the debt that I currently hold right now -it's holding me back from making some short-term decisions. For example, travelling.

Timothy described the challenge of trying to balance his desire to both repay his debt and enjoy life:

> It's a burden on your mind. It definitely affects your decision-making. If you're going on a trip or something like that. 'Is this going to increase my debt?' A lot of people these days say 'you should spend money on experience'. But it does cost money to have these experiences. So it does affect your decision-making and whether or not you should do it. There's always an internal dialogue in your mind."

Wareesha's statement appeared to capture a common feeling around the insufficiency of participants' incomes in the face of debt repayment. She explained: "It's a bit of a burden because I'm always restrained on my spending. No matter how well I'm earning I feel always restrained,". It appeared that for many participants, the psychological weight of carrying student debt was heavy, regardless of their actual debt-to-income ratio.

Financial constraint caused feelings of stress and guilt. Nadine described the feedback loop between feelings of financial constraint and emotional stress that she experienced while repaying her student debt.

> It's like 'am I going to have ramen every day? Am I going to only buy discounted fruit and vegetables at the grocery store because that's the cheapest that you can get?' And it does sort of prevent you from living in a lot of ways. And the stress is not good for your health. So then you feel worse. My go-to is always junk food - it also makes me feel worse afterwards. It's sort of like a domino effect. With the debt comes all the stress of living and trying to have a good life on these reduced funds - because money pretty much buys you happiness in some ways. Then it sort of doubles the stress and it just continues on.

Others described feelings of guilt and stress when they decided to spend money on things they valued, in place of, or in addition to, making debt payments. For example, Hanako said:

> I think there's a lot of guilt when you have debt. Once in a while you splurge on something and then your inner monologue is like 'what business do I have spending this money that I don't have when I'm carrying debt?'. Then you keep the receipt with the thing. It's like 'okay, I still have two days if I want to return it'.

Over time, repaying debt may build a sense of confidence and financial freedom. For some borrowers, feelings of stress associated with debt repayment faded over time as they successfully paid down their debt. In turn, a new sense of well-being emerged. For Marrion, the impact on her self-confidence was evident. She said: "Eight years after and it's like 'oh my God, I've accomplished this huge amount of money!' I lived at home for a long time. But just seeing that number dwindle is the best feeling." She added "I'm so much more confident. My well-being is completely turned in a positive way compared to how I felt when I first started."

Some participants had successfully paid of their debts, and anticipated feelings of financial freedom had materialized. For example, Michael described how his financial priorities shifted after paying off his loans - he went from managing debt payments to having the freedom to spend and make investments. For him, being free from debt opened up opportunities for financial growth and well-being:

> I had to almost withhold my lifestyle while I focused the majority of my first paycheques towards just paying off my debt as fast as I could. So, within a few years, I'm already out of [debt]. And then I could finally invest and just start spending [money] on other things outside of debt.

4.6.7 Debt Shaped Life Course Transitions

During the repayment period, student debt shaped participants' perceptions of their transition to 'adulthood'. Worrying about their student debt and prioritizing repayment made borrowers feel that they were not financially secure enough to take risks in their careers, buy homes, get married or have children.

Student debt inhibited adult identity development. Some participants described feeling that holding student debt saddled them to their 'student identity' and made it difficult to move into the next stage of adulthood. Michael said:

> I almost felt choked and burdened by the debt in the sense that I'd already finished school, but I still feel like I haven't really left school until I've completely paid off my debt. And I think it wasn't until I finally paid it off a few years ago that I finally felt free to enter adult life and be professional.

Student debt shaped career decisions. For many respondents, holding and repaying student debt shaped their career decisions. Wesley explained that being able to pay down his student debt was the only factor he considered in his job search:

> I remember there probably were start-ups. Things like that that there were interested in having me. And I was interested too - sounded like really cool concepts. But the moment you find out what the compensation package was, I'm like 'that's out of the question, I can't pay my debt off with this'. The debt influenced my decision-making going forward. Every decision that I made I scrutinized. I said, 'okay, is this going to help me pay this off? Is this going to put me in that position?' That was the only factor.

Others stayed in jobs that were not fulfilling or resisted taking career risks because they were concerned about the impact this could have on repayment. Career satisfaction and development were sidelined in favour of debt repayment. Hanako explained:

> At my work we have a very good pension plan. I possibly would be looking for a different job that's a little bit more fulfilling, but the pension plan at my company is pretty much unheard of. So that kind of debt aversion - I'm really comfortable here and I don't want to make a mistake by taking a chance.

Noor described how his desire to repay his debt led him to downplay the importance of job satisfaction. He said:

> You're not thinking 'is boss is going to be okay?' or 'is this a job I'm going to enjoy?' (…) You're just thinking 'I don't mind. I don't care if I'm working 12 hours a day. I want to do this because it's going to pay me well and it's going to end me up being debt-free'.

In contrast, other respondents reported that despite the importance they placed on paying off their student debt, they felt that prioritizing career satisfaction was more important for their well-being. Timothy explained that while financial considerations were important to him, his desire to enjoy what he did every day felt more important for his mental health:

> I've actually turned down jobs that pay a lot more money because, as I get older, it's just not about the money. It's like 'okay, I want to pay off my debt. I want to make a lot of money. But I know - especially if you know what you're going to be doing on that job is not going to be fun - there's a different aspect than just about money that's going to affect your mental health.

A few participants framed their debt repayment obligations as motivating. It made them want to seek out better employment opportunities. Vivianne said*: "*I could see the positives. [My student debt payments] made me hustle harder. I looked at it, ran a couple of numbers, and I said 'I'd like to make more'. So that pushed me to look around for further opportunities."

Holding debt was a deterrent to getting married, having children, and buying a home. Some participants explained that holding student debt made them feel as if they had to delay life course transitions, such as purchasing a home, marrying or having children. For some, prioritizing debt repayment made the financial commitments associated with these transitions feel impossible. For example, Marrion described how debt repayment was a barrier to life course transitions: "It's just a barrier from moving on and buying a house and taking on a mortgage. Or having children, getting married.". Nadine echoed this feeling: "I think it has prevented us from having kids and maybe getting our own place. Definitely money and my student debt have sort of prevented us from starting our own lives in some ways.".

Darren explained that prioritizing debt repayment made life course transitions feel secondary:

> Once you have debt it kind of becomes priority number one. It becomes a necessity. Everything after that would be gravy. But this is something that has to take priority. And because of that everything, else gets delayed. So, if you want to buy a house, you want to start a family - those will all come second priority to paying off the debt first.

Timothy explained that he would delay these transitions until he felt more financially secure.

> I kind of push a little bit - the next stage of life - a little bit further on. I do want to have kids but I don't want to have kids when I have this debt on me. I want to be in a better financial spot in my life. Financial planning - or you want to plan a family - it definitely affects your decision-making.

For some participants, holding student debt was not only a financial barrier to making life course transitions, but also an emotional and relational one. For example, Marrion reflected on how her student debt affected her self-esteem and feelings of self-worth. Unlike others who felt that their debt prevented them from making the financial commitments associated with marriage, she felt that her debt made her unlovable and unworthy of a relationship in the first place. She said:

> Over the last eight years that I've been paying [my student debt] it's affected me in many aspects of my life. Even my dating life has been affected negatively because why would somebody want to enter a relationship with someone with so much debt? (…) Wanting to meet someone and settle down. And having to tell them that I have an amount of debt. And worrying that they're not going to want to be with me because of that. Having to start a life. I'm worried about having children because I still have my student loans. My clock is ticking unfortunately. So it's definitely affected my life negatively.

For her, the emotional distress around student debt emerged from the feeling that it prevented her from following the normative life course trajectories followed by her peers:

> Worrying about it [student debt payments] internally and seeing your entire social network moving forward with their life and I feel like I'm stuck almost is, was the worst feeling.

4.6.8 Family financial background shaped borrowers' experiences with and feelings about student debt

For all participants, family financial resources and financial socialization experiences shaped their own decision-making around how much student debt to take on, their experiences with debt, and its impact on their financial well-being.

Family financial resources determined debt use and debt-related stress. For most participants, taking on student debt to finance their education was not an option, but a necessity.

They used debt to fill the gap between existing resources (in their form of personal and parental financial contributions and non-repayable financial aid) and the cost of college.

Nadine explained that the lack of family financial resources to draw on for PSE and her obligations to help make ends meet at home made directly impacted her debt decisions. The complexities of trying to balance education and employment forced her take on more loans, thereby shaping her short and long-term financial obligations. She said:

> I was raised by a single mother and a lot of my friends had single moms. So we didn't really get financial literacy or education or anything like that. Most of us just went to school, got student loans. Some were smart about it. Others were not so smart about it. From my own experience and the experience of people that I know growing up - if you don't have money coming from your parents then you start off usually as an adult with debt. That's unavoidable because you're never going to be able to work enough to pay for your schooling. So that's like twenty grand right there that you are initially going to be in debt for. Then some people work. I worked full-time and I did part-time school because I had to help out at home. So that was extra debt on top of that. So that sort of affected me.

In contrast to Nadine's experience, wherein taking on debt felt like a necessity, for others, having family financial resources to draw upon appeared to make borrowing feel like more of an active choice. Student loans were one of many financial resources that some participants could draw on. The degree of stress that they experienced around that debt was directly related to their perception of having a parental safety net. For Marisa, having family financial resources to fall back on buffered feelings of stress or anxiety around debt, and contributed to her sense of mastery over her debt. At the same time, it caused her to perceive her sense of financial well-being as a 'mindset' – or a choice – rather than a direct result of her socioeconomic privilege:

> If I lose my job, I can't pay my mortgage, what's worst case scenario? Worst case scenario is I sell my house and, whatever, move back in with my parents. It's not the end of the world. Everything will be fine. So, for me, it's just a mindset of changing how you think about money and your approach to debt. Some people are born into poor circumstances and there's nothing they can do about it. But for some people it is a mindset. I think it's just the way they approach it and the way they think about debt and that has more bearing on how it affects their mental well-being and the situation itself.

Marisa and Nadine's socioeconomic positionality appears to directly impact whether they see their debt as an inevitability or a choice, and the degree to which they worry about this debt.

Marrion explained that changes in her father's financial situation directly impacted both her decision-making and her feelings around debt. When she first began school, knowing that she could rely on her father should she face financial problems allowed her to feel confident in taking on more debt to finance a more expensive program. However, as his financial situation changed, Marrion felt less certain about his ability to help her, and her anxiety grew.

> Maybe that affected my anxiety and how I worried a little bit less. Because I knew that my dad could have helped me. By the time I finished school he couldn't help me anymore. So at the time when I was applying I was like 'okay, I'm not going to ask my dad to help me but if I'm in like a really big pickle maybe he'll help me'. You know, down the road.

Financial socialization shaped student debt views and experiences. Financial socialization, whether implicit (lessons learned through observation) or explicit (lessons taught by parents) has an impact on how participant's view and experience debt. Some participants reported developing a sense of confidence around debt decision-making because of learning explicitly from parents. For example, Wareesha explained: "I do feel I'm well equipped to manage any kind of debt, because I learned a lot from my parents. They talked about it; they still talk to me about it. Any big financial decisions they make they always consult all their children." Darren described the more implicit ways that his family's financial situation shaped his feelings around debt, and specifically the distinction around 'smart debt' – such as student debt – and other forms of debt.

> My mom always called my older sister - the oldest one - more street smart and my young one is more book smart. But the reason for that was just because of the money situation that we were in at the time. They were broke, poor. And then when I came along we were okay but still kind of in a bad area. And then finally once my young sister came along they could start to afford things like piano lessons. And so growing up, seeing that transition - I understand that with smart debt, as long as it has a pay-off at the end that is greater than the sum of the original that it'll cost you, it'd be worth it. And I've always lived my life that way. And that's pretty much the deciding factor of me going to law school - that same ideal.

In contrast, Marrion explained that growing up in an affluent community shaped her perception of debt and feelings of shame around borrowing: “I grew up in quite an affluent community and so I didn't want to be that person with student loans or debt”.

4.7 Discussion

This study offers insight into emerging adults’ perspectives on the positive and negative impacts of student debt on their financial well-being, the way that debt shaped their decision-making and feelings around life course transitions, and the way that their family background shaped their experience with and view of student debt. This study adds to the literature by highlighting the voices and perspectives of emerging adults themselves, providing nuance to concepts that have largely been explored quantitatively. Further, it demonstrates that student debt outcomes that are well-documented in the US literature – namely, its impact on subjective and objective financial well-being (Cherney et al., 2019; William Elliott & Lewis, 2015b), mental health (Walsemann et al., 2015) and life course transitions (Addo, 2014; Dora Gicheva, 2016; Houle, 2014b) - are occcuring in Canada.

A larger share of emerging adults using student debt and higher average debt levels in the United States (LIS Cross-National Data Center, 2019) can make it seem that the ‘student debt crisis’ is a uniquely American phenomenon. However, the findings of this study signal that student debt is a critical aspect of the financial lives and well-being of emerging adults in Canada, and that these emerging adults are suffering psychological and financial consequences similar to their counterparts in the United States. This has implications for the well-being of emerging adults and the broader health of the Canadian economy.

This study builds on and confirms Dwyer’s (2012) concept of the ‘dual quality of debt’, which suggests a mixed pattern of both ‘buffer’ and ‘stressor’ effects of debt on outcomes. Debt may be perceived as a buffer against financial hardship in that it facilitates consumption, and a tool for financial growth in that it facilitates investment in human capital. At the same time, debt may be perceived as a stressor that threatens borrowers’ financial security and mental health. For some participants in this study, both of these perspectives rang true at the same time. We found that student debt was viewed positively by some borrowers because of its impact on income and employment outcomes, and because managing debt provided an opportunity to learn important financial skills and develop financial confidence. At the same time, student debt caused serious psychological distress, and caused borrowers to worry about their current and future financial

well-being. Wesley's experience captured this dual quality of debt. On the one hand, he asserted that taking on a large loan to finance his degree was 'worth it' because of the intrinsic value of the educational experience and the earning and employment premiums associated with the degree. Also, in describing how he calculated his potential return on investment and managed his debt load, he demonstrated the skills and knowledge that he acquired through this experience. However, Wesley also described the severe psychological distress that he suffered as a result of taking on student debt. These findings suggest that borrowers can hold both the 'buffer' and 'stressor' perspectives at the same time.

The findings of this study suggest that the phases of the education and debt cycles influence the timing and severity of the impact of debt on financial well-being, supporting the assertion of the ecological life course perspective that financial well-being changes over time in relation individual circumstances and contextual influences (Salignac et al., 2019). For some borrowers, the psychological burden of holding debt was present as soon as they took it on. For others, stress emerged only as they neared or entered repayment. Many participants in the latter group described how a lack of knowledge or deliberate attention paid to their debt buffered them from debt-related stress while they were in college. This finding builds on earlier evidence of variation in the effect of student debt on self-concept across the emerging adult period. Dwyer (2011) found that student debt status and amount were positively associated with mastery and self-esteem among the youngest borrowers (in their early twenties), but negatively associated with self-concept among older borrowers (in their late twenties) who were more likely to be in repayment. The findings of the current study suggest that the positive impact of debt earlier in the debt cycle may be explained, at least in part, by a lack of knowledge about debt or cognitive distance from the prospect of repayment.

Lack of knowledge and avoidance are not effective strategies for managing financial stress in the long term. Participants explained that upon entering repayment, they felt unprepared to both manage debt repayment and cope with the associated psychological impacts. Building financial knowledge early on may help to prevent the rapid onset of stress upon entering repayment for *some* borrowers. However, the findings of this study also bring up complex questions around the role of financial experience in the association between student debt and financial well-being. Several participants explained that they were highly informed about the terms of their debt and carefully calculated their potential return on investment, and had a sense

of control over their financial situation. However, these same participants experienced severe psychological distress as a result of holding debt, and the amount they held. This reflects earlier evidence that the negative impact of debt on mental health is not necessarily mediated by personal resources, such as a sense of mastery over one's financial future (Drentea and Reynolds, 2015). This also suggests that interventions designed to increase financial knowledge and confidence may be ineffective for mitigating student debt-related stress. In fact, evidence suggests that simply providing students with information about student loans and making them aware of their debt loads has been shown to increase debt-related stress (Britt et al., 2015; Theodos, 2015). Financial counseling targeted to PSE students and student debt holders should involve not only cost-benefit calculations but discussions around the short and long-term implications of borrowing on individual's broader social and emotional lives. Emerging adults should be equipped with both financial and psychosocial coping strategies.

This study contributes to our understanding of the complex ways in which student debt influences the life course transitions of borrowers in Canada, revealing how debt detracts from borrowers' freedom to choose their own trajectories through emerging adulthood. In their study of emerging adults' diverse educational and occupational pathways in Canada, Andres and Adamuti-Trache (2008) identified a socioeconomic gradient in pathways through PSE (or non-participation) and into traditional adult roles. Emerging adults from socioeconomically disadvantaged backgrounds were more likely to transition quickly into adults roles (including marriage and employment), likely out of financial obligation. Their more privileged counterparts were able to prioritize PSE and had the freedom to choose to delay entry into adult roles.

The findings of the current study suggest that among postsecondary participants, student debt constrains this freedom of choice. The emerging adults in this study felt that holding student debt constrained their choices and held them back from achieving family-centered milestones. As borrowers moved through their mid- to late-twenties, they navigated financial and employment decisions that required them to prioritize debt repayment. Rather than perceiving themselves as having the 'freedom to wait' to marry or have children, they instead felt a lack of freedom to choose when to do so. The privilege associated with being debt-free or having a financial safety net – and the underlying economic, social and cultural capital that this is born of - creates freedom of choice. Thus, holding and repaying student debt detracts from emerging adults' sense of financial freedom, which is considered an essential component of financial well-

being (Brüggen et al., 2017; Consumer Financial Protection Bureau, 2015b; Rea et al., 2019; Sorgente & Lanz, 2017).

The findings of our study demonstrate how cognitive and emotional processes influence financial decision-making. The life-cycle theory states that individuals borrow in times of low income and save during periods of high income in order to smooth consumption over the course of their lifetime (Friedman, 1957; Modigliani, 1966). Applied to student debt borrowers, this theory suggests that individuals' decision to 'consume' PSE - and to use student debt to do so – is based on a calculation of the positive financial and non-pecuniary returns that this investment will yield over their lifetimes (Baum & Schwartz, 2006; . From this perspective, it's reasonable and even expected to have heavy debt burdens early in the life cycle, and to be financially constrained in order to prioritize investments that will pay off in the future. However, this perspective discounts how feelings can supplant rational decision-making processes. Multiple participants explained that their experiences of debt related stress and anxiety was enough to dissuade them from investing in a graduate education or seek better job opportunities. While these decisions may have ultimately been the best choice for these individuals, stress shapes decision-making, and may exaggerate or reduce appropriate levels of risk-taking (Porcelli & Delgado, 2009).

The findings of our study reveal that family financial background shaped both borrowers' need to use student loans and their practical decision-making around debt, as well as how they understood and felt about their student debt. Extant evidence suggests that the influence of parents and families on emerging adults' financial experiences and perspectives are complex and operate through multiple pathways (Rea et al., 2019). Families' financial condition directly impacts the objective financial circumstances of emerging adults (Shim et al., 2015). For all the participants in our study, family income and wealth shaped the degree to which they could access parental resources for PSE, and, in turn, determined the size of their loans. For socioeconomically disadvantaged borrowers, debt was 'unavoidable'. For more privileged borrowers, student debt felt like one of many resources they could draw on.

Parents' own financial experiences shape the way they communicate with their children about financial matters, and this can have long-lasting impacts on emerging adult's SFWB (Lanz et al., 2019; Shim et al., 2015). In our study, explicit communication about money management directly impacted some borrowers' sense of confidence around debt use and

repayment. For others, more implicit messaging and observation of parents' spending habits sent strong signals about the value of using debt as investment.

4.7.1 Limitations

There are some key limitations to this study. First, our sample included only participants who lived in Toronto, attended one PSE institution, and who took on student debt through the Ontario Student Assistance Program. Almost 40% of Canadian university students are registered at an Ontario institution (Statistics Canada, 2019), and the two largest universities in the country are in Toronto (Universities Canada, 2017). As such, the findings of this study may be reflective of the experiences of a large segment of the postsecondary student population in Canada. However, the factors that make Toronto an important context for study – including costly tuition, increasing debt use and levels, high cost of living and rising inequality (Dinca-Panaitescu & Walks, 2015; Statistics Canada, 2017a; Usher, 2018; Weingarten et al., 2015) – also make it relatively unique and make the findings difficult to generalize to the broader Canadian population. Future research should examine students' experiences of debt in other large and small city centers, and how these differ across regional and institutional contexts.

Second, the study included only emerging adults who had attended and completed PSE using student debt, thereby limiting the degree of variation in experiences. Evidence from the other countries points to significant disparities between those who do and do not use student debt (Shavit, 2007), and between debtors who graduate from PSE and those who do not (Jabbari et al., 2020). Future research with broader swathes of the student and emerging adult populations can elucidate how financial experiences vary according to these characteristics and demonstrate the gradient of outcomes within the PSE-going population.

Third, while participants reported their race and/or ethnicity, the ways in which this shaped their experience with student debt was not central to the focus group discussions. Though nationally representative data on racial and ethnic disparities in student debt use and outcomes is limited in Canada, student debt is likely to disproportionately burden students from marginalized backgrounds with intersecting identities tied to socioeconomic status, race and ethnicity. Future research should examine the ways in which these identities shape debt experiences and outcomes in Canada.

Fourth, it is possible that our findings are skewed by the approach to data collection. While focus groups are useful for highlighting a diversity of experiences and perspectives, they

may also create a false sense of unanimity among participants. Group dynamics may result in some participants – and thus perspectives – being silenced or toned down by more dominant participants (Stewart et al., 1990). Further, because focus groups do not allow for an in-depth examination of individual experiences, it is more difficult to deduce the complex pathways through which phenomena influence feelings or behaviours. Future qualitative research using individual interviews can provide nuance and depth of understanding.

In conclusion, this study contributes to the literature by confirming that emerging adults in Canada are struggling with their student debt. The rising cost of college, growing student debt use and levels, and increasing economic instability into which students graduate and in which they attempt to repay their debt show no signs of slowing (Hoyes Michalos, 2019; Statistics Canada, 2017a). By demonstrating the complexity of emerging adults' experiences with student debt and its long-term implications for well-being and life course transitions, this study lays the groundwork for a large-scale, mixed methods investigation of the financial experiences of borrowers across Canada. Education financing and student loan policies at both federal and provincial levels are being restructured with the goal of minimizing financial barriers and increasing access to PSE, alleviating financial pressures associated with participation in PSE, and optimizing emerging people's investment in PSE (Affordability of Postsecondary Education in Ontario, 2019). Evidence that includes the voices and priorities of important constituents is necessary for the effective design and delivery of education financing policies and programs.

This study concludes the original empirical work produced for this dissertation. In the following chapter, I summarize the findings of the three studies, and discuss their implications for micro-level intervention and macro-level policy and programmatic change in the United States and Canada. Further, I discuss the overarching limitations of the dissertation, as key areas for future research.

Chapter 5 - Conclusion

The purpose of this dissertation was to investigate: a) the relationship between student debt and subjective financial well-being (SFWB) among emerging adults, b) stratification in this relationship across the socioeconomic spectrum, and c) change in this relationship within people over time. Longitudinal survey data used in the first two studies were drawn from three waves of the APLUS study and reflected the US context. Focus group data used in the third study were collected from alumni of a large public university in Toronto and reflected the Canadian context. Findings were presented in three separate but related studies. In this chapter, I summarize the findings and discuss their contribution to the theoretical and empirical knowledge base and their importance for policy and practice, review the overarching limitations of the studies, and discuss directions for future research.

5.1 Summary of Dissertation Findings

I found that holding student debt and amount of debt held shaped the SFWB of emerging adults. Specifically, the findings of Study 1 revealed that student debt status and amount were negatively associated with emerging adults' SFWB. Borrowers had significantly lower SFWB than their counterparts without student debt, suggesting that those who were able to access, attend and complete postsecondary education (PSE) without using debt had a significant psychological and financial advantage over those who borrowed. Further, among debtors, debt amount was negatively associated with SFWB so that those who took on more debt struggled more.

From the perspective of the stress process model (Drentea & Reynolds, 2015), these findings suggest that student debt is a money-related stressor that directly impacts well-being in the financial domain. Importantly, Study 3 findings confirmed Dwyer et al.'s (2012) assertion that student debt is a "double-edged sword representing both a resource and a liability and is often experienced by debt holders in its full contradictory nature" (p. 1136). While student debt caused significant financial and psychological stress, participants also felt that their debt allowed them to overcome financial barriers to PSE, and to access the economic and social benefits associated with obtaining a degree. However, debt obligations during the repayment period made borrowers feel financially constrained, unable to take risks in their careers, and forced delay their life course transitions that they valued, including marriage and homeownership.

Reflecting the social causation perspective (Conger & Donnellan, 2007), family of origin financial factors also shaped the relationship between student debt and SFWB. More specifically, the findings of Study 1 revealed that emerging adults from families with more resources (measured using parental income) had higher SFWB than their lower income counterparts, regardless of debt status. These resources appeared to act as both a financial and psychological buffer against debt-related stress and vulnerability. Among emerging adults in the middle of the socioeconomic spectrum, there was a significant SFWB gap between debtors and non-debtors. Borrowers in this group may be more likely to see their student debt as a threat to their social and economic position, rather than as a tool for economic and social mobility. Finally, emerging adults with low parental income had lower SFWB than their more advantaged counterparts, regardless of debt status. This is likely to due to broader financial concerns and cumulative disadvantage experienced by these emerging adults, as opposed to a particularly distinct effect of student debt on SFWB.

Reflecting the ecological life course approach (Salignac et al., 2019), SFWB itself, and the relationship between student debt and SFWB, appear to change over time in relation to changes in personal and contextual factors. The findings of Study 2 revealed that mean SFWB decreased over time, and that at each phase of the education cycle, student debt was negatively associated with SFWB. This was unsurprising, given that financial resources, needs and obligations often change dramatically across this period, creating new challenges with each change (Brüggen et al., 2017). Further, growth curve models (GCMs) revealed that changes in student debt were associated with SFWB trajectories. Specifically, higher student debt at entry into college was associated with lower SFWB, and changes in student debt were modestly but positively associated with changes in SFWB overtime. Additionally, Study 3 findings provided nuance with regard to the changing relationship between student debt and SFWB across the PSE cycle. For some participants, debt caused stress all throughout their education, and influenced the degree to which they could focus on coursework, engage socially, and feel 'well' while in school. For others, lack of information about their debt and cognitive distance from the prospect of repayment buffered them from stress while they were still in school, but these feelings set in later on as their debts became due.

5.2 Implications for Micro-level Intervention and Macro-level Policy Change

While a broad range of actors from across disciplines and in different clinical, institutional and policy-making roles can play a role in addressing the negative impact of student debt on SFWB, I approach this discussion from a social work perspective. Social work is rooted in both micro- and macro-level practice (Rothman & Mizrahi, 2014). The profession's Code of Ethics mandates that social work practitioners, researchers and educators work to alleviate suffering and improve well-being at the individual level, and address inequities at the structural level (Canadian Association of Social Workers, 2005; National Association of Social Workers, 2017), including in the financial domain (M Sherraden & Huang, 2014). Further, because they have an intimate knowledge of how lived experience is shaped by structural forces, social work professionals are uniquely positioned to bridge the gap between the micro and macro. In the following sections, I review potential areas for policy change that may help to stem the disparities that both contribute to and result from rising student debt. Next, I review approaches to direct practice that may reduce or alleviate some of the burden experienced by borrowers.

5.2.1 Address Student Debt Impacts at the Macro Level

Over the past decade, governments and institutions have focused on building financial literacy as a central approach to improving financial well-being (Consumer Financial Protection Bureau, 2015b; Financial Consumer Agency of Canada, 2016; Prosper Canada Centre for Fonancial Literacy, 2015). Theory and empirical evidence suggest that using financial education to shape knowledge and efficacy (Rothwell & Wu, 2019) may not be enough to shape behaviour, especially among emerging adults (Fernandes et al., 2014; Mandell & Klein, 2009). Individuals and families require access to structures that make it possible for them to achieve financial stability and well-being (M. S. Sherraden, 2013). Ultimately, changes to the way that governments and institutions support PSE financing are most likely to have a significant impact on the lives of emerging adults, and, in turn, to narrow population-level disparities.

Reduce the Debt Burden of Future Borrowers. As discussed in Study 1, one broad-reaching way to address the impact of student debt on emerging adults' financial well-being is to reduce the degree to which students – and especially those in the most financially vulnerable financial situations - rely on this debt in the first place. Postsecondary institutions and state and federal governments can address students' financial needs by bolstering needs-based, non-

repayable grants for lower- and middle-income students.[58] Providing this funding would not represent a fundamental policy shift, but rather the strengthening of what many consider to be a faltering and piece-meal approach to a much larger structural problem (Zaloom, 2019). Instead, the provision of 'free college' is considered a more radical and broad reaching approach. Tuition-free college was a key topic among Democratic presidential candidates in 2019, and a number of high-visibility senators have signed on to legislation that would make college debt-free. The details of proposed plans vary significantly around generosity, targeting and design, ranging from programs that cover only the cost of tuition at 2-year colleges, to those that cover all education-related expenses at any public college for students from families under a certain income threshold (Harris, 2019). Whether and which proposed plan ultimately becomes law will have important implications for who benefits, and how much they benefit. However, ensuring that the cost of college is covered for the most vulnerable borrowers would be an important place to start.

Though students at 2-year community colleges were not included in the sample used in this dissertation, I hypothesize that the negative impact of student debt on the SFWB of borrowers would be even more pronounced in this group. These students are more likely than those at 4-year colleges to come from racialized and socioeconomically disadvantaged backgrounds (Houle, 2014b), and to leave school without completing their degree due to financial issues, including debt-related stress (Dwyer et al., 2012). Offering free public 2-year college would be a way to reduce (or even eliminate) the debt-burden of the most vulnerable borrowers, and to ensure that college provides the pathway to economic and social mobility.

Support for increased affordability and reversal of the retrenchment of public spending on PSE is present in Canada (Canadian Centre for Policy Alternatives, 2019). Free tuition would require increased investment on the part of the federal government (via cash transfers to the provinces), and, in turn, increased direct provincial funding for universities. Some policy experts argue that this would represent a better use of funds than regressive tax-based programs for PSE that favour higher income and wealthy families (Canadian Centre for Policy Alternatives, 2019). Instead, easing socioeconomically disadvantaged students' pathways to PSE by improving the quality of public education may be more important for equitability of access. Further, reducing or eliminating tuition fees would do little to curb borrowing required to pay for living expenses.

[58] See Study 1 for extended policy discussion in this area.

Simplify Federal Student Loan Applications. Another way to alleviate at least some of the stress associated with student loans is to ensure that borrowers have access to the safest and most beneficial products available to them. While U.S. federal student loans are far from perfect, they have better terms and conditions than private loans, such as deferral of interest and payments until after graduation (or after enrolment status has changed), lower (and often fixed) interest rates, interest subsidies, and near-universal availability of income-driven repayment plans (U.S. Department of Education, n.d.-b). However, research suggests that almost 25% of undergraduate students do not complete the Free Application for Federal Student Aid (FAFSA), which is necessary for obtaining federal loans. Among them, a significant share reported that they did not fill out the application because it was too complicated, too time-consuming, or they did not have all of the necessary information (Sallie Mae, 2019).

Researchers and policy makers have long advocated for the need to simplify the FAFSA application (FAFSA Simplification Act of 2019; Dynarski, 2015). Further, nearly 40% of students reported that they did not apply because they felt that their parents' income would disqualify them (Sallie Mae, 2019). Students from families in the middle of the income distribution may be most likely to fall victim to the misconception that there is a family income cut-off for federal student aid.[59] The findings of this dissertation suggest that emerging adults in this group may also be particularly vulnerable to negative impact of their student debt on SFWB. While the source of student debt was not examined in this dissertation, ensuring access to the best loans available may alleviate some of this effect.

Improve the Terms, Design and Delivery of Student Loan Repayment. The findings of this dissertation suggest that the negative impact of student debt on SFWB not only extended into the post-college period, but also for some borrowers, increased over time. Some argue that rather than focusing on student loan borrowing, policy makers and the public should be concerned with student debt repayment (Dynarski & Kreisman, 2013). While the majority of emerging adults pay off their debt on time, an alarming – and increasing - share of debtors end up in forbearance and default, suggesting that borrowers are struggling and failing to cope with their debt (Dynan, 2019). Default rates on student loan debt are disproportionately high for black

[59] There is no income cut-off to qualify for federal student aid. While the Expected Family Contribution does depend on factors such as parental income and assets and family size (U.S. Department of Education, n.d.-d) , but most students whose parents earn below a relatively high threshold (approximately $250,000) are eligible for subsidized loans. It is difficult to provide an exact cut-off for loan eligibility because of multiple factors used to determine it.

borrowers, those who attend for-profit schools and/or leave school without a degree, and those who come from socioeconomically disadvantaged families and/or neighbourhoods (Blagg, 2018). This signals a need to focus on policy changes that would help ease the burden of repayment for students who are struggling most, including income-driven repayment plans (IDRs).

With IDRs, repayments are limited to a percentage of borrowers' income (usually 10-15%) above a certain threshold (usually 150% of the poverty line), and loans are forgiven after a certain period of time (e.g., 25 years after repayment begins) (U.S. Department of Education, n.d.-c). Evidence suggests that IDR programs are effective for limiting default: borrowers enrolled in IDRs are less than half as likely to default as those enrolled in fixed-term repayment plans (Congressional Budget Office, 2020). However, take-up rates of IDR are very low (Congressional Budget Office, 2020). Given evidence that borrowers are most likely to select the default repayment option on the federal student loan website, researchers suggests that simply making IDR the default option on the website could have significant effects on take-up (Cox et al., 2018). The website should make clear that this is the lowest risk option, but that there are other options available that may be better for certain borrowers[60]. Further, current IDRs require annual filing of paperwork and requests to loan servicers, and failure to reapply can result in termination of the plan, and, in turn, capitalized interest, delayed forgiveness, and a rising loan balance (B. Miller et al., 2019). Further, these complex and administratively burdensome plans can be hard for many borrowers to navigate, especially in a period of high stress. Simplification of IDRs options and delivery could alter the course of repayment for millions of American students.

In Canada, borrowers can take advantage of the Repayment Assistance Program (RAP), which requires no repayment if income is below $25,000 and restricts payments to a maximum of 20% of income over that threshold (*Repayment Assistance Plan – How It Works*, n.d.). However, there is a lack of administrative and academic research on student loan repayment in Canada. One internal study conducted for the Canada Student Loans Program in 2007 found that 84% of graduates in Canada were unaware of repayment relief programs (Canada Student Loans Program, 2007). Studies from within and outside of Canada have found that socioeconomically

[60] For example, borrowers who are able to pay off a higher share of their loans over a shorter period of time will pay less in interest.

disadvantaged students find that applying for and managing student debt is prohibitively complex and stressful (Arum & Roksa, 2011; Lachance et al., 2006). Increasing awareness of and simplifying programs that reduce debt burden prior to default could have an important impact on debt-related stress and broader financial well-being among borrowers in Canada.

Change the Way that Interest is Collected on Student Loans. The findings of this dissertation suggest that the negative impact of student debt on SFWB persists – and in many cases, increases – after borrowers leave school and enter the repayment period. Interest and fees on student debt are designed to incentivize borrowers to start paying off their debt immediately, and to pay it off quickly. However, borrowers who enter a period of deferment or forbearance when facing repayment difficulties typically continue to accrue interest on their loans (U.S. Department of Education, n.d.-a). Though not directly examined in this dissertation, the financial and psychological burden of watching one's balance owing increase while attempting or failing to repay is likely to be significant. While some loan repayment plans include subsidized interest, policy experts and student advocates have floated proposals for expanded interest-relief. For example, Dynarski and Kreisman (2013) suggest that interest rates on student loans should be variable and adjust throughout the life course of the loan. Experts at the Center for American Progress suggest that for borrowers enrolled in IDR programs, any interest not covered by monthly payments should be forgiven in order to prevent balance increases over time (Miller et al., 2019). Arguments for interest-free debt pervade the student loan policy discussion in Canada. The Canadian Federation of Students argues that because higher education benefits both individuals and society, the federal government should support investment and maximize returns by offering loans free of cost. While an interest-rate reduction and extension of the interest-free period after graduation were introduced in 2019, some advocates argue that this isn't enough (Canadian Centre for Policy Alternatives, 2019).

Cancel Outstanding Student Debt. The findings of this dissertation suggest that emerging adults who complete PSE without using student debt are buffered from the psychological and financial impacts faced by their peers who borrow, thereby creating an additional layer of inequity within the college-going population. As mentioned above, an important way to level the playing field is to unsaddle current borrowers from their debt obligations. Proposals to cancel outstanding student debt have gained traction in the political arena. Forgiving student loans would be a relatively immediate and meaningful way to relieve

the financial pressure experienced by emerging adults struggling to repay their debt today. A spectrum of policy proposals has been floated, ranging from universal cancellation of all – or some - outstanding debts held by current borrowers, to targeting cancellation to the most vulnerable borrowers (Miller et al., 2019). While universal debt cancellation may be more politically viable because of its broad reach, this proposal is often criticized for being regressive. The majority of outstanding student loan debt is held by those at the top of the income and wealth distribution. Specifically, in the U.S., just under 50% of the country's outstanding student loan balance is held by the highest earning 15% of households, and just under 25% of loans are held by the top of 10% of wealth holders (Baum & Lee, 2018). Instead, Blagg (2018) suggests developing a threshold for financial vulnerability, below which debts would be forgiven. For example, use of the Supplemental Nutrition Assistance Program for a defined amount of time during the repayment period would make an individual eligible for loan forgiveness. Others have proposed cancelling student debt for Pell Grant recipients, given that the program was intended to prevent students from socioeconomically disadvantaged backgrounds from having to take on loans in the first place (Goldrick-Rab, 2016). However, without a broader restructuring of PSE financing systems, one-time cancellation of current outstanding student loans would not address the structural issues causing the dramatic rise in student debt use and repayment challenges, including the cost of college rising at a quicker pace than household incomes, and unstable macroeconomic conditions.

Consider a Paradigm Shift via Asset-Building for Education. In Study 1, I found that debtors in the lowest parental income group had lower SFWB than all other debtors and non-debtors across income groups, suggesting that this group experiences cumulative disadvantage as a result of both background socioeconomic and student debt status. In recent years, scholars, policy makers and activists have highlighted the need to imagine different ways of increasing access to PSE for all students – and especially those from economically vulnerable families – that do not entail the significant risk and insecurity associated with student debt, and that do not further propagate the socioeconomic inequities that PSE participation is designed to counteract. For example, boosting state-sponsored education savings programs – such as 529 college accounts or Coverdell education savings accounts in the United States or the Registered Education Savings Program (RESP) in Canada – is a promising policy option.

Evidence suggests that emerging adults from socioeconomically vulnerable families with college savings or investment accounts are less likely to rely on employment income and student loans (Friedline et al., 2013). Assets for college can substitute for at least some student debt use and possibly relieve the PSE cost burden and associated stress experienced by many borrowers. More broadly, a shift towards asset based rather than a debt-based financial aid paradigm – and one that is generously subsidized for the most economically vulnerable families - has the potential to support broader efforts at increasing educational attainment, financial security and economic mobility (William Elliott & Lewis, 2015b).

Despite the promise of asset-building policies, socioeconomic disparities that shape student debt use and outcomes are also present in access to and use of PSE savings interventions. In Canada, the RESP is a tax-sheltered savings or investment account through which the Federal government matches families' contributions. The Canada Learning Bond (CLB) is an additional grant available to children from low-income families. To receive the CLB, a child must be the beneficiary of a RESP (although personal contributions to the RESP are not required). In 2018, only 38.3% of children eligible for the CLB received it (Employment and Social Development Canada, 2019). Families with higher household income and assets are more like to use the RESP and have greater account balances, meaning that they receive a disproportionate share of matching grants from the Federal government (Bonikowska & Frenette, 2020; Employment and Social Development Canada, 2019). To address inequities in participation and savings, improvements to the RESP could include automatic enrolment, increased outreach in communities that are currently underrepresented in the program, greater support for community organizations working to support families and increase take-up, and greater oversight and regulation of financial institutions that deliver the RESP.

5.2.2 Address Student Debt Impacts at the Micro Level

Building financial well-being is a key area for social work (Birkenmaier & Curley, 2009; Despard & Chowa, 2010; Sherraden et al., 2015). The goal of micro-level financial social work interventions is to assist individuals, families and communities to secure access to benefits, solve financial problems and crises, improve decision-making and financial management, and address financial issues that impact individual and relational functioning (Sherraden & Huang, 2014). Social workers are uniquely positioned to understand how structural conditions – such as growing student debt use - impact individual well-being, and to provide both practical and

psychological support to borrowers. Drawing on evidence from consumer finance and financial social work, interventions for improving SFWB among emerging adults revolve around providing information and counseling that help to building financial knowledge and capacity, and addressing debt-related psychological distress.

Our findings reveal that student debt causes stress at each stage of the PSE cycle. However, as individuals transition through PSE and into later stages of emerging adulthood, the nature of stress surrounding student debt may change. The findings of Study 3 revealed that during PSE, confusion around, and lack of information about, debt may cause students to cognitively disconnect from the implications of that debt, or, in contrast, may detract from their academic success and social relationships. As repayment approaches and arrives, borrowers' stress may be related to the more concrete constraints on spending, asset accumulation and life course transitions. Further, the degree of stress that borrowers experience appears to be shaped by the size of their debt load, the financial resources they have access to, the broader financial challenges they face, and prior financial socialization. As such, like with most psychosocial interventions, a one-size-fits-all approach to alleviating the negative impact of student debt on SFWB cannot work. Instead, interventions should be tailored to emerging adults' needs and histories and should depend on where they are in their PSE and debt trajectories.

Build Financial Self-Efficacy and Problem-Solving. Financial education interventions are designed to increase clients' financial knowledge and skills with regard to planning, risk management, saving and investment. Evidence suggests that changes in individual's financial knowledge predict changes in self-beliefs about their skill at managing personal finances (Serido et al., 2013), and can improve SFWB (Mende & van Doorn, 2015). On the other hand, there is a strong body of evidence to suggest that financial education is not enough to improve financial behaviours (Fernandes et al., 2014), especially among emerging adults (Mandell & Klein, 2009). Further, simply providing students with information about student loans and making them aware of their debt loads has been shown to increase debt-related stress (Britt et al., 2015; Theodos et al., 2015). Relatedly, Study 3 findings suggest that a solid understanding of the financial risks and benefits associated with borrowing was not enough to relieve the stress associated with student debt. The stress associated with student debt is not only about knowledge or perceptions, but also about the very real financial costs associated with holding debt. Further, given the tumultuous economic times in which emerging adults are living and borrowing, the power to

determine the return on investment of a particular degree and to predict financial challenges that will arise in the future is more difficult than ever.

Information about finances should be just one component of more comprehensive and individualized interventions. Emerging evidence supports the potential effectiveness of interventions that combine cognitive, emotional, behavioural, relational and economic factors to promote financial health (Archuleta, Burr, et al., 2015). For example, financial coaching can be understood as a set of enhanced interventions that help individuals integrate the financial information they receive, directly address the psychosocial nature of financial stress, develop healthy coping mechanisms, and build capacity and skills. A primary focus of financial coaching for student loan repayment stress should be building self-efficacy and positive problem-solving behaviours, which are crucial for mitigating student loan repayment stress (Shim et al., 2018). Further, Mende et al. (2015) found that financial self-efficacy persists over time, so that early interventions focused on mitigating debt-related stress can have important effects on financial well-being throughout the emerging adult period and into adulthood. They also found that regardless of participants' socioeconomic backgrounds, a stronger sense of financial self-efficacy reduced perceived difficulty regarding loan repayment, suggesting that micro-level interventions may serve to narrow socioeconomic disparities of the impact of debt on SFWB. Ideally, professionals trained to deliver financial coaching would be available to students and emerging adults within the institutions that are most important to them, such as high schools, colleges and workplaces.

Address Debt-related Psychological Stress. While the findings of these dissertation studies and related research suggest that the negative impact of student debt on the SFWB of emerging adults is relatively ubiquitous among borrowers, some individuals may be vulnerable to more serious mental health concerns. As reported in Study 3, several focus group participants described feelings of anxiety and depression related to their debt. They had difficulty maintaining friendships, engaging in romantic relationships, and getting satisfaction from school and extracurricular activities. However, rates of mental health service utilization by students are low (Lipson et al., 2018), suggesting that many are not receiving the psychological support they need. Further, while some students and emerging adults may seek out professional help to address mental health issues, concerns around finances may be treated as peripheral. It's important that mental health service providers at PSE institutions recognize financial concerns as

central to students' experiences and are prepared to provide support. Empirically supported psychological interventions are being adapted to address financial issues and may be useful for students and emerging adults. For example, Archuleta et al. (Archuleta et al., 2020) found that Solution-Focused Financial Therapy (adapted from Solution-Focused Brief Therapy) was successful at reducing financial anxiety in a diverse group of study participants in the short term.

5.3 Implications for the U.S. and Canada

Research on student debt in the United States is a critical starting point and model for building a strong evidence base upon which policy decisions can be made in Canada. Scholarship on the role of student loans in PSE access and completion, loan use and repayment, and the impacts of loans on financial and non-pecuniary outcomes is much broader and more extensive in the U.S. However, emerging research from Canada (Ohio State University Office of Student Life, 2014; Robson & Loucks, 2018), including the findings of my third dissertation study, signal that student debt is also a critical aspect of the financial lives and well-being of emerging adults in Canada. While economic, cultural and institutional differences are likely to shape the findings of U.S. research, there are important overarching trends, patterns and associations that appear to be relevant in Canada and can be tested here. The 'dual character of debt' (Dwyer, 2018; Dwyer et al., 2012) discussed in the U.S. literature was reflected in the perspectives of focus group participants in Toronto. Rather than reinventing the wheel, researchers interested in building the theoretical and empirical knowledge base in Canada can draw from extant evidence, methodologies and analytic approaches. For example, longitudinal studies from the U.S. - such as the APLUS study from which data were drawn for studies 1 and 2 - are useful models for in-depth studies of the financial experiences of emerging adults in Canada.

Canada has a more comprehensive set of social programs that do better at redistributing income and wealth than does the U.S. (Hoynes & Stabile, 2019). As such, Canada may be an important model for broader institutional and policy structures that limit the financial stress caused by student debt and support the financial well-being of emerging adults. Hoynes and Stabile (2019) explain that Canada has a much more generous social safety net resulting in lower levels of absolutely poverty and better outcomes for children over time. Policies like the Canada Child Benefit provide financial security to families that is not contingent on employment. With regard to student debt and SFWB, the findings of Study 1 in this dissertation suggest that

families' socioeconomic background shapes the impact of student debt on the SFWB of emerging adults. Student debt may compound the financial stress that disadvantaged emerging adults face as a result of broader and longer-term lack of access to sufficient financial resources. For the most disadvantaged borrowers, the impact of debt on SFWB detracts from the human capital benefits that PSE is purported to facilitate.

Reducing the financial stress experienced by parents with low and moderate income by providing direct financial support can have significant implications for the well-being of their children over the long run. Relatedly, Connolly et al. (Connolly et al., 2019) find that there is greater intergenerational mobility in Canada, likely due to more equitable labour market structures that allow for substantial returns on human capital investment[61] as well as substantial income supports available to the least advantaged Canadians. Building on existing evidence of the degree to which student debt negatively impacts emerging adults' returns on investment in PSE (for example, Zhan et al., 2016), the findings of my studies suggest that impacts of debt on well-being may cause some emerging adults to question whether that borrowing to finance PSE is 'worth it'. Knowing that social and economic mobility *are* possible, and that investing in human capital will 'pay off' with regard to income and employment, may help to reinforce the benefits of borrowing and help emerging adults focus on the longer-term dividends, rather than shorter term costs. However, preliminary evidence from Study 3 suggests that despite greater potential for mobility at the aggregate, this fact does not ring true for individual borrowers in Canada.

5.4 Limitations

A comprehensive discussion of limitations specific to each study is included within the given study chapter. However, two important overarching limitations are related to attrition and generalizability. First, estimates using longitudinal survey data in Studies 1 and 2 may be biased due to attrition, both as a result of students dropping out of the study, and as a result of students dropping out of college, and thus being left out of subsequent waves of data collection. Student debt use and amounts are associated with college persistence and graduation, and socioeconomically disadvantaged students are especially likely to drop out at lower levels of

[61] In contrast, in the United States, large swathes of the population – and specifically the Black population – have been excluded from or had restricted access to mainstream labour markets because of structural discrimination in education, hiring, and beyond.

debt (Dwyer, 2012). Further, the consequences of holding outstanding debt may be more severe for emerging adults who do not complete college (Jabbari et al., 2020)

The generalizability of the findings of studies 1 and 2 may be limited because data are drawn from one state and one institution type. Across the United States, there is geographic and institutional variation in the cost of college, the share of student debtors, average student debt amounts, and the macroeconomic conditions that shape the financial lives of college graduates with and without student debt. The negative effect of student debt on SFWB identified in the studies included in this dissertation may be even more pronounced in emerging adults in other states and at other institution types, where debt use and average debt loads are higher and labour market outcomes are less favourable.

Arizona is considered a 'low-debt state'.[62] In 2017, the state ranked 35th of 50 states for share of graduates holding student debt (54%) and ranked 44th for average debt load of graduates ($23,967) (The Institute for College Access and Success, 2018). College graduates in Arizona appear to have labour outcomes that are similar to the national average. In 2011, median earnings for bachelor degree recipients working full time were $58,000 for the U.S. as a whole, and in Arizona (Baum, 2014). In turn, debtors in Arizona appear to struggle with debt repayment at a similar rate to the national average. In 2016, the default rate in Arizona was 11.45%, which was close to the national average of 10.10% (Mike Brown, 2019). Thus, college students and graduates in Arizona appear to be somewhat representative of the national college-going population with regard to debt use and outcomes, suggesting that the findings of these studies may be relevant for the broader population of students in the U.S. However, there are likely to be unmeasured economic, social and cultural factors that influence the relationship between student debt and SFWB within particular contexts.

Similar variation in college costs, debt use, and debt outcomes exist across institution types. The data from this study were drawn from a cohort of students at a four-year public college. These institutions are typically more affordable and accessible and have more socioeconomically and demographically diverse student bodies than elite private colleges. At the same time, four-year public colleges tend to be more expensive, less accessible, and serve fewer students from racialized backgrounds than two-year public colleges (Baum et al., 2013). In 2015-

[62] The latest available state-level data for Arizona are for the class of 2017 (i.e., students who graduated in 2017). The statistics reported here are drawn from the Institute for College Access and Success report, which aggregates student loan data provided by postsecondary institutions on a voluntary basis.

2016, the average price for tuition and fees for full-time undergraduate students at four-year public institutions was $19,488[63] – which was less than half of the average cost at private for-profit (FP) and not-for-profit colleges (NFP) (National Center for Education Statistics, 2019).[64] In turn, the share of students using debt and average debt loads of undergraduate students are lower at four-year public institutions than at private NFP and FP institutions.

In 2015-2016, 66% of undergraduate-completers at four-year public institutions used student loans, as compared to 69% at private NFP and 86% at private FP institutions (National Center for Education Statistics, 2020). In 2017-2018, average annual loan amount for first-time, full-time undergraduate students at 4-year public institutions was $7,000, compared to $8,400 at private NFP and $8,500 at private FP institutions. And students at four-year public institutions are less likely to default on their student debt. Default rates likely reflect differences in income and labour market outcomes across institutions types (Carnevale et al., 2011; Deming et al., 2016). Further, in terms of stratification, the impact of family socioeconomic background on the association between student debt and financial well-being may be even more pronounced at private and higher-cost institutions. Houle (2014) found that the relationship between parents' socioeconomic status and student debt use was stronger at higher-cost institutions. The same may be true for the extent to which family background socioeconomic status shapes the effect of debt on financial well-being.

The generalizability of Study 3 is limited by the fact that data were collected at one institution in one city, and that all students borrowed from same loan program (OSAP). The factors that make Toronto an important context for study – including costly tuition, increasing debt use and levels, high cost of living and rising inequality (Dinca-Panaitescu & Walks, 2015; Statistics Canada, 2017a; Usher, 2018; Weingarten et al., 2015) – also make it relatively unique and make the findings difficult to generalize the broader Canadian population.

5.5 Future Research

First and foremost, understanding and addressing racial inequity in student debt use and outcomes *must* be a focal point of future research. As detailed in Study 1, I found that Black respondents had lower SFWB than their White counterparts. However, in the debtor-only sample, variation by race was no longer present. This may be explained by the direct effect of

[63] In 2016-2017 constant dollars.
[64] The average cost at private for-profit and non-profit colleges was $40,261 in 2015-2016 (2016-2017 constant dollars).

class on racial inequality, as well as underrepresentation of Black respondents in the sample. More broadly, evidence of the racial wealth gap and of racial inequities in PSE financing and outcomes is undeniable. Emerging black adults are more likely to borrow larger amounts than their white counterparts (Addo et al., 2016), to default on their loans after leaving college (Huelsman, 2015), and to be more concerned about their ability to afford their student loan payments (Ratcliffe & McKernan, 2013). Houle and Addo (Houle & Addo, 2018) found that the black-white gap in debt increased throughout the emerging adult period, and that this gap was explained, in part, by disparities in student debt. They concluded that "student debt may be a new mechanism of wealth inequality that creates fragility in the next generation of the black middle class" (p.1). Further investigation of racial differences in SFWB and the mechanisms that explain them is crucially important for combatting inequality in the United States.

The findings of this dissertation demonstrate that student debt status and amounts shape emerging adults' SFWB. Moving forward, more research into the ways in which financial well-being shapes behaviours and outcomes across domains is vital for understanding its significance in emerging adults' lives. Emerging evidence suggests that feeling financially 'well' was important for emerging adults' ability to enjoy life, the health of relationships with friends and family, and optimism about the future (Rea et al., 2019). SFWB may also shape how emerging adults make financial decisions and plan for the future. Individuals who feel satisfied and confident in their financial situation may be more likely to seek new career opportunities, or form a family (Sorgente & Lanz, 2017). Future research should explore how SFWB shapes decision making and well-being in other life domains.

The findings of this dissertation suggest that in the context of PSE, family of origin economic resources convey developmental advantage over the life course. Specifically, the findings of Study 1 suggest that the ability to acquire college credentials without using student loans protects socioeconomically advantaged young adults from the stress associated with borrowing. More broadly, existing evidence demonstrates that holding student debt can weaken financial stability and growth and constrain life choices over the short and long run (D. Cooper & Wang, 2014; William Elliott & Lewis, 2015a; Houle & Berger, 2015; Nau et al., 2015; Zhan et al., 2016). Future research should investigate the longer-term and intergenerational implications of borrowing on both the subjective and objective financial well-being of emerging adults and their families as they progress through the life course.

The Financial Literacy Research Committee of the FCAC has identified understanding the financial well-being of Canadians as a key research priority (FCAC, 2016). However, there is limited understanding of the financial experiences and perspectives of postsecondary students and graduates in Canada. While some recent studies exist, they use small, non-representative samples (OSUOSL 2014; Robson & Loucks, 2018) or examine limited objective indicators (e.g. income) within the broader Millennial cohort, rather than focusing specifically on the postsecondary student population (Heisz & Richards, 2019). The findings of this study lay the groundwork for a broader reaching and more comprehensive study of the extent of, and variation in, financial well-being and its determinants among emerging adults across Canada.

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Appendix A: APLUS Data

Table A.1
Missing Data

	Included cases	Excluded cases
SFWB		
Overall		
Early undergraduate*	9.75(3.11)	9.48(3.05)
Late undergraduate*	9.23 (2.98)	8.89(3.02)
Post-undergraduate***	9.55 (3.13)	8.29 (3.11)
Debt amount		
Early undergraduate*	7267 (6374)	8733 (7798)
Late undergraduate	17655 (15810)	19396 (18748)
Post-undergraduate	34127 (33290)	31614 (27212)
Demographics		
Gender***		
Male	35	40
Female	65	60
Race/ethnicity***		
White	67	67
Black	3	4
Other	30	29
Background socioeconomic factors		
Parental income***		
<$50,000	18	18
$50,000 - $200,000	67	62
>$200,000	15	20
Parental education		
High school or less	12	13
Some college	18	16
Bachelor's degree or more	70	71
Emerging adult income		
Income		
Early undergraduate		
None/low (<$250)	76	75
Medium ($250-$500)	13	15
High (>$500)	11	10
End of undergraduate**		
None/low (<$250)	47	52
Medium ($250-$500)	25	19
High (>$500)	27	29
Post-undergraduate		
None/low (<$25,000)	49	62
Medium ($25,000-$60,000)	43	33
High (>$60,000)	8	6

Note. Standard deviation in parentheses. Asterix identify cases in which excluded cases are significantly different than included cases. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Measures – Additional Detail

Depressed mood.

- How often do you feel unhappy, sad or depressed?
- How often do you feel that difficulties are piling up so high you can't overcome them?
- How often do you feel tired out?
- How often do you lose your appetite or eat a lot when you get upset?

Childhood financial situation.

- When you were growing up, how often would you say your parents were able to meet the financial needs of your family? Responses: 1(none of the time) to 5(all of the time).
- When you were growing up, how difficult was it for your parents to pay their monthly bills? Responses: 1(not at all difficult) to 5(very difficult) – reversed.
- When you were growing up, was your family better off or worse off financially than the average family in your neighborhood? Responses:1(a lot better off) 5(a lot worse off) – reversed.

Emerging adult income. In wave 1, the survey asked: "If you work, on average, what is your monthly gross (before taxes) income?". In wave 2, the survey asked: "On average, what is your monthly gross (before taxes) income?". In both waves, the response categories were: 0, $1-249, $250-$499, $500-749, $750-999, and more than $1000. The source of income was not asked about in either wave. In wave 3, the survey asked: "What is your current annual gross income (before taxes, total of all sources)?". The response categories were: less than $24,000, $25,000-39,999, $40,000-59,999, $60,000-74,999, and more than $74,999. In wave 3, the survey asked: "other than paid employment, what are your other sources of current financial support?". Response categories were: family (e.g. parents, grandparents, siblings), spouse/partner/significant other, investments (e.g. Certificates of Deposit, stock/bonds, trust), loans/incur debt, government support (e.g. unemployment, Social Security), and fellowship, grant or other stipend.

Emerging adult financial independence. When filing their taxes, parents in the US can claim their children as dependents in order to receive certain tax deductions and credits. Dependent children must be under the age of 19 or a be a student under the age of 24 at the end of the calendar year. If a parent claims their child as dependent, the child cannot claim a personal exemption on their own tax return. In practical terms, when a young adult is not claimed as a dependent on their parents' tax returns, it signifies that they are largely financially independent.

Table A.2

Percentage receiving money from parents for college, by parental income group

	Low parental income	Middle parental income	High parental income
Received money from parents for PSE	40	70	86

Table A.3

Mean (SD) student debt amounts for debtors who had debt at the given phase of the debt cycle

	Early undergraduate	Late undergraduate	Post-undergraduate
Full sample	$7,267	$19,669	$32,116
	(6,374)	(17,666)	(33290)
Parental income			
Low	$7,691	$13,800	$26,781
	(6631)	(12,636)	(29,266)
Middle	$7,259	$18,621	$35,979
	(6,247)	16083	(33,178)
High	$5,961	$23,051	$38,981
	(6,901)	(21,053)	(40,894)

Note. Standard deviation in parentheses. In main paper, the table includes figures for the sample who ever had student debt at any phase (n=506).

Appendix B: Study 1

Additional Analyses and Sensitivity Checks

Table B.1

Contrasts for the mean SFWB of debtors and non-debtors within each parental income group, and for debtors across parental income groups

	Contrast	Tukey's HSD
Within-group contrasts		
No debt # low. par. income vs. debt # low. par. income	-1.64 (0.26)	-6.24***
No debt # mid par. income vs. debt # mid. par. Income	-1.97 (0.14)	-14.04***
No debt # high par. income vs. debt # high par. income	-1.83 (0.35)	-5.16***
Between-group contrasts		
Debt # low par. income vs. debt # mid. par. income	0.36 (0.22)	1.69
Debt # low par. income vs. debt # high par. income	1.26 (0.37)	3.41**
Debt # mid. par. income vs. debt # high par. income	0.89 (0.33)	2.68
No debt # mid. par. income vs. no debt # low. par. income	0.69 (0.21)	3.26*
No debt # high par. income vs. no debt # low. par. income	1.44 (0.26)	5.60***
Debt # mid. par. income vs. no debt # low. par. income	-1.28 (0.22)	-5.75***
Debt # high. par. income vs. no debt # low. par. income	-0.38 (0.37)	-1.03
No debt # high par. income vs. no debt # mid. par. income	0.75 (0.18)	4.11**
Debt # low par. income vs. no debt # mid. par. income	-2.33 (0.21)	-11.08***
Debt # high par. income vs. no debt # mid. par. income	-1.08 (0.33)	-3.29*
Debt # low par. income vs. no debt # high par. income	-3.08 (0.26)	-12.04***
Debt # med par. income vs. no debt # high par. income	-2.72 (0.20)	-13.75***

Note. Standard errors in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B.2

Including "received money from parents/other family" variable

	Model 1: Full debt status and SFWB model, with 'received money" variable	Model 2: Full debt status and SFWB model, with 'received money" variable, with interaction of debt status with parental income	Model 3: Full debt amount and SFWB model, with 'received money" variable	Model 4: Full debt amount and SFWB model, with 'received money" variable, with interaction of debt status with parental income
Has student debt (ref: no student debt)	-1.875***	-1.533***		
	(0.12)	(0.27)		
Log of student debt			-0.172***	-0.141***
			(0.02)	(0.04)
<u>Demographics</u>				
Gender				
Female (ref: male)	-0.475***	-0.472***	-0.662***	-0.659***
	(0.12)	(0.12)	(0.16)	(0.16)
Race/ethnicity (ref: white)				
Black	-0.812*	-0.833*	-0.581	-0.602
	(0.33)	(0.33)	(0.39)	(0.39)
Other	0.191	0.193	0.179	0.179
	(0.13)	(0.13)	(0.16)	(0.16)
<u>Background socioeconomic factors:</u>				

Parental income (ref: low)				
Middle	0.528**	0.753***	0.436*	0.570*
	(0.16)	(0.23)	(0.20)	(0.23)
High	1.309***	1.492***	1.090***	1.162***
	(0.22)	(0.27)	(0.30)	(0.33)
Parental education (ref: high school or less)				
Some college	0.128	0.120	0.361	0.352
	(0.21)	(0.21)	(0.25)	(0.25)
Bachelor's degree or more	0.520**	0.512**	0.767***	0.764***
	(0.19)	(0.19)	(0.22)	(0.22)
Received money from parents/other family (ref: no)	0.194	0.190	0.214	0.210
	(0.13)	(0.13)	(0.16)	(0.16)
Emerging adult factors				
Income (ref: low)	0.370**	0.369**	0.377*	0.381*
Medium	(0.13)	(0.13)	(0.17)	(0.17)
	0.598***	0.593***	0.706**	0.708**
High	(0.16)	(0.16)	(0.22)	(0.22)
			0.377*	0.381*
Phase of PSE cycle (ref: early undergraduate)				
Late undergraduate	-0.406**	-0.410**	-0.260	-0.264
	(0.14)	(0.14)	(0.19)	(0.19)
Post-undergraduate	0.160	0.157	0.559**	0.560**
	(0.14)	(0.14)	(0.20)	(0.20)
Interactions				
Has student debt # middle parental income		-0.435		-0.0438
		(0.30)		(0.04)
Has student debt # high parental income		-0.303		-0.0126
		(0.44)		(0.06)
Constant	9.314***	9.136***	8.167***	8.074***
	(0.24)	(0.27)	(0.29)	(0.31)
Observations	903	903	506	506
Adjusted R^2	0.149	0.149	0.110	0.109

N*ote.* Standard errors in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B.3

Interaction of debt status and level with parental education

	Interaction of debt status with parental education	Interaction of debt amount with parental education
Has student debt (ref: no student debt)	-2.232***	
	(0.32)	
Log of student debt		-0.174***
		(0.04)

Demographics		
Gender		
Female (ref: male)	-0.475***	-0.678***
	(0.12)	(0.16)
Race/ethnicity (ref: white)		
Black	-0.829*	-0.578
	(0.33)	(0.39)
Other	0.150	0.152
	-0.829*	-0.578
Background socioeconomic factors:		
Parental income (ref: low)		
Middle	0.540***	0.488**
	(0.16)	(0.19)
High	1.332***	1.143***
	(0.21)	(0.29)
Parental education (ref: high school or less)		
Some college	-0.124	0.255
	(0.31)	(0.32)
Bachelor's degree or more	0.431	0.856**
	(0.26)	(0.27)
Emerging adult factors		
Income (ref: low)		
Medium	0.362**	0.358*
	(0.13)	(0.17)
High	0.570***	0.676**
	0.362**	0.358*
Phase of education cycle (ref: early undergraduate)		
Late undergraduate	-0.399**	-0.267
	(0.14)	(0.19)
Post-undergraduate	0.162	0.561**
	(0.14)	(0.20)
Interactions		
Has student debt # some college	0.576	
	(0.42)	
Has student debt # Bachelor's degree or more	0.340	
	(0.42)	
Log of student debt # some college		0.039
		(0.058)
Log of student debt # Bachelor's degree or more		-0.010
		(0.05)
Constant	9.568***	8.252***
	(0.28)	(0.30)
Observations	903	506
Adjusted R^2	0.149	0.110

Note. Standard errors in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure B.1

Predictive margins for SFWB by student debt status, by parental education level

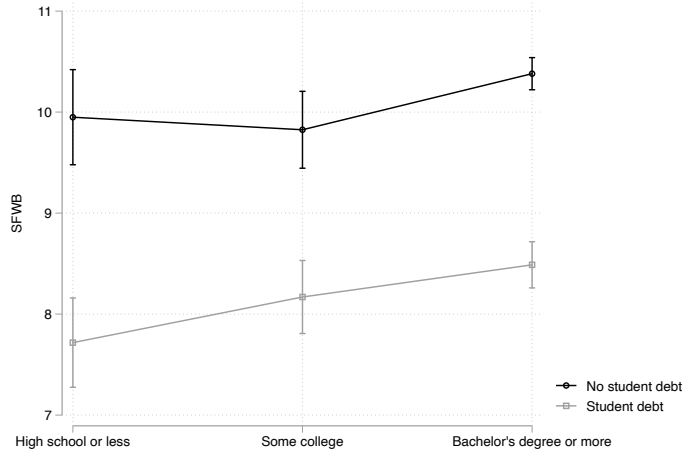
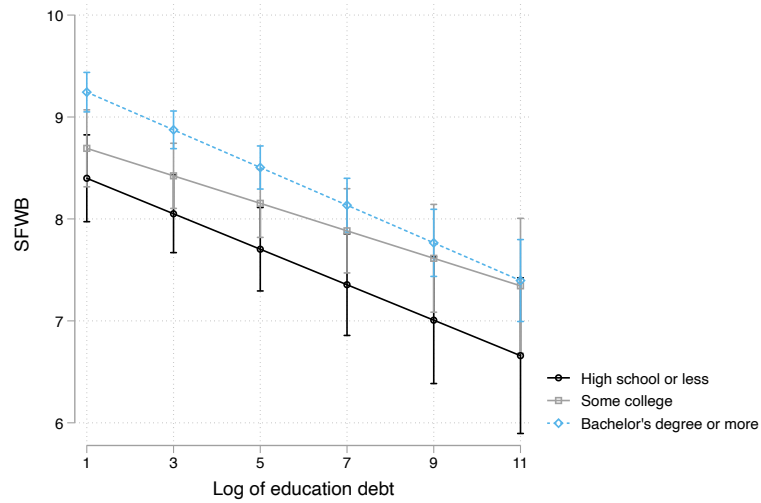


Figure B.2

Predictive margins for SFWB at different values of log of student debt amount for each parental income group



Repayment status analysis

Table A5 displays estimated coefficients for the pooled OLS regression of repayment status on SFWB for the sample of debtors during the post-undergraduate phase, controlling for outstanding student debt amount and demographic, background socioeconomic and emerging adult factors. During the post-undergraduate phase, the majority of respondents had graduated from their undergraduate program (n=812) and were either working (n=708), and/or in graduate school (n=147). To measure repayment status, the survey asked respondents the following question: “What is the repayment status of your educational loans?”. We collapsed responses

into three categories: 1) payments not yet due, 2) repaying with ease (making advance payments or repaying on time), and 3) repayment difficulty (making late payments, in forbearance or in default).

Table B.4

Debt amount and repayment status in the full sample during the repayment phase

	B (SE)
Repayment status (ref= payments not yet due)	
Repaying with ease	-0.712
	(0.35)
Repayment difficulty	-1.668***
	(0.50)
Log of outstanding student debt	-0.232*
	(0.11)
Demographics	
Gender	
Female (ref: male)	-0.654*
	(0.32)
Race/ethnicity (ref: white)	
Black	-0.455
	(0.72)
Other	0.396
	(0.32)
Socioeconomic background	
Parental income (ref: low)	
Middle	0.127
	(0.36)
High	0.160
	(0.66)
Parental education (ref: high school or less)	
Some college	0.627
	(0.47)
Bachelor's degree or more	0.837*
	(0.42)
Emerging adult factors	
Income (ref: low)	
Medium	1.287***
	(0.35)
High	3.009***
	(0.69)
Constant	8.478***
	(0.88)
Observations	362
Adjusted R^2	0.196
Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$	

Appendix C: Study 2

Additional limitations

The SFWB measure used in this study has some weaknesses. Based on their review of studies of financial well-being during emerging adulthood, Sorgente and Lanz (2019) suggest that SFWB is a multidimensional construct that includes cognitive, relational, behavioural and temporal dimensions. While cognitive (i.e. "I am satisfied with my current financial status", and "I am constantly worried about money") and behavioural (i.e. "I have difficulty paying for things") dimensions are captured in the SFWB measure used in this study, relational (i.e. comparison to peers and friends) and temporal (i.e. future orientation) dimensions are not. Social comparisons and perceptions of future well-being are particularly important during emerging adulthood (Consumer Financial Protection Bureau, 2015a; Thomas & Azmitia, 2014). Further, the measure used in this study was not designed specifically for use in an emerging adult population, and does not reflect the distinct, transitional nature of their financial lives. Methodologies and variables used to study this group should be tailored specifically to this developmental phase. Finally, although this measure has been used in earlier studies with the same sample (Serido et al., 2010; Shim et al., 2010, 2012), it has not been tested in different populations. Future research should employ measures that are multidimensional, specific to emerging adult populations, and externally validated.

Additional Analyses and Sensitivity Checks

Table D.1

Summary of Correlations, by Wave.

Measure	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Wave 1										
1. SFWB										
2. Education debt	-0.294***									
3. Gender	-0.064	0.028								
4. Race/ ethnicity	-0.049	-0.030	-0.047							
5. Depression	-0.296***	0.049	0.149***	0.020						
6. Parental income	0.335***	-0.103**	-0.048	-0.221***	-0.137***					
7. Parental education	0.171***	-0.145***	-0.021	-0.187***	-0.034	0.373***				
8. Childhood financial situation	0.411***	-0.211***	-0.058	-0.107**	-0.188***	0.451***	0.248***			

9. Emerging adult income	-0.012	0.019	-0.071*	-0.089**	-0.011	0.097**	0.005	0.046	
10. Financial independence	-0.031	0.022	-0.077*	0.005	-0.045	-0.010	-0.072*	-0.015	0.272***
Wave 2									
1.SFWB									
2. Education debt	-0.324***								
3. Gender	-0.097**	0.029							
4. Race/ ethnicity	-0.037	-0.029	-0.047						
5. Depression	-0.312***	0.104**	0.172***	0.061					
6. Parental income	0.238***	-0.088**	-0.048	-0.221***	-0.106**				
7. Parental education	0.192***	-0.144***	-0.021	-0.187***	-0.081*	0.373***			
8. Childhood financial situation	0.281***	-0.228***	-0.058	-0.107**	-0.179***	0.451***	0.248***		
9. Emerging adult income	0.018	0.060	-0.071*	-0.089**	-0.034	0.097**	0.005	0.046	
10. Financial independence	0.012	0.055	-0.077*	0.005	-0.033	-0.010	-0.072*	-0.015	0.272***
Wave 3									
1. SFWB									
2. Education debt	-0.252***								
3. Gender	-0.115***	0.0250							
4. Race/ ethnicity	-0.027	0.062	-0.047						
5. Depression	-0.411***	0.165***	0.182***	0.081*					
6. Parental income	0.131***	-0.084*	-0.048	-0.221***	-0.133***				
7. Parental education	0.122***	-0.063	-0.021	-0.187***	-0.059	0.373***			
8. Childhood financial situation	0.229***	-0.154***	-0.058	-0.107**	-0.184***	0.451***	0.248***		
9. Emerging adult income	0.174***	-0.151***	-0.071*	-0.089**	-0.105**	0.097**	0.005	0.046	
10. Financial independence	0.186***	-0.065*	-0.077*	0.005	-0.085*	-0.010	-0.072*	-0.015	0.272***

Note. Correlations for the full sample (n=903) are presented for each wave.
*p<.05, **p<0.01, ***p<0.001

Table D.2

Full GCM Models Predicting the Effect of Education Debt on SFWB at Baseline (Intercept) and Over Time (Slope)

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept estimates					
Log education debt		-0.234***	-0.234***	-0.181***	-0.177***

		(0.021)	(0.021)	(0.021)	(0.021)
Gender (male= ref)					
Female			-0.204	-0.085	-0.123
			(0.193)	(0.181)	(0.182)
Race/ethnicity (white = ref)					
Black			-0.617	-0.446	-0.461
			(0.548)	(0.516)	(0.515)
Other			-0.276	0.162	0.135
			(0.201)	(0.195)	(0.195)
Depressed mood			-0.785***	-0.614***	-0.621***
			(0.109)	(0.106)	(0.106)
Parental income (<$50,000 = ref)					
$50,000 - $99,000				0.126	0.125
				(0.261)	(0.265)
$100,000 - $200,000				0.901**	0.918**
				(0.281)	(0.287)
>$200,000				1.612***	1.637***
				(0.343)	(0.347)
Parental education (HS or less = ref)					
Some college				0.279	0.262
				(0.284)	(0.327)
Bachelor's degree or more				0.292	0.259
				(0.292)	(0.291)
Childhood financial situation (low = ref)					
Medium				0.713**	0.696**
				(0.213)	(0.213)
High				1.649***	1.656***
				(0.245)	(0.245)
Emerging adult income (low = ref)					
High					-0.175
					(0.432)
Varies overtime					-0.318
					(0.191)
Financial independence (dependent = ref)					
Independent					-0.214
					(0.393)
Varies overtime					-0.171
					(0.186)
<u>Slope estimates</u>					
Time	-0.100	0.007	0.458*	1.186***	0.495
	(0.061)	(0.078)	(0.224)	(0.306)	(0.326)
Log education debt		0.043**	0.053***	0.031*	0.031*
		(0.014)	(0.014)	(0.014)	(0.014)
Gender (male = ref)					
Female			-0.055	-0.098	-0.028
			(0.126)	(0.123)	(0.121)

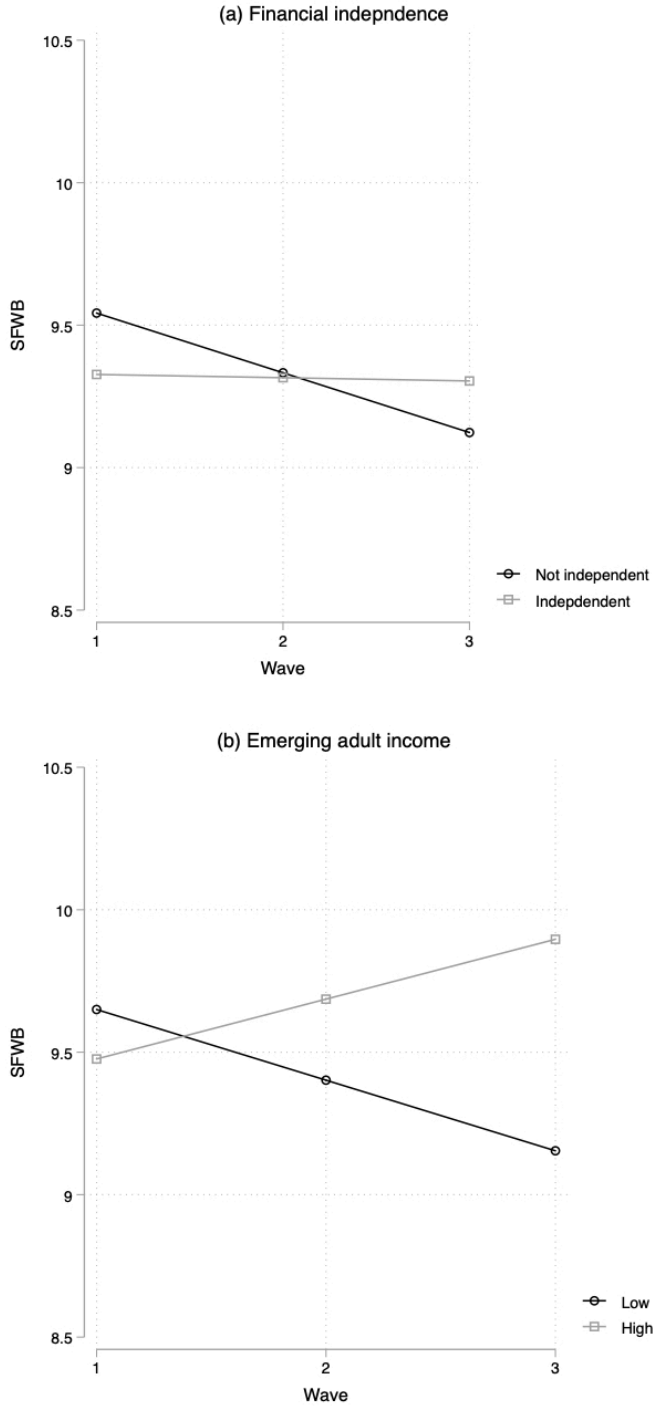
Race/ethnicity (white = ref)					
Black			-0.291	-0.358	-0.355
			(0.357)	(0.348)	(0.341)
Other			0.218	0.055	0.091
			(0.131)	(0.131)	(0.129)
Depressed mood			-0.226**	-0.308***	-0.282***
			(0.079)	(0.078)	(0.078)
Parental income (>$50,000 = ref)					
$50,000 - $99,999				0.035	0.031
				(0.176)	(0.175)
$100,000 - $199,999				-0.430*	-0.470*
				(0.189)	(0.189)
>$200,000				-0.855***	-0.903***
				(0.230)	(0.229)
Parental education (HS or less = ref)					
Some college				-0.107	-0.106
				(0.221)	(0.217)
Bachelor's degree or more				0.102	0.168
				(0.196)	(0.193)
Childhood family financial situation (low =ref)					
Medium				-0.195	-0.154
				(0.143)	(0.140)
High				-0.443**	-0.439**
				(0.165)	(0.162)
Emerging adult income (low=ref)					
High					0.469
					(0.286)
Varies overtime					0.417**
					(0.127)
Financial independence (dependent = ref)					
Independent					0.223
					(0.260)
Varies overtime					0.484***
					(0.123)
Constant	9.617***	10.154***	12.543***	10.228***	10.587***
	(.102)	(0.108)	(0.177)	(0.446)	(0.478)
Model fit					
Pseudo R^2		11.61	21.30	26.34	27.43
AIC		13087.97	12883.19	12765.55	12736.98
BIC		13135.20	12977.66	12942.97	12961.34

Note. Standard deviations reported in parentheses. Model 1 includes time as the only covariate. Model 2 adds education debt intercept and slope terms. Model 3 adds gender, Race/ethnicity and depressed mood intercept and slope terms. Model 4 adds parental income, parental education and childhood financial situation. Model 5 adds emerging adult income and financial independence. Slope terms reflect the regression coefficient for the interaction between the covariate and time.

*p<.05, **p<0.01, ***p<0.001

Figure D.1

Predicted SFWB trajectories by emerging adult financial factors



Note. Based on estimates from Table 4, Model 5.

Appendix D: Study 3

Recruitment poster

Focus group on young adults' experiences with debt and their financial wellbeing

Researchers at McGill University and York University are searching for young adults (ages 22-35) in the Greater Toronto Area to participate in a **study on debt and wellbeing**.

Selected participants will be asked to take part in a **90-minute focus** group to share their experiences with debt (and personal finances, more broadly) and wellbeing.

Participants will be provided with **$50 in monetary compensation along with $10 to cover transportation costs.** Please note that only participants who take part in the focus groups will receive monetary compensation.

If you are interested in participating in the study, please complete the brief **questionnaire** (follow the link or scan the QR code)**.**

http://bit.ly/debtandwellbeing

Recruitment Questionnaire

The following questionnaire was delivered via SurveyMonkey

Researchers at York University are searching for young adults (ages 24-35) in the greater Toronto area for a research study on debt and financial well-being. Selected participants will be asked to take part in a 90 minute focus group to share their experiences with money and well-being and will be provided with $50 in monetary compensation along with $10 for transportation costs. If you qualify and are interested in participating in the study, please complete the brief questionnaire below.

SURVEY QUESTIONS

Age:

Highest level of education:

- Did not complete high school
- High school graduate
- Some college/university
- College/university graduate
- Graduate degree

Where do you current reside:

- Downtown Toronto
- Greater Toronto Area (GTA)
- Outside Toronto

Do you current live:

- By yourself
- With roommates
- With a partner
- With parents/family

Do you:

- Own your home
- Rent
- Live with family/friends for no cost
- Other

Do you have debt? Yes/No

If yes, what kind of debt?

- Student loan
- Credit card
- Car/auto
- Mortgage
- Other

May we contact you to be part of the in-person focus groups? Yes/No

Is there anything specific about you or your financial situation that you would like to share with the researchers?

Informed Consent Form

Date: *October 2019*
Study Name: Debt and Well-being of Emerging Adults in Canada

Researchers:
Jodi Letkiewicz, Associate Professor, York University, Toronto, ON. jodilet@yorku.ca
Katrina Cherney, PhD Candidatre, McGill University, Montreal, QC.
katrina.cherney@mail.mcgill.ca

Purpose of the Research: This an exploratory study to better understand the role debt plays in the lives of young adults in Canada.

What You Will Be Asked to do in the Research: Participate in a 90 minute focus group. You will be asked to share your experiences and opinions about debt. Participants will each receive payment of $50, and $10 to cover the cost of transportation.

Risks and Discomforts: There are no known risks to the participants. However, money can be a stressful topic for many people. Participants may feel uncomfortable discussing and sharing their experiences with money, and you may experience some stress in doing so. You can choose to withdraw from the study at any point. If your stress is significant, the researchers can provide you with additional information or direct you to seek counseling to address this stress.

Benefits of the Research and Benefits to You: The research will inform public policy on how to best help consumers facing economic distress. There is no data on whether participating in a debt management plan, consumer proposal or bankruptcy leads to better outcomes for those struggling with debt.

Voluntary Participation: You understand that there are no right or wrong answers and that it is you choice to respond to certain questions. Your participation in the study is completely voluntary and you may choose to withdraw your consent at any time. Your decision not to participate will not influence the nature of your relationship with the researchers either now, or in the future. Should you choose to withdraw from the study once it has begun, you will still receive the $50 payment and $10 transportation reimbursement.

Withdrawal from the Study: You can withdraw your consent to participate in the study at any time, for any reason, if you so decide. Your decision to stop participating will not affect your relationship with the researchers, York University, or any other group associated with this project. In the event you withdraw from the study, all associated data collected will be immediately destroyed wherever possible.

Confidentiality: All information you supply during the research will be held in confidence and your name or other identifying information will not be provided in any publications or distributions of the research. While confidentiality can be maintained by the researchers, its maintenance cannot be guaranteed by the other members of the focus group. Confidentiality by the researchers will be provided to the fullest extent possible by law.

Recording: The sessions will be audio recorded for research purposes. Any transcripts made from this recordings will not identify individuals and will be destroyed at the conclusion of the study, which will not exceed three years from the date of the focus groups. Please check the box below and initial as an indication of your consent to be recorded. Note that we have no way to only record part of the session, so by checking no you will not be a part of the study.
I consent to the audio recording of this session for research purposes. □ Yes □ No Initial _____

Questions About the Research? If you have questions about the research in general or about your role in the study, please feel free to contact Dr. Jodi Letkiewicz by e-mail (jodilet@yorku.ca). You may also contact Katrina Cherney by email at katrina.cherney@mail.mcgill.ca. This research has been reviewed and approved by the Human Participants Review Sub-Committee, York University's Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines. If you have any questions about this process, or about your rights as a participant in the study, please contact the Sr. Manager & Policy Advisor for the Office of Research Ethics, 5th Floor, York Research Tower, York University (telephone 416-736-5914 or e-mail ore@yorku.ca).

Legal Rights and Signatures:

I _____ consent to participate in the *Debt and Well-being of Emerging Adults in Canada* study conducted by Jodi Letkiewicz, Ph.D (Associate Professor, York University) and Katrina Cherney (Graduate student, McGill University). I understand the nature of this project and wish to participate. I am not waiving any of my legal rights by providing this consent.

Signature: _____ Date: _____

Moderator Guide – Version 1

Introduction

On behalf of myself and my colleague, I would like to thank you all for coming today. We are conducting a study about how debt impacts the lives of young Canadians. We are holding this discussion group to get a sense of how people like you feel about your financial situation, your overall well-being, and what your experience has been like living in Toronto and transitioning into the next stages of adulthood.

Ask each person to please give their first name and one thing to share one thing they would like others in the group to know about them. And then begin my introducing yourself ("I can begin, my name is…) and sharing something about yourself.

Ground Rules

The way the group works is that I will start with some questions that I would like you to respond to, Please keep in mind that there are no right or wrong answers – we just want to get some idea about your opinions and experiences. There should be some time for open discussion at the end.

If you have a different opinion than someone else, please feel free to say so. All I ask is that you give everyone a chance to state their views – and if helps if only one person is speaking at a time. Because there are a number of topics we want you to discuss, I may have to ask the person speaking to cut their answer short. Please do not be offended; it's just that we need to keep things to moving so we can finish on time.

Everything you say will be kept strictly confidential. However, I would like you to understand that our discussion will be audio recorded to assist us in keeping notes and creating a transcript. It is very difficult to take accurate notes and we want to be sure our notes and transcripts are accurate. You should have all completed a consent form. Are there any questions before we begin?

Focus Group Questions

- I'd like to get some feedback on your financial situation and experiences. But first, when I ask about "well-being" and "financial security" what first comes to mind for you? What does "well-being" mean? What does "financial security" mean? Who would like to start?
    - PROBE: Has debt caused you any stress? Do you think it's impacted your overall well-being? In what ways?

    - PROBE: Anything else? (Try to get feedback from each person). Next, I would like to understand your perspectives on debt. Who would like to go first?
    - PROBE: What kind of debt do you have? Do you have student loans you are paying off?
    - PROBE: Has debt been helpful for you? In what ways?
    - PROBE: Do you think debt is holding you back from making some bigger decisions/transitions like marriage, buying a house, starting a family?
- How do you make financial decisions? Do you seek help? If so, where?
- Now, let's talk about your family experience with money and debt. Can you tell us about your understanding of debt growing up? How did/does your family talk about different types of debt? Did this influence your perspective on debt?
- What question do you think we should have asked but didn't?
- We're almost finished, but before we end I'd like each one of you to make one final comment or one last reflection on your financial situation, debt, and overall well-being. What would be the most important thing, from your perspective, that could improve your financial well-being? Let's just go around the table.

Thank you all for your participation. If you have not already signed for and been given your remuneration, please see us before leaving.

<u>Moderator Guide - Version 2</u>

Introduction

On behalf of myself and my colleague, I would like to thank you all for coming today. We are conducting a study about how debt impacts the lives of young Canadians. We are holding this discussion group to get a sense of how people like you feel about your financial situation, your overall well-being, and what your experience has been like living in Toronto and transitioning into the next stages of adulthood.

Ask each person to please give their first name and one thing to share one thing they would like others in the group to know about them. And then begin my introducing yourself ("I can begin, my name is…) and sharing something about yourself.

Ground Rules

The way the group works is that I will start with some questions that I would like you to respond to, Please keep in mind that there are no right or wrong answers – we just want to get some idea about your opinions and experiences. There should be some time for open discussion at the end.

If you have a different opinion than someone else, please feel free to say so. All I ask is that you give everyone a chance to state their views – and if helps if only one person is speaking at a time. Because there are a number of topics we want you to discuss, I may have to ask the person speaking to cut their answer short. Please do not be offended; it's just that we need to keep things to moving so we can finish on time.

Everything you say will be kept strictly confidential. However, I would like you to understand that our discussion will be audio recorded to assist us in keeping notes and creating a transcript. It is very difficult to take accurate notes and we want to be sure our notes and transcripts are accurate. You should have all completed a consent form. Are there any questions before we begin?

Focus group questions

Introduction/definitional questions:

- I'd like to get some feedback on your financial situation and experiences. But first, when I ask about "well-being" and "financial security" what first comes to mind for you? What does "well-being" mean? What does "financial security" mean? Who would like to start?
- What kind of debt do you have? Are you currently paying off student loans or did you finish paying them off?

Decision-making around student loans:

- When you were making decisions about going to university (i.e. where you would go, what program you would go into) how did debt play into these decisions? How were you thinking about student debt at that time? How did it influence your choices?

General feelings about student loans:

- In your mind, how does taking out student loans compare to other kinds of loans? Say a car loan, or a mortgage or having credit card balances that you pay interest on? How are student loans different, if at all?
- Generally speaking, how do you feel about taking out student loans and going into debt for school – would you do it again? Some people see it as an investment, as a benefit, as a

way of preparing for the future. Others see it as something to avoid, as a weight that will make it harder for them to get ahead. Where do you fall?

- Would you recommend taking out student loans to someone you cared about, say a younger brother or sister? Why or why not – what's good & what's bad about them? What kind of advice would you give them? What should they pay attention to?
- Were student loans worth it for you? If you could do it over again, what would you have done differently?

Debt and financial well-being/mental health:

- Now, we're going to talk about student debt and financial well-being, mental health and stress. When we say 'financial well-being', we mean how you feel about your financial situation. If you don't currently have student debt, think about how your debt used to make you feel, and how that compares to how you feel now. Also, try to think about both the positive and negative impacts of student debt.
- How do you think your student debt impacts your financial well-being? Remember, when we say financial well-being, we mean how you feel about your financial situation. Has student debt been helpful or harmful (or both) for your financial well-being?
- How do you think that student debt impacts your mental health? Does it cause you worry or stress? What about it is stressful?
- When you think about the impact of student debt on your financial well-being and mental health, how do you think it compares to other types of debt?

Debt repayment:

- Tell me about your experience repaying your student loans. Was it easy? Difficult? What factors impacted your repayment (think about your income, support from parents/family/friends, balancing this with living expenses)?

Debt and life course decisions:

- How do you think that having student debt now or in the past has influenced your life decisions? For example, with regard to your job choice and career opportunities, getting married, buying a house, having children?
- Do you think that your life would look different now if you hadn't taken on student debt? How?

Family background/socialization around debt:

- Can you tell us about your understanding of debt growing up? How did your family talk about different types of debt? How did they talk about student debt?
- How do you think these conversations about debt and finances influenced the way that you feel about debt?
- Now we'll ask about your financial situation growing up and your current debt. When we say 'financial situation growing up', we mean your parents' income, wealth, financial stability during your childhood and adolescent years.
- In very practical terms, how did your financial situation growing up influence your need to take on student debt?
- Do you think that there is a connection between your financial situation growing up and how you feel about your student debt now? For example, the degree to which debt causes you stress? Your opinions or perspectives on student debt? Your feelings about debt in general?

Wrap-up:

- What question do you think we should have asked but didn't?
- Is there anything else that you'd like to share?

Appendix E: Ethics Approvals

McGill

Research Ethics Board Office
James Administration Bldg.
845 Sherbrooke Street West. Rm 325
Montreal, QC H3A 0G4

Tel: (514) 398-6831

Website: www.mcgill.ca/research/researchers/compliance/human/

Research Ethics Board II
Certificate of Ethical Acceptability of Research Involving Humans

REB File #: 61-0718

Project Title: The Impact of Debt on the Subjective Financial Wellbeing of Emerging Adults

Principal Investigator: Katrina Cherney **Department:** School of Social Work

Status: Ph.D. Student **Supervisor:** Professor Jill Hanley

Co-Investigators/Other Researchers: Dr. David Rothwell, Oregon State University; Dr. Joyce Serido, University of Minnesota-Twin Cities, Dr. Soyeon Shim, University of Wisconsin Madison

Approval Period: August 15, 2018 to August 14, 2019

The REB-II reviewed and approved this project by delegated review in accordance with the requirements of the McGill University Policy on the Ethical Conduct of Research Involving Human Participants and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans.

Deanna Collin
Ethics Review Administrator, REB I & II

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* Approval is granted only for the research and purposes described.
* Modifications to the approved research must be reviewed and approved by the REB before they can be implemented.
* A Request for Renewal form must be submitted before the above expiry date. Research cannot be conducted without a current ethics approval. Submit 2-3 weeks ahead of the expiry date.
* When a project has been completed or terminated, a Study Closure form must be submitted.
* Unanticipated issues that may increase the risk level to participants or that may have other ethical implications must be promptly reported to the REB. Serious adverse events experienced by a participant in conjunction with the research must be reported to the REB without delay.
* The REB must be promptly notified of any new information that may affect the welfare or consent of participants.
* The REB must be notified of any suspension or cancellation imposed by a funding agency or regulatory body that is related to this study.
* The REB must be notified of any findings that may have ethical implications or may affect the decision of the REB.

McGill

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845 Sherbrooke Street West. Rm 325
Montreal, QC H3A 0G4

Tel: (514) 398-6831

Website: www.mcgill.ca/research/research/compliance/human/

Research Ethics Board 2
Certificate of Ethical Acceptability of Research Involving Humans

REB File #: 101-0719

Project Title: Debt and well-being among Canadian Emerging Adults - Focus Group

Principal Investigator: Katrina Cherney **Department:** School of Social Work

Status: Ph.D. Student **Supervisor:** Professor Jill Hanley

Co-Investigators: Dr. Jodi Letkiewicz (York University)

Funding: SSHRC Minor Research Grant (PI- Jodi Letkiewicz)

Approval Period: August 28, 2019 - June 12, 2020

The REB 2 reviewed and approved this project by delegated review in accordance with the requirements of the McGill University Policy on the Ethical Conduct of Research Involving Human Participants and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans.

Georgia Kalavritinos
Ethics Review Administrator

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* Approval is granted only for the research and purposes described.
* Modifications to the approved research must be reviewed and approved by the REB before they can be implemented.
* A Request for Renewal form must be submitted before the above expiry date. Research cannot be conducted without a current ethics approval. Submit 2-3 weeks ahead of the expiry date.
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