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Singled Out:

Household and Family Structure, Social Capital Connectivity,
and the Well-Being of Low-Income Single-Parent Households in Singapore

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Social Welfare

by

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ABSTRACT OF THE DISSERTATION

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Financial stress and parental absence doubly disadvantage low-income single-parent households. Consequently, Singaporean adolescents reared in single-parent households have lower levels of long-term education, economic, and marital outcomes. Concern for the well-being of low-income and/or single-parent households has grown, and Singapore's socio-demographic trends and geographical features also make it likely that these households reach out to diverse social capital sources. Some of these trends are also observed globally. However, heterogeneity based on household/family structure is poorly understood, and within-group variations of social capital and how they relate to parental and adolescent well-being remain research gaps. Jointly guided by social capital and family systems theory and ecological theories of human development, this study examines the relationships between social capital connectivity

and the well-being of parents and adolescents in low-income single-parent Singaporean households.

An exploratory sequential mixed-methods dyadic research design was applied. Findings from 72 in-depth interviews and 9 focus group discussions with 32 participants informed the design of a survey questionnaire involving 129 parents and 132 adolescents, which was pretested with 5 social workers and 4 dyads.

Following a forward stepwise regression procedure, parents with greater household, extended family, friend, and neighborhood/community support had higher life satisfaction. Those with less extended family and friend strain reported higher life satisfaction. Parents with greater household and extended family support and who were employed full-time had higher flourishing. Unexpectedly, household strain positively predicted life satisfaction. Adolescents with greater household, school, and neighborhood/community support had higher life satisfaction. Those with greater household, friend, and school support reported higher flourishing. Unexpectedly, adolescents with more friend support and greater mentor access had lower life satisfaction. Those with more extended family support also reported lower flourishing. Overall, bonding social capital had the largest influence on parental well-being, while it was bridging social capital for adolescent well-being.

Understanding the variation of social capital connectivity in relation to well-being can result in knowledge about how and why some low-income single-parent households cope better than others. The study is also consistent with Singaporean advocacy efforts to reduce prejudice and/or discrimination against these households and help improve programs and services designed for them.

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CHAPTER ONE: INTRODUCTION

Statement of the Problem

Low-income single-parent households in Singapore

Low-income single-parent Singaporean households – constituting 9.6% of all households in the country – are doubly disadvantaged as a result of both financial stress and the absence of a parent in the household. Single-parent households, including those who are middle-class or who have higher incomes, are already perceived by some to be part and parcel of an unhealthy demographic trend in the country, and in addition these households tend to be negatively contrasted with two-parent households (Wong et al., 2004). In Singapore, children and adolescents reared in single-parent households have been found, on average, to have lower levels of long-term education, economic, and marital outcomes. Despite some methodological limitations, a longitudinal, intergenerational, and large-scale government study involving approximately 100,000 Singaporean children born between 1979 and 1981 documented that compared to their counterparts who grew up in two-parent households, children whose biological parents divorced were less likely to have a university degree (9.2 percentage points lower on average), had lower levels of incomes and savings (4.9 and 6.8 percentiles lower on average, respectively), and also had lower rates of marriage and higher rates of divorce (2.3 percentage points lower and 7.9 percentage points higher, respectively) (Ministry of Social and Family Development, 2020).

In this vein, single parents raising adolescents with fewer economic resources often must contend not only with the persistent stigma of their single-parent status, but they also have to navigate financial difficulties and/or make household ends meet (De Coster et al., 2021).

According to the 2020 Singapore Census of Population, single-parent households in Singapore are more likely to be female-headed and to be of lower-income status. Using educational qualification as a proxy for socio-economic status, only 8.2% of males and 2.7% of females who are widowed and 17.8% of males and 17.8% of females who are divorced/separated have completed a university education. These proportions are all lower than the national average of 32.07%. Politicians and advocacy groups in the country recognize the double disadvantages of low-income single-parent households. As head of state, the president has lobbied for greater support for underprivileged single mothers and campaigned against the persistence of negative stereotypes and judgements (Shafeeq, 2021). In particular, she has advocated for greater public focus on the strengths of these households as opposed to their needs or what they may lack. At the same time, advocacy groups have argued that discriminatory government policies have created barriers for low-income households seeking assistance and/or are further perpetuating social stigma against single-parent households (Brownstein, 2017; Glendinning et al., 2015). In recent years, concern for the well-being of low-income and/or single-parent households has grown in tandem with calls for the government to provide even more assistance (Brownstein, 2017; Teo, 2019). However, the government continues to emphasize individual self-reliance and family as the first line of support for households struggling to get by (Haskins, 2011; Rozario & Rosetti, 2012; Tarmugi, 1995), making it more likely that low-income single-parent households reach out to family members as sources of social capital or try to make do on their own as a household.

In addition to the foregoing, socio-demographic trends and unique geographical features also make Singapore an interesting site for the study of low-income single-parent households and their social capital connectivity. While household sizes have been decreasing and household

structures are also changing (Housing and Development Board, 2021b), extremely high population density in the very small country translates into increased proximity of extended family members who can potentially provide support to households even if the family members are not living together (Housing and Development Board, 2014). In 2018, almost 60% of households with young children and/or teenaged children lived in the same flat, within close proximity (i.e. living next door, in the same or nearby block, or in the same estate), or in a nearby estate to grandparents (Housing and Development Board, 2021a, 2021b). Moreover, in general, single-parent households are also more likely to access kin and non-kin support (Lindstrom et al., 2019; Lumino et al., 2016; Neves et al., 2019; R. D. Taylor et al., 2008), and in Singapore there is some recent evidence that grandparents are an important source of social capital (Kwan, 2021). Similarly, low-income households are more likely than higher-income households to access support from others in their extended family and social networks (Mazelis & Mykyta, 2020). Some individuals may also live in extended-family households, given the convenience of sharing financial resources and/or domestic chores (Kramer, 2019). In addition to kin support, some low-income and/or single-parent households in the country access other forms of social support which positively influence their development and well-being (Cheang & Goh, 2018; Cheng & Pfeifer, 2015; Cheung & Sim, 2017; Kwan, 2021).

The social capital and well-being of low-income single-parent households

The socio-demographic trends in Singapore are also observed in the US and around the world. Increased rates of relationship dissolution and divorce have resulted in more diverse households and families for children and adolescents (Schweizer, 2020), who could consequently grow up in households with two biological cohabiting parents or reside with unmarried parents

or one fewer biological parent (Manning et al., 2019). For instance, almost a quarter of US children below 18 years of age live in a single-parent unit with no other adults, compared to the global average of 7% (Kramer, 2019). These demographic trends are also associated with greater family instability. Before turning 12, US children are estimated to experience one family transition on average, and over one-quarter of them go through two or more transitions (Brown et al., 2016).

Particular attention has been paid to single-parent households. With decreasing marriage rates and an increasing number of births outside of marriage, there is some empirical evidence that single motherhood or unmarried parenthood is associated with high rates of child poverty in the US (Brady, 2019; Sawhill, 2014; Thomas & Sawhill, 2002). Sawhill (2014) argued that if not for the increase in divorce and single parenthood since 1970, the US child poverty rate would be 20% lower. During the 2020 US presidential election, candidates such as businessman Andrew Yang advocated for increased assistance to single parents, including responsibility-sharing networks and communal housing (Yang, 2020). Focusing on the children of single-parent households, researchers have advanced three hypotheses – family instability, lower parenting quality, and economic disadvantage – to account for their lower levels of development and well-being compared to the children’s counterparts who grow up in other household structures, especially households with two married parents (Lin & Yi, 2019; Murry & Lippold, 2018).

First, with family instability, the instability hypothesis holds that a higher number of transitions results in more stress and thus presents greater risks for parents and adolescents, which in turn adversely affect their well-being (Murry & Lippold, 2018; Smetana & Rote, 2019). Family instability has been found in existing literature to be negatively associated with family and child well-being (Hadfield et al., 2018; Lee & McLanahan, 2015), and disruptions and

multiple reconfigurations are associated with reduced parenting quality and less effective socialization of children. (Harcourt & Adler-Baeder, 2015). Family instability is also more common among non-traditional family households (Fomby & Cherlin, 2007). Cumulatively, multiple transitions through an individual's lifespan are associated with greater instability over time (Fomby & Osborne, 2010; Hofferth, 2012; Johnston et al., 2020; Koster et al., 2021).

Second, with lower parenting quality, one fewer parent in the household often means one fewer person to monitor or supervise the children (Maldonado & Nieuwenhuis, 2015). With fewer familial and financial resources, single parents often have to navigate the competing responsibilities of employment and caregiving (Bakker & Karsten, 2013).

Third, with economic disadvantage, single-parent households frequently have less income and wealth than their married-couple and/or married-household counterparts, leaving them doubly disadvantaged. Having fewer economic resources may reduce parents' abilities to parent, which in turn adversely affect child outcomes (Conger et al., 2010; Harkness et al., 2020; R. Taylor et al., 2014). The economic disadvantage hypothesis is related to the selection explanation, that single-parent households tend to be headed by breadwinners who are less highly educated or by non-college graduates who do low-wage or part-time work and/or who come from disadvantaged backgrounds (Murry & Lippold, 2018). Based on the selection hypothesis, it is not the single-parent household structure which influences the well-being of children, but the effects of the socio-economic circumstances of the parents which adversely affect child outcomes (Cabrera et al., 2019; Radey & McWey, 2019; R. M. Ryan et al., 2015; Y.-T. Wang & Yang, 2019). Therefore, as established in recent research, children of low-income *and* single-parent households are likely to have lower levels of well-being compared to those who are from low-income *or* single-parent households (De Coster et al., 2021).

Finally, there is evidence that some low-income adolescents, especially those being raised in a single-parent family, access social capital resources through capable agents in their extended family, peer groups, and school (Stanton-Salazar, 2011). Economically-disadvantaged and non-White US households are also more likely to have grandparents and other adult family members nearby (H. Choi et al., 2020), from whom support could be drawn. Additionally, the involvement of extended family members or the formation of extended family households could be a strategy to move out of poverty (Reyes, 2020). Nonetheless, norms and expectations of reciprocity as well as the stigma of being part of a poor or near-poor single-parent household may limit the willingness of some single parents and adolescents to reach out for assistance in the first place (Mazelis & Mykyta, 2020). Moreover, others have posited, the social networks of low-income households are often limited to individuals with equally poor resource access and whose stock of resources could also drain quickly (Ferlander, 2007; Reyes, 2020).

The Present Study

Research question

The present study focused on low-income single-parent households with adolescents in Singapore, where the heterogeneity of low-income single-parent households based on household and family structure is poorly understood. In addition, within-group variations of social capital among these households and how they relate to parental and adolescent well-being remain significant research gaps. Jointly guided by social capital theory (Coleman, 1988; Field, 2016; Widmer, 2010), family systems theory (Cox & Paley, 1997), and ecological theories of human development (Bronfenbrenner, 1977, 1986; Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006), the research question that follows was addressed: *What are the relationships*

between social capital connectivity and the well-being of parents and adolescents in low-income single-parent households in Singapore?

An exploratory sequential mixed-methods dyadic research design was applied in this study to investigate the relationships between social capital connectivity and parental and adolescent well-being. Social capital connectivity was defined by levels of social relationships and networks and were organized based on bonding ties, bridging ties, and linking ties (Coleman, 1988; Field, 2016; Widmer, 2010). Parental and adolescent well-being were measured by life satisfaction (Bowen & Jensen, 2017) and flourishing (Diener et al., 2010). Both measures are identified and explicated in greater detail in Chapter Three in the methodological section on quantitative measures.

Findings from the in-depth interviews with 36 parent-adolescent dyads ($n = 72$, with an eventual target of 40 dyads or $n = 80$) resulted in an understanding of how the parents and adolescents perceived and provided or used social capital. Similarly, findings from the focus group discussions allowed 32 respondents ($n = 32$) to describe how they perceived and defined well-being. Collectively, in addition to and consistent with the theoretical framework of the study, the insights on social capital and well-being guided the selection of measures and instruments for the survey questionnaire, completed by 129 parents and 132 adolescents (with an eventual target of 250 dyads or $n = 500$), which was used in the present investigation of the relationships between social capital connectivity and the well-being of parents and adolescents in low-income single-parent households in Singapore.

Theoretical framework

Social capital theory highlights the importance of social relationships and networks, through which individuals accrue beneficial resources to accumulate human capital and improve their well-being (Coleman, 1988; Field, 2016; Widmer, 2010). The classification of social capital as bonding, bridging, and linking is useful for two reasons. First, bonding social capital indicates connections within households, while bridging social capital indicates connections between households (J. Zhang et al., 2019). Second, because of the expectation of reciprocity (Field, 2016), and given the persistent stigma attached to low-income single-parent households in Singapore and around the world, parents and adolescents of these households may find it difficult to activate sources of social capital, even if they may be present and available. Therefore, prejudice against or stereotypes of single-parent households may deter parents and adolescents from tapping into potential sources of bridging and linking social capital. Relatedly, forms of social capital could be positive or negative, and discerning between different forms can be challenging for households (De Coster et al., 2021; Pierce & Quiroz, 2019; Wherry et al., 2019).

Family systems theory, complementary to social capital theory and the ecological framework, examines individuals in the context of their families and identifies connections between family members, family sub-systems, and larger family groups (Cox & Paley, 1997). In addition to the parent-adolescent relationship within the household, other forms of bonding social capital under the same roof could include siblings, non-resident partners/parents, romantic partners, and extended family members, especially grandparents (Kwan, 2021). These individuals would be living/staying in the same household. The parent-adolescent relationship itself is also shaped by broader family sub-systems and groups which surround the microsystem that is the family (Bronfenbrenner & Morris, 2006; Teti et al., 2017).

Finally, ecological theories of human development bring attention to additional contexts or settings from which parents and adolescents could draw other sources of social capital to positively influence their well-being (Bronfenbrenner, 1977, 1986; Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). Forms of bridging and linking social capital are also likely to be relevant. Similar microsystems for both could include communities/neighborhoods around their homes as well as their respective social or friendship circles. In particular, workplaces are likely to be important for parents as schools are for adolescents. Under the ecological framework and its socially organized levels, the macrosystem highlights the influences of socio-cultural norms and the impact of poverty on household. The chronosystem is centered on life-course transitions, consistent with the influence of family instability and temporality on household and family structures.

Policy and Practice Implications

Understanding the variation of social capital connectivity in relation to parental and adolescent well-being in Singapore can result in knowledge about how and why some low-income single-parent households cope better than others. Identifying resilience-promoting factors and processes within the broad household or family structure of single parenthood can also inform beneficial social welfare and policy interventions (Leticq, 2019; Murry & Lippold, 2018; Sanner et al., 2020). Moreover, social welfare and social policy interventions designed for single parents and their adolescents can be improved. Besides addressing the households' financial distress and parental absence, social service agencies and social workers who work with these households can potentially identify protective factors within and beyond the household that could provide resources and/or social support.

From a policy perspective, the study is consistent with advocacy efforts to reduce prejudice and/or discrimination against low-income single-parent households in Singapore as well as to add to our knowledge about well-being among low-income Singaporean single parents and their adolescent children (Brownstein, 2017; Glendinning et al., 2015). The focus on social capital connectivity might lead to more nuanced depictions of the social relationships and networks accessible to low-income parents and their adolescent children as well as a better understanding of ways to evaluate the structural implications for social welfare intervention efforts which might be beneficial to parents and adolescents (Haskins, 2011; Rozario & Rosetti, 2012; Tarmugi, 1995).

From a practice perspective, knowing why and how some households cope better than others can help social service agencies and social workers improve social welfare and social policy programs and services designed for single parents and their adolescents. More specifically, it could be more useful to compare variations among single-parent households, instead of contrasting them with other household types or structures (Ministry of Social and Family Development, 2020). Agencies and workers can be further empowered to identify resilience-promoting factors and processes within the broad household or family structure of single parenthood (Leticq, 2019; Murry & Lippold, 2018; Sanner et al., 2020). Relatedly, they can also potentially identify protective factors within and beyond the household, which in turn could improve both parental and adolescent well-being.

Organization of Study

Following this first chapter, Chapter Two presents the literature review, beginning with an elaboration of the theories and conceptual frameworks before a discussion of the relationships

between household and family structure and social capital as well as between social capital and the well-being of low-income single-parent households. In addition, the circumstances of low-income single-parent households in Singapore and relevant existing research in the country are also explored. Chapter Three briefly describes the exploratory sequential mixed-methods research design of the study – including the in-depth interviews, focus group discussions, pretests, and the survey – before detailing the survey, measures, and analytical plan used for the quantitative analysis. Chapter Four documents the quantitative results. Finally, Chapter Five contains the discussion, conclusion, and policy and practice implications. Limitations of the study will also be explored alongside pandemic considerations in the context of COVID-19.

CHAPTER TWO: LITERATURE REVIEW

This chapter details the theories and conceptual frameworks which guided the study: Social capital theory (Coleman, 1988; Field, 2016; Widmer, 2010), family systems theory (Cox & Paley, 1997), and ecological theories of human development (Bronfenbrenner, 1977, 1986; Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). Following a conceptual overview of parental and adolescent well-being in the extant literature, existing research on the relationships between household and family structure and social capital as well as between social capital and the well-being of low-income single-parent households are discussed. Next, the circumstances of and research concerning low-income single-parent Singaporean households and their social capital and well-being are detailed. Finally, the research question and the theoretical expectations are presented.

Theories and Conceptual Frameworks

Social capital theory and ecological theories of human development are complementary. Together with family systems theory, these three theoretical perspectives jointly guide this study. Ecological theories of human development (Bronfenbrenner, 1977, 1986; Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006), which specify the structural links between person-context interactions and the well-being of individuals, provide the structural scaffolding for social capital theory. With social capital theory (Coleman, 1988; Field, 2016; Widmer, 2010), particular attention is paid to its three tenets: Mobilizing resources embedded in social relationships and networks, the expectation of reciprocity, and the classification of bonding, bridging, and linking social capital. With the ecological framework, the tenets which are

especially helpful are that of person-context interactions influencing the development and well-being of individuals, bidirectionality, and interactions across the five socially organized levels.

Social capital theory

Despite persistent disagreements over how social capital is operationalized or measured (Alvarez et al., 2017; S. Ryan & Junker, 2019), there is agreement that social capital theory broadly describes a process of individuals connecting through their social relationships and networks with others. Hence, relationships are important. Consequently, the accumulation of these relationships and networks constitutes a resource which is beneficial for individuals' well-being and development (Coleman, 1988; Field, 2016; Widmer, 2010), and which in turn help develop their human capital. For instance, for children and adolescents, relationships and resources in their families and communities can help develop their human capital. The quality of their social capital is then determined by the degree of trust and the extent to which values are shared within these connections or communities.

The expectation of reciprocity is a key tenet of social capital theory (Field, 2016). Individuals invest in social capital with expectations of return, and the receipt of support or aid often entails subsequent obligations to provide support or aid in return. Reciprocity allows for relationships and networks to be further built and sustained, because repeated exchanges result in greater interdependencies between individuals (Pearce et al., 2018). Over time, the greater the interdependencies, the greater the availability and mobilization of resources (Widmer, 2010).

Social capital confers benefits to low-income single-parent households. The theory potentially explains how parents and adolescents access information, advice, and assistance through their respective or shared relationships and networks (S. Ryan & Junker, 2019).

Furthermore, social capital theory also explains how resources are availed through social networks, how these networks facilitate or hinder the use of resources, and the role of individual choices and practices in influencing resource availability and mobilization (Neves et al., 2019).

For this study, a useful classification of social capital involved a distinction between bonding and bridging social capital (Field, 2016; Neves et al., 2019; Widmer, 2010; Woolcock, 2001; Zhang et al., 2019). Additionally a third type, linking social capital, was expected to be useful (Field, 2016; Woolcock, 2001). Bonding social capital involves resources accrued through strong ties with family and near kin or relatives, all of whom share some demographic similarities with each other and who are living/staying in the same household. Conversely, bridging social capital involves resources accrued through weak ties with more distant acquaintances or friends, all of whom may have more pronounced differences in socio-cultural and/or demographic backgrounds across different households. For example, within the household, the levels of within-family or bonding social capital can be determined by parental presence and the extent to which parents are involved in their children's socialization. For adolescents, peer support in friendship networks can be a source of bridging social capital (De Coster et al., 2021). Bonding and bridging social capital have also been described as intra-familial and inter-familial social capital respectively (J. Zhang et al., 2019), indicating connections within and between households.

The final category of social capital, linking social capital, allows individuals to access relationships and networks outside their communities, where different individuals in different situations are brought together (Woolcock, 2001). Individuals may also be exposed to others who may be outside their social settings or environments (Field, 2016). In this vein, individuals can potentially expand the range of resources to which they have access. Linking social capital

describes relationships often characterized by power and institutional differences. For parents and adolescents from low-income households, these relationships or networks may include youth or social workers, natural or informal mentors, or state-assigned social workers who work with the household through mandated social programs and services.

Because bonding social capital involves ties with individuals in similar situations and bridging social capital involves more distant ties of like individuals (Woolcock, 2001), Field (2016) has characterized the former as useful for getting *by*, because homogeneous identities are reinforced, and the latter as productive for getting *ahead*, because broader identities are generated (emphases mine). While social capital remains a multidimensional construct (Widmer, 2010), household configurations with varying sources, levels, and quality of bonding, bridging, and linking social capital are likely to negotiate familial cooperation and conflict differently, resulting in dissimilar levels of well-being. Forms of social capital can also be positive or negative (De Coster et al., 2021; Pierce & Quiroz, 2019; Wherry et al., 2019). Negative social capital entails free riding from individuals who insist on getting help even though they could do more for themselves. Other individuals may also feel pressured to provide help because of the perceived importance of family ties. Hence, the bonding social capital of low-income households is likely to be homogeneous and of low quality (Ferlander, 2007; Mazelis & Mykyta, 2020; Reyes, 2020). The expectation of reciprocity from and societal stigma against single-parent households, as previously highlighted, may also deter some households who fear judgement from tapping into potential sources of bridging and linking social capital.

Family systems theory

Considered theoretically to be a part of systems perspectives and thus complementary to the ecological framework, family systems theory explains the importance of interactions between family members and familial relationships within family structures. In short, individuals can be understood in the context of their families and relationships with other family members. The theory examines individual family members as part of a systemic whole consisting of other family members (Cox & Paley, 1997). More specifically, family members, family sub-systems such as dyads (for example, father-mother or mother-child relationships) and larger family groups (for example, extended family members within and beyond a household) are connected and interdependent. What happens in one familial sub-system will affect other sub-systems, such as reciprocal interactions between an adolescent and a younger sibling affecting the younger sibling's relationship with their single parent. These patterns of interaction are connected and have been described as contextual factors for each other (Bortz et al., 2019), since developments in one sub-system can affect other sub-systems. Overall and over time, families build relationships and take action, with the important implication that relationships between two family members or sub-systems cannot be understood in isolation of the broader family relationships which surround them (de Bel et al., 2019).

As with other household structures, single-parent households are embedded within broader family relationships or structures through which supportive resources can be accessed (de Bel et al., 2019; Lindstrom et al., 2019; Widmer, 2010). However, with one fewer biological parent living in the same household, single-parent households might be more likely to compensate for parenting and caregiving support through kin and non-kin support (Lindstrom et

al., 2019; Lumino et al., 2016; Neves et al., 2019; R. D. Taylor et al., 2008), thereby broadening their overall family system.

It is theorized that human development is the result of reciprocal co-actions between individuals and their contexts, facilitated by relationships as drivers (Osher et al., 2018). Consistent with ecological theories of human development, the household or the family is a microsystem consisting of processes which influence parenting and caregiving (Bronfenbrenner & Morris, 2006; Teti et al., 2017). Within the household, through adults such as parents and relatives, children and adolescents co-create supportive contexts for their personal development. By identifying important family and household members who are present and available, parents also make sense of norms, social networks, and relationships to improve personal or household well-being. Teti et al. (2017) detailed how parental functions are broadly nested in parents' immediate household relationships, the roles of parents as workers or group members, extended relationship networks of family, neighbors, and community members, religious and socio-cultural institutions, as well as socio-economic opportunities and constraints.

Ecological theories of human development

Ecological theories of human development provide a conceptual structure to better understand the nesting of social capital within and beyond family systems. The ecological framework examines how individuals interact with and relate to their communities or environments, further emphasizing how development occurs through person-context interactions across five socially organized levels (Bronfenbrenner, 1977, 1986; Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). The levels include the microsystem (with the most direct or proximal influence on the individual), the mesosystem (the connections between microsystems),

the exosystem (the indirect links to a microsystem to which an individual does not have access), the macrosystem (the culture in which the individual lives), and the chronosystem (the transitions over the life course).

Bidirectionality is an important feature of these processes. Individuals do not just passively receive support or resources from others, but they can also actively offer resources of their own to shape their relationships and interactions across multiple contexts. The household is part of the microsystem environment which influences the activities, behaviors, and ultimately the well-being of single parents and adolescents (Newland et al., 2019). Using ecological theories of human development in this study brings attention not only to the role of the single parent and/or the non-resident biological parent in adolescent development through socialization and the provision of support – and *vice versa*, with adolescents providing emotional support to their parent(s) – but also highlights the role of important family and non-family individuals who may operate with or within other complementary microsystems (Lindstrom et al., 2019; Love & Knott, 2018; J. Zhang et al., 2019).

For adolescents in low-income single-parent households, their other microsystems can include peers, schools, as well as neighborhoods or communities. The relationships, connections, and interactions within these microsystems collectively influence their development and well-being (Newland et al., 2019; J. Zhang et al., 2019). Within and/or beyond the immediate setting of the home, extended family members such as grandparents can and often do provide caregiving or even act as substitute parents (Kwan, 2021). In turn too, consistent with the tenet of bidirectionality, adolescents might also care for aged grandparents without financial means who have medical needs. Under the ecological framework, since development is facilitated across different social settings, it has also been argued that positive development is maximized when

the messages, norms, and rules of and from these settings are positively congruent (Y. Wang et al., 2019).

Mesosystems allow for the study of connections across microsystems (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). The microsystems comprised of single parents and their adolescents also interact with other microsystems forming mesosystems, such as when parents communicate with teachers to evaluate the adolescent's academic performance or with social workers who interact with the adolescents. In addition, exosystems might affect adolescents indirectly through their parents' connections with microsystems at work that are inaccessible to the adolescents directly. An example would be adolescents benefiting from knowledge their parents get through the parents' relationships with work colleagues.

The macrosystem is relevant in Singapore, where socio-cultural norms influence the types of bonding, bridging, and linking social capital to which low-income single-parent households have access. Poverty and its implications are significant. For low-income households, financial disbursements by the government are contingent upon proof that family assistance has been exhausted (Haskins, 2011; Rozario & Rosetti, 2012; Tarmugi, 1995), and government emphasis on self-reliance and family as the first line of support speaks to the likely dominance of bonding social capital. Only when familial support is exhausted are households more inclined to turn to friends (as a form of bridging social capital) or enlist the help of a government-assigned social worker or volunteer from a social service agency (as forms of linking social capital). The workplace could also be a site of linking social capital, especially if the single parents are nudged or prompted to work.

Finally, the chronosystem focuses on transitions across the life course (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). Particular attention is paid to important life events

or transition, such as moving from one household structure to another and changes due to living arrangements or serious illnesses or deaths in the family. This approach is consistent with the influence of family instability and temporality on household and family structures (Murry & Lippold, 2018; Smetana & Rote, 2019).

Parental and adolescent well-being

In the extant empirical literature, parental and adolescent well-being have been previously conceptualized in a number of ways. In this study, both parental and adolescent well-being were conceptualized and operationalized as life satisfaction, using Cantril's Ladder of Life Scale (Bowen & Jensen, 2017), and flourishing, a measure of perceived success in important areas such as relationships and self-esteem (Diener et al., 2010).

A range of other indicators and scales in the extant literature were shortlisted and previously considered for the survey questionnaire. For parents, they included cognitive measures of global life satisfaction (Diener et al., 1985; Lamela et al., 2016), scales of psychological distress, perceived interpersonal support, and parental stress (Piehler et al., 2014), as well as depression, global happiness, self-esteem, and self-efficacy (Nomaguchi, 2012). For adolescents, potential scales included the psychological characteristics of engagement, perseverance, optimism, connectedness, and happiness (Kern et al., 2016). Other measures included self-esteem, hopelessness, delinquent attitude, educational expectations, and optimism or efficacy (Phillips, 2012). As a strengths-based conception of adolescence (Lerner, 2005; Lerner & Lerner, 2013), positive youth development has also been used as a measure of adolescent well-being (Geldhof, Bowers, Boyd, et al., 2014; Geldhof, Bowers, Mueller, et al., 2014; Lopez et al., 2015). Finally, household- and family-based well-being measures were

considered but ultimately not included (Coley & Lombardi, 2014; Newland, 2014; Noor et al., 2014)

Heterogeneity of Household Structure, Bonding, Bridging, and Linking Social Capital

For single-parent households, three related hypotheses have been advanced in extant literature to account for their lower levels of development and well-being compared to those who grow up in other household and family structures (Lin & Yi, 2019; Murry & Lippold, 2018). They are family instability (Maldonado & Nieuwenhuis, 2015), lower parenting quality (Bakker & Karsten, 2013), and economic disadvantage (Conger et al., 2010; Harkness et al., 2020; R. Taylor et al., 2014). The sub-sections that follow begin with a discussion of the heterogeneity of household and family structures, including among single-parent households. This is followed by a discussion of bonding social capital within the household, particularly in relation to parenting quality as well as a discussion of bonding, bridging, and linking social capital beyond the household and how they relate to economic disadvantage.

The heterogeneity of household and family structures

Single-parent households with adolescents have heterogenous household and family structures. While children and adolescents of step-families or single-parent families have been found in previous studies to have lower levels of well-being and developmental outcomes compared to their counterparts in two-parent nuclear households with biological parents (Fomby & Sennott, 2013; Halpern-Meekin & Tach, 2008; Sweeney, 2010), present definitions and measurements of household and family structure in extant literature are too generalized and do not adequately capture complexity and heterogeneity in reality (Harcourt & Adler-Baeder, 2015).

For single-parent households, household structures can differ based on the reasons for single parenthood, even though they are often collapsed into broad categories of being “divorced/separated” or “widowed”, as it is done in Singapore in its 2020 Census of Population. However, single-parent households can also include parents who have never been married (Wong et al., 2004). Furthermore, post-divorce and post-separation households have diverse familial configurations and living arrangements (Widmer, 2010; Zemp & Bodenmann, 2018), and parent-adolescent relationships are also likely to vary within each configuration. For instance, for households with a widowed parent, surviving parents and their children have been found to grow closer following the loss, reflected by improved parent-child relationships (Jiao et al., 2020).

Family structure remains most commonly defined by the marital status of the parents or adults in the household and/or by the parent-child relationships within the same household (Brown et al., 2015; Harcourt & Adler-Baeder, 2015). In other words, marriage is central to definitions of family structure, which also explains why other household or family structures are most commonly contrasted with the dominant nuclear family consisting of two married, heterosexual parents rearing their biological children. Relatedly, definitions of family structure are also limited to members who share the same household. This is despite observations that when asked to think about who or what constitutes the “family,” individuals do not just include household members who live with them or think about how the adults in the household are romantically related. Studies which are too parent- or adult-focused ignore the role of other siblings who provide support or the distribution of resources to siblings (Brown et al., 2015). They also overlook other non-parental and/or non-adult relationships (e.g. siblings and extended family members), family instability (i.e. the number of family structure transitions) and family

complexity (i.e. the presence of half and/or step-siblings) (Brown et al., 2015; Lee & McLanahan, 2015). In this vein, Sanner & Jensen (2021) cautioned against conflating families with households, because family membership is socially constructed by individuals.

While existing research has focused predominantly on between-group contrasts, such as single-parent versus two-parent households, within-group differences of single-parent households are potentially meaningful. Identifying strengths of different family forms within the broad category of single-parent households signifies not just a move away from the predominance of the “Standard North American Family” (SNAF) – that is, White, middle-class, married, heterosexual couples with their biological children – but also helps identify resilience-promoting factors and processes within forms of household or family structures (Leticq, 2019; Murry & Lippold, 2018; Sanner et al., 2020). Just as family structure remains tied to parental marital status, as aforementioned, the nuclear family model continues to be the referent family structure for defining kinship in the West. Hence, recent evidence suggests that studies should move beyond biological parents and full siblings *per se* to consider the involvement of adults and children in other households, the role of extended family members, and the contribution of unrelated adults such as step-parents or social parents (Berger & Carlson, 2020).

Finally, beyond the scope of this study, the roles of race/ethnicity and gender in terms of influencing the access and/or availability of social capital have been considered by some (Billingsley et al., 2020; Cross, 2018; Kelly, 2007). Similar observations have been made in Singapore (Chua, 2003; Lian, 2016; Paulo et al., 2019).

Bonding social capital within the household

Parent-adolescent relationships are arguably the most important source of bonding social capital for low-income single-parent households. Extant research has also brought attention to the biological parents as well as the non-resident parents or partners as important sources of social capital for resident parents (usually single mothers) and their adolescents (J.-K. Choi & Jackson, 2011; Jackson et al., 2009; Ward & Limb, 2019). However and in addition, romantic partners of the resident parent (usually an unmarried mother), especially if they are living in the same household, also function as social parents, thereby bringing attention to the meanings of parenthood as well as the costs and benefits they confer (Malinowski, 1964; Risman, 1988; Tach et al., 2014). Single parents who are not officially married can have a range and history of romantic relationships (Bastin, 2019; Zemp & Bodenmann, 2018), and consequently how the romantic partners interact with the children of the single parents – especially those living in the same household – can affect their well-being and development.

Additionally, also in the context of the household, family systems theories also bring attention to the role of siblings and family complexity, in terms of when and the number of siblings who enter or exit the household. Sibling complexity, or the presence or absence of biological siblings and/or step-siblings in the household, has been considered in existing studies (Sanner & Jensen, 2021). For parents, the number of children or step-children they have or for whom they care can influence their parenting responsibilities and the support they require (Cabrera et al., 2019; Runyan et al., 1998). For adolescents, siblings feature as competitors or assets, either diluting finite parental resources or serving as resources themselves (Merry et al., 2020). High-quality and strong sibling relationships, as sources of positive support, have been

found to protect and to reduce children's vulnerability to interparental conflict (Buist et al., 2019; Davies et al., 2019).

In general, even though kin relationships are perceived by some adolescents and their parents to be special (Finch, 1989), family ties in low-income households can be less stable and more uncertain. The uncertainty has been found to be associated with a weakened ability by some adolescents and their parents to rely on other forms of family support during hard times or difficult life events (Seltzer, 2019), rendering sources of bonding social capital present but not necessarily available.

Bonding, bridging, and linking social capital beyond the household

Transitions into a single-parent household can be disruptive. Nevertheless, beyond the household, kinship ties can grant access to additional social capital and social support (Field, 2016). Post-divorce or post-separation families have been characterized in extant research as "pedi-focal systems" (Sanner & Jensen, 2021), wherein the children become the focus of the family's adults. Besides the resident single parent, these adults can include extended family members living in close proximity, non-resident partners/parents, and other non-family adults who visit regularly (Crosbie-Burnett & Lewis, 1993; Sanner et al., 2018). More broadly, forms of bonding and bridging social capital for the household often include grandparents, other extended family members such as uncles, aunts, and cousins (Jæger, 2012; Lin & Yi, 2019; Mollborn et al., 2011), domestic helpers (Li et al., 2008), neighbors or friends, as well as social workers and care professionals perceived to be close or helpful to the family or household (Widmer, 2010).

Wider kinship networks translate into a greater stock of social capital, resulting in positive links between kinship involvement and familial well-being (Furstenberg et al., 2020). In most research thus far, kinship criteria have been limited to genetic and legal bonds, even though affective and pragmatic relationships have been found to be as important for individuals (Sanner et al., 2020; Woods et al., 2019). The workplace has been documented to be potentially supportive for parents or low-income and/or single-parent households, who can draw support and help from their co-workers (Son & Bauer, 2010). More specifically, family-friendly policies at the workplace such as flexible work schedules and supervisory support have been found to improve the well-being of working parents (Jang, 2009).

Adolescence is an especially interesting phase for study because sources of social capital are likely to evolve and shift for adolescents. Parent-child relationships change significantly during adolescence, as adolescents begin to draw support and social capital from a wider range of sources (Stanton-Salazar, 2011), thereby resulting in potentially differing perceptions of parenting and other familial and/or social relationships (Mastrotheodoros et al., 2019; Tremblay Pouliot & Poulin, 2021). As adolescents spend more time with peers in school and with friends in the neighborhood and/or community instead of the family, the parent-adolescent relationship also becomes less hierarchical and more egalitarian (Ruggeri et al., 2018; Smetana & Rote, 2019). Teachers and peers are especially important sources of socialization in the school or classroom (Carter et al., 2007; Dufur et al., 2015; Li et al., 2008), where adolescents spend a lot of their time (Diaconu-Gherasim & Măirean, 2019). Given the increased intimacy of these relationships, peers and romantic partners play increasingly influential roles in adolescent well-being and development, and in some instances the importance of these relationships often influence relations with their parents and other family members (Keizer et al., 2019; Neves et al.,

2019; Vaillancourt et al., 2019). In addition, accessible role models can also help and provide advice to adolescents (Buehler et al., 2018; Strasser-Burke & Symonds, 2019).

Non-family individuals who function as natural or informal mentors can also be significant sources of bridging or linking social capital for parents and adolescents (Arbeit et al., 2019; Spencer, Gowdy, et al., 2019; Van Dam et al., 2019). They might include family friends, neighbors, youth or social workers, sports coaches, or tutors whom adolescents trust (Meltzer et al., 2018). Both parents and adolescents may have similar access to individuals such as natural or informal mentors and social workers (Spencer, Gowdy, et al., 2019; Van Dam et al., 2019).

Sources of bonding, bridging, and linking social capital can be organized using ecological theories of human development. Social capital is generally understood as social resources available to individuals through social relationships and network structures, and in this vein social support is one way of obtaining social capital (Carlson et al., 2019). Post-divorce social support can be practical, financial, instrumental, emotional, or social, and such support can influence the well-being of single parents (Van Gasse & Mortelmans, 2020). Support also often is derived from multiple family and kin (Napolitano et al., 2021). On the other hand, those without access to social capital may not only have fewer relationships, but they may also have ties within networks or with other individuals of similar disadvantaged or low-income socio-economic status (Ferlander, 2007; Mazelis & Mykyta, 2020; Reyes, 2020), resulting in limited access to more beneficial forms of social capital.

Social Capital and the Well-Being of Low-Income Single-Parent Households

Low-income single-parent households are doubly disadvantaged because of the compounded challenges associated with poverty and the absence of a parent in the household

(De Coster et al., 2021; Radey & McWey, 2019; R. M. Ryan et al., 2015; Y.-T. Wang & Yang, 2019). Households of minority race/ethnicity who have experienced a history of discrimination are further disadvantaged (Cabrera et al., 2019). For parents, their lack of or limited access to formal networks of support often entails greater reliance on more informal ones (R. M. Ryan et al., 2015). However, these formal networks may not necessarily be present or healthy (Radey & McWey, 2019), and they could instead negatively influence parental outcomes.

More broadly, parents might also be disadvantaged by limited access to individuals beyond their immediate social network outside the household (or bridging social capital) and by their reliance upon individuals within their immediate family network within the same household (or bonding social capital) who are more likely to hail from the same demographic or marginalized socio-economic backgrounds (Ferlander, 2007; Mazelis & Mykyta, 2020; Reyes, 2020). The phenomenon in and of itself is not necessarily deleterious, but parents' abilities to provide more instrumental forms of social support or resources might be constrained unless interventions are presented by the government or social service agencies (or linking social capital). Moreover, even if social capital may be available within their immediate networks, low-income households also might find such relations unreliable or unstable (Seltzer, 2019).

Extant literature has also documented positive associations between social capital and the development or well-being of children and adolescents. For adolescents, the home and the school are two primary microsystems from which important sources of social capital are derived (Carter et al., 2007; Dufur et al., 2015). Consequently, the relationships and networks developed within these two microsystems have been found to positively shape adolescent developmental outcomes (J. Zhang et al., 2019). In addition to the microsystems of the home and school, caring relationships in the neighborhood and/or community are important too (Ben-Eliyahu et al., 2014;

Ferguson, 2006). Collectively, greater sources of social capital in the home, school, and community are associated with higher levels of adolescent subjective well-being (Ferguson, 2006; Helliwell & Putnam, 2004), health outcomes (Alvarez et al., 2017), and school achievement (Li et al., 2008; Otter & Stenberg, 2015). Therefore, this study further investigates the relationship between different forms of social capital – bonding ties, bridging ties, and linking ties – and adolescent well-being.

With bonding social capital within the household, grandparents and the influence of their support on parental and adolescent well-being have received the most research attention (Fergusson et al., 2008; Lin & Yi, 2019; Yorgason et al., 2011). There is also some recent evidence that the quality of the grandparental relationship is most beneficial for adolescents growing up in single-parent households (Dunifon et al., 2018). With bridging and linking social capital, studies have documented the positive influence of mentorship from non-family adults on social support (Sterrett et al., 2011), as well as health-related outcomes (DuBois & Silverthorn, 2005). Other sources of such social capital or social support might include neighbors, support groups, religious organizations, social workers, family therapists, mental health counsellors, and other family professionals.

In addition to the presence of individuals in the lives of single-parent households, their availability, and the type and/or quality of the support they provide, whether they are perceived to be useful by parents and adolescents is also a significant consideration with respect to well-being outcomes (Ferguson, 2006; Murry & Lippold, 2018). For instance, studies of grandparents who are enlisted to assist the parent(s) with caregiving duties have found that co-residence is not a guarantee of healthy relationships between and among grandparents, parents, and children. Some have found that the presence of grandparents in the household can also create stressors

between family members (Du et al., 2019; Dunifon et al., 2018). Consistent with family systems theory, all family members of a household do not have to be on bad terms with one another for family conflict to arise. Instead, a negative relationship between a grandparent and a grandchild – such as the grandchild resenting having to tend to the medical needs of the grandparent, or the grandparent’s feelings of being disrespected – could affect the relationship between the parent and the child and/or between the parent and the grandparent. Overall, within the household, positive and negative sources of social capital can be differentiated based on the quality of the relationships, how support is sought, and how toxic relationships are managed (Pierce & Quiroz, 2019). Hence, this study takes into consideration not just the presence and/or availability of social capital, but also the quality of connections.

Even when available, sources of social capital bring a mix of support and difficulties. Social networks can facilitate or hinder the use of resources made available through sources of social capital (Neves et al., 2019). Among family members, interdependent familial relationships are oftentimes characterized by a combination of cooperation and conflict, such as when parenting or caregiving decisions are debated (Hoang et al., 2020).

Instances of family conflict are not necessarily proof of family decline, yet prolonged relational conflicts can adversely affect the well-being of households and families (Widmer, 2010). Similarly, while youth-initiated mentors – as sources of bridging or linking social capital – might be perceived as allies or useful social capital by the adolescent, the mentors might also increase or perpetuate relational conflicts between other members in the adolescent’s social network (Van Dam et al., 2019). For example, they could communicate messages or give advice deemed incompatible with those communicated by the adolescent’s single parent or other family members. As a result, such disagreements or conflicts can adversely affect parental and child

well-being outcomes (Manalel & Antonucci, 2020; Spencer, Gowdy, et al., 2019; Van Dam et al., 2019). Therefore, how parents and adolescents negotiate these relational conflicts has implications for their respective well-being (Maholmes, 2018; Y. Wang et al., 2019), and it is likely to be reflected by the quality and/or closeness of the parent-adolescent relationship as a form of bonding social capital in the household.

Finally, parents and adolescents of low-income single-parent households receive and provide support to others (Love & Knott, 2018; Radey & McWey, 2019), as well as to each other (Sanders & Morawska, 2018; Suralová & Žáková, 2019). In other words, support does not flow unidirectionally, and parents and adolescents are both potential recipients and providers of social support. In particular, consistent with the social capital theory tenet of reciprocity and the ecological theory tenet of bidirectionality, adolescents are not just passive recipients of care and support (Maholmes, 2018; Zemp & Bodenmann, 2018), but often do contribute to the well-being of their parents, other family members in the household, and other individuals in their lives. Sanders and Morawska (2018) drew attention to the reciprocal influences between parents and children. Similarly, in the context of three-generation households, Suralová and Žáková (2019) drew from the concept of care circulation to emphasize that familial care is not unidimensional or unidirectional. Depending on needs and circumstances in the household, cohabiting grandparents, parents, and children can and often do function as both caregivers and care receivers, and these commitments to one another can be interpreted or problematized differently by each member (Suralová & Žáková, 2019).

For parents, being able to parent effectively or to give support to others may be a boost to their psychological well-being. In the context of this study, close parent-adolescent relationships could thus be associated with higher levels of parental well-being. Within parental social

networks, Love and Knott (2018) documented how parents, embedded in communities of social capital and shared beliefs, learn from and teach one another parenting knowledge and skills and provide emotional support. Given the importance of perceived reciprocity in informal social networks, Radey and McWey's (2019) sample of low-income mothers made calculated decisions on whether to leverage upon kin or non-kin social capital sources based on their perceived abilities to adequately reciprocate over time. The same might be expected of low-income single parents. Similarly, based on personal and familial needs, low-income single mothers in other research studies were found to be very careful and deliberate with selecting and evaluating sources of support (Nelson, 2005). More specifically, they carefully weighed the costs and benefits of including or excluding individuals from their social networks (Hansen, 2005).

Low-Income Single-Parent Households in Singapore

Demographic characteristics of single-parent Singaporean households

Demographic trends in Singapore – of low birth rates, higher life expectancy, and an aging population – have led to smaller household sizes and changing household structures. Single-parent households constitute 9.6% of all households in the country, and thus it is important to understand their demographic characteristics based on sex, race/ethnicity, socio-economic status, as well as reasons for single parenthood. Over the decades, the average resident household size has gone down from 4.2 in 1990, 3.7 in 2000, 3.5 in 2010, and finally to 3.2 in 2020. In addition, the number of two-generation family-based households (consisting of parents and their children) reduced from 66.8% in 2013 to 61.5% in 2018, and the number of family-based households with three or more generations (consisting of grandparents, parents, and children) also reduced from 10.1% to 7.1% over the same period (Housing and Development

Board, 2021b). Based on race/ethnicity, according to the latest Singapore Census of Population, the minority Malays and Indians tend to have bigger household sizes, while the majority Chinese have fewer people in the household. Chinese Singaporeans are more likely to form smaller 1-, 2-, and 3-person households, Indians 4-person households, and Malays households with 5 or more persons.

However, Singapore's high population density also translates into increased geographical proximity of extended family members and other forms of social support to households, even if the family members are not living together (Housing and Development Board, 2014). In 2018, approximately 58.2% of households with young children live in the same flat, within close proximity (i.e., living next door, in the same or nearby block, or in the same estate), or in a nearby estate to grandparents. Furthermore, 71.4% of them would like to do so. Similarly, approximately 58.5% of households with teenaged children live within the same aforementioned distance to grandparents (in the same flat, within close proximity, or in a nearby estate), and 69.6% of them would like to do so (Housing and Development Board, 2021a, 2021b). Coupled with an affordable and accessible public transportation system in the country, this means that non-cohabiting grandparents only need to travel very short distances in a short amount of time to provide caregiving or other forms of assistance. The numbers also suggest that even more Singaporean households, including low-income and/or single-parent ones, might like to live close to their grandparents so as to access these forms of bonding social capital. These observations are consistent with extant research around the world which has demonstrated that single-parent households are more likely to compensate an absent parent through both kin and non-kin support (Lindstrom et al., 2019; Lumino et al., 2016; Neves et al., 2019; R. D. Taylor et al., 2008).

Because the 2020 Singapore Census of Population does not provide data or distributions of single-parent households based on income and/or wealth measures, the highest educational qualification of the household reference person can be used as a proxy for socio-economic status. Based on the most recent data, single-parent Singaporean households tend to have the lowest incomes among all other household types. Compared to the national average of 24.39%, 64.2% of males and 75.97% of females who are widowed and 31.64% of males and 31.88% of females who are divorced/separated had a below-secondary level of education. Conversely, whereas 32.07% of the overall Singapore population graduated from a university, only 8.22% of males and 2.74% of females who are widowed and 17.78% of males and 17.80% of females who are divorced/separated have completed a university education. Overall, when drawing inferences by sex, females who are widowed have lower educational attainment compared to their male counterparts, while males and females who are divorced/separated have similar levels of education. Again, without disaggregated data, it is not possible to test whether these reported differences in the Singapore population are statistically significant.

Finally, single-parent households are most likely to be formed through the death of a partner/parent (compared to divorce and/or separation), to be headed by females, and to be Indian (compared to Chinese and Malay households). Approximately 5.3% of households are widowed while 4.3% are divorced/separated, with Malay Singaporeans having the highest proportion of each category compared to the other race/ethnicity groups. Females are more likely to be widowed and divorced/separated, and the sex trends hold for all races. More specifically, Indian women were most likely to be widowed and divorced/separated.

Government policies surrounding low-income single-parent Singaporean households

The outsized policy and political influence of the Singapore government not only has direct implications for the forms of linking social capital to which low-income single-parent households have access, but also influence how the households navigate their sources of bonding and bridging social capital. In terms of policy, the Singapore government's emphasis on self-reliance and family as the first line of social support has resulted in disproportionate reliance on strong ties or bonding social capital with family and extended family members for social and financial support (Balachandran & Jean Yeung, 2020; Quah, 2016). In other words, those in need of aid or assistance are encouraged to first seek help from their family and/or household members and extended family members. Only when those sources have been exhausted or when it has been demonstrated that the household has at least attempted to contact those around them would help then flow from non-profit organizations, social service organizations, or government agencies. This approach of helping disadvantaged or low-income households achieve self-reliance is expressed through the government's "Many Helping Hands" approach (Haskins, 2011; Rozario & Rosetti, 2012; Tarmugi, 1995), wherein the community or the state will only step in to provide help after it has been established that personal and familial means have been utilized.

In recent years, advocacy for and government attention on single parents have grown in tandem with increased public interest in the issues of inequality and poverty (Brownstein, 2017; Teo, 2019). Poverty can result in poor health and thin social support networks. Moreover, the cyclical stress of financial constraints further limits parental ability to participate in social and community activities, which in turn could adversely affect family bonds and adolescent development. Over the years, single-parent Singaporean households continue to be contrasted with the "normal" or conventional two-parent household and with the norms of marriage and

parenthood and children growing up in “complete” families (Quah, 2016). The heterogeneity among single-parent households remain overlooked in official Singaporean rhetoric, even if most of them remain low-income and headed by mothers (Wong et al., 2004). The existence of an ostensible “divorce penalty” for children with divorced parents (Ministry of Social and Family Development, 2020, p. 1) – being less educated, having less earnings and savings, and marrying less and divorcing more on average – still makes for an incomplete analysis, even if the model controls for race/ethnicity and the parents’ highest educational qualification as a proxy for socio-economic status. Little is known about differences in household and family structure and the quality of family ties among divorced households. Similarly, divorced households were only contrasted with two-parent households, not those which have separated or widowed parent(s).

Beyond existing government policies, particular attention has been paid to single mothers concerning public support for formal childcare, improved work conditions and income standards, and more equitable and improved public housing arrangements for unwed mothers (Au-Yong, 2019; Brownstein, 2017; Glendinning et al., 2015). Advocacy in the past few years has also focused on public housing, legal challenges and the enforcement of child support, anti-discrimination and improved employment legislation, and additional financial support, even as single mothers continue to be deemed as poor, disadvantaged, unfortunate, and emblematic of the decline of the family unit in Singapore (Wong et al., 2004).

The social capital and well-being of low-income single-parent Singaporean households

Existing research studies in the country have evaluated the risks of single parenthood on parent and adolescent outcomes (Glendinning et al., 2015; Kok & Liow, 1993; Subramaniam et al., 2014; Wong et al., 2004). However, they rarely use parent-adolescent dyads or consider the

collective influence of other forms of bonding or bridging social capital to the single-parent household, especially sources of social capital beyond the household. Additionally, the well-being of single parents and adolescents are evaluated separately based on the support received by the parent (Cheng & Pfeifer, 2015; Cheung & Sim, 2017; Chia et al., 2011; Kok & Liow, 1993), or solely from the perspective of the adolescents (Cheang & Goh, 2018; Ng & Lim, 2006; Quah, 2016). In terms of sex, the overwhelming focus on low-income single mothers also precludes single fathers from analysis, and relatedly the role of the non-resident parent has not been adequately investigated. Even less is known about the romantic partners or relationships of the resident parent, even though they could be important sources of support for the parent and adolescent(s) (Bastin, 2019). An earlier internal study by TOUCH Community Services – the co-investigator and partner social service agency – documented single parents having to negotiate the roles of “father” and “mother” at the same time. Within the household, the struggle of single parents had implications for gendered care labor and parenting, household chores and management, as well as financial and employment needs.

Be that as it may, some characteristics of low-income single-parent Singaporean households, sources of their social capital and support, and measures of well-being have been documented. For post-divorce households, Quah (2016) found that familial ties, intimacy, and obligations remained important for parents and children. The findings echoed Ng and Lim’s (2006) earlier conclusions that low-income households, who are less likely to divulge personal issues with those beyond their immediate circles, oftentimes perceive professional or government help to be the last resort. Some were deterred by the fear of rejection and others thought the process of seeking help was stressful. The households were thus more likely to seek psychological help from family and friends and financial help from professional sources.

Similarly, single parents in Glendinning et al.'s (2015) sample turned to external sources for financial support and to their family and friends for emotional support. In other studies, among post-divorce households, positive adjustment was associated with the quality of the relationship with former partners and seven other social support sources: Family, friends, religion and spirituality, employer, domestic helper, professional services, and support groups (Cheng & Pfeifer, 2015). These themes emerged through qualitative interviews. Overall, divorce has been found to reduce an individual's social networks and support (Chia et al., 2011). The same internal study by TOUCH Community Services found that informal networks of low-income single-parent households were thin. Consistent with the findings presented so far, though perhaps even more generally in scope, parents sometimes preferred not to trouble support sources at all. For fear of judgement or being mocked, some adolescents were unsure about letting friends or schoolmates know about their family situation, thereby limiting the social capital or social support sources to which they have access.

Finally, studies in Singapore focused almost exclusively on the social support received by low-income and/or single-parent households, and not necessarily on the types of support provided. Nonetheless, in terms of the forms of support, Cheung and Sim (2017) identified three types of social support, operationalized as emotional, informational, and instrumental, which adolescents receive from parents and friends. Adolescents themselves could be sources of social capital, especially parentified children who take on household or caregiving responsibilities. Among single parents, an older study identified four problem areas – financial, practical, emotional, and information – and four sources of support: Family, neighbors and friends, professionals, and religion (Kok & Liow, 1993). Relatedly, Cheang and Goh (2018) examined children from low-income households who excelled in school by actively navigating their familial

circumstances and interacting with those around them. They concluded that focusing on the roles and decisions of children from disadvantaged backgrounds challenged dominant discourses in the country they lack agency.

Research Question

This study tests some of the ideas presented in this chapter. Guided by the three theoretical perspectives of social capital theory, ecological theories of human development, and family systems theory as well as the literature reviewed, the research question is: *What are the relationships between social capital connectivity and the well-being of parents and adolescents – specifically, their levels of life satisfaction and flourishing – in low-income single-parent households in Singapore?* Based on the theories and the evidence, it was expected that low-income single-parent households in Singapore with greater access to more sources of bonding, bridging, and linking social capital would report higher levels of parental and adolescent well-being. A description of the study methodology is presented in the next chapter, including the procedure, description of the sample(s), measures, and data analysis strategy.

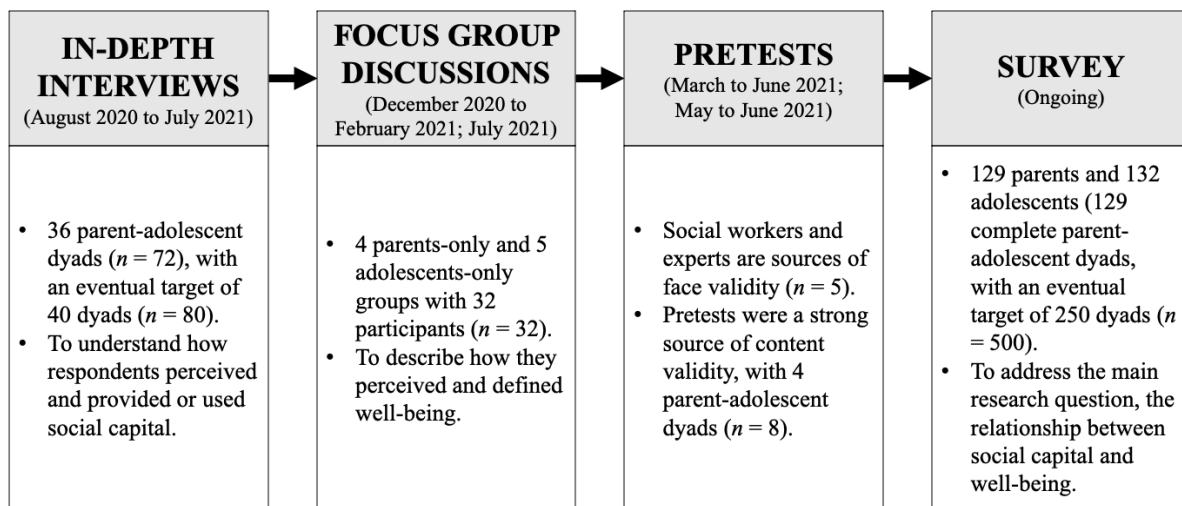
CHAPTER THREE: METHODOLOGY

An exploratory sequential mixed-methods dyadic research design was applied in this study to investigate the relationships between social capital connectivity and the well-being of parents and adolescents in low-income single-parent Singaporean households. Findings from in-depth interviews with 36 parent-adolescent dyads ($n = 72$, with an eventual target of 40 dyads or $n = 80$) and 9 focus group discussions with 32 participants ($n = 32$) informed the overall organization and choice of measures and scales for a survey questionnaire involving 129 parents and 132 adolescents (129 complete parent-adolescent dyads, with an eventual target of 250 dyads or $n = 500$). In addition, the questionnaire was also pretested with 5 social workers and 4 parent-adolescent dyads ($n = 8$) before it was administered (Figure 1). More precisely, through this integrative process of mixed-method building involving both qualitative and quantitative data (Fetters et al., 2013), the exploratory qualitative results were used to subsequently inform quantitative data collection through the identification of scales, variables, and items for the final survey questionnaire (Onwuegbuzie & Combs, 2010). This included both the independent variables (i.e., measures of bonding, bridging, and linking social capital) and the dependent variables (i.e., life satisfaction and flourishing).

The study received approval from the Institutional Review Boards of the National University of Singapore (S-20-016) and the University of California, Los Angeles (IRB#19-002086). Additional amendment approvals were obtained before the start of data collection for the focus group discussions and the survey respectively. The broader research study is funded by Singapore's Ministry of Social and Family Development under the Social and Family Research Fund (SFRF 2018-1). This chapter will first explain the exploratory sequential mixed-methods

dyadic research design used for this study, with very brief descriptions of the in-depth interviews, focus group discussions, and pretests. Next, information about data collection, recruitment and sampling, and the questionnaire used for the survey are detailed. Finally, the quantitative measures and analytical plan are presented.

Figure 1: Overview of the overall study research design.



The overview of the exploratory sequential mixed-methods dyadic research design.

Exploratory Sequential Mixed-Methods Dyadic Research Design

The research design is exploratory, wherein the concepts of social capital and well-being were explored from the perspective of the parents and adolescents. The concepts were measured, tested, and operationalized. Exploratory designs are generally used to explore a phenomenon qualitatively before it is measured or tested (Morgan, 1998; Plano Clark & Creswell, 2008). Measurement or testing is done sequentially, with results from the earlier qualitative stages – the in-depth interviews and focus group discussions, in this study – in turn informing subsequent quantitative data collection (Onwuegbuzie & Combs, 2010; Plano Clark & Creswell, 2008).

This sequential approach allowed for preliminary hypotheses to be generated from the qualitative data, which influenced the composition of the survey questionnaire before it was used to collect quantitative data in the field (Miall & March, 2005). This was in addition to the descriptions of processes or relationships through qualitative data collection which warrant further but separate analysis in the future. Constructs or language used by the research participants were also identified (Fetters et al., 2013). Throughout the process, both quantitative and qualitative methods were integrated through data collection and analysis as well as subsequent interpretation and reporting. In all stages of the data collection except the focus group discussions, both the single parent and one of their adolescent children were sampled.

In the first stage, in-depth interviews were conducted to understand how the parents and adolescents of low-income single-parent households in Singapore perceived and provided or used social capital. In the second stage, focus group discussions were conducted to describe how parents and adolescents respectively perceived and defined well-being. In the third and final stage, following separate pretests with social workers and a small sample of parent-adolescent dyads from these households, the survey questionnaire was administered to address the research question, of the relationship between social capital connectivity and parental and adolescent well-being. Hence, through this process of building, the two qualitative databases heavily informed the data collection approach for the quantitative phase (Fetters et al., 2013).

In-Depth Interviews

In-depth one-on-one interviews were conducted with 36 parent-adolescent dyads ($n = 72$) over a one-year period from August 2020 to July 2021 to understand how they perceived and provided or used social capital. About half of the interviews were conducted over Zoom and the

other half were done in person, often at the respondents' residence or the void deck of their flats. Interviews were conducted predominantly in English, though Chinese/Mandarin, Malay, or a mix of languages and dialects with some phrases translated or clarified were used with some parents. About 10-15% of all the 72 interviews were conducted in Chinese/Mandarin or Malay.

The average interview with parents lasted 78.4 minutes and the average interview with adolescents lasted 62.5 minutes. A majority of the households lived in rental or 1- to 2-room flats (39.4%) or 3-room flats (27.3%). Some had more complex living arrangements, such as moving between houses on weekdays and weekends and/or staying in the houses of their extended family members (9.1%). Consistent with the inclusion criteria, participating households had at least one 13- to 17-year-old adolescent currently under the Ministry of Education's Financial Assistance Scheme at the time of the interviews, which meant they had a monthly gross household income of S\$2,750 (approximately US\$2,070) or less or a monthly per-capita income of S\$690 (US\$520) or less. With the parents, 78.4% were single mothers and 21.6% were single fathers. At the time of the interviews, the average age of the parents was 42.8 (median = 42.0; SD = 8.14; range = 30-65 years old), 36.4% identified as Chinese, 48.5% as Malay, 12.1% as Indian, and 42.4% of the respondents were working full-time. The rest worked part-time (33.3%) or were not working (24.2%). Most indicated secondary school as their highest level of education (54.6%). The average age of the adolescents was 14.9 (median = 14.5; SD = 1.83; range = 13-17 years old), with 39.4% identifying as Chinese, 48.5% as Malay, 9.1% as Indian. Almost every adolescent matched the race/ethnicity of their parents. Almost all were currently in school, the rest were between schools (e.g., moving from secondary school to an institute of higher learning) and 87.9% of them were part of a school-based co-curricular activity.

The central objective of the in-depth interviews was to identify the most important sources of social capital, within contexts the parents and adolescents frequented or the contexts which were the most important to them. To break the ice and to facilitate better conversations, ecomaps were administered at the start of each interview. Respondents were first asked to indicate their preferred name or nickname, which was also used by interviewers to build rapport. This is consistent with different data collection methods in the extant literature to more accurately determine how individuals actively construct and define the realities of their own family relationships and social interactions (Blumer, 2009; Charon, 2007). Grounded theory has been found to be useful for exploring the social construction of kinship and family membership (Sanner & Jensen, 2021), including the use of pictorial representations of family structure and membership. Similarly, family maps have been previously employed (Harcourt & Adler-Baeder, 2015, 2016). Sample ecomaps completed by a 49-year-old Filipino single mother (Figure 2) and a 14-year-old Chinese-Filipino girl (Figure 3) of the same dyad, together with a sample list of questions (Table 6), are presented in the appendices. All interviews were recorded and transcribed verbatim. Each participant was compensated with a S\$50 gift voucher (approximately US\$38). Therefore, each parent-adolescent dyad received S\$100 (US\$75) in gift vouchers for their participation.

Focus Group Discussions

Focus group discussions were conducted in 4 parents-only and 5 adolescents-only groups with 32 participants ($n = 32$) to describe how they perceived and defined well-being. All discussions were conducted over Zoom and only in English. There was a total of 15 parents and 17 adolescents. The first 7 groups involved those from single-mother households and were

conducted from December 2020 to February 2021. The final 2 groups, conducted in July 2021, involved those from single-father households. The average focus group discussion with parents lasted 85.7 minutes and the focus group discussion with adolescents lasted 65.8 minutes. With the parents, 11 (73.3%) were single mothers and 4 (26.7%) were single fathers. At the time of the interviews, the average age of the parents was 44.4 (median = 42.0; SD = 10.0; range = 30-65 years old), with 46.7% identifying as Chinese and 46.7% as Malay. About 33.3% of the parents were not working. The rest worked full-time (33.3%) or part-time (33.3%). Most indicated secondary school as their highest level of education (53.3%). The average age of the adolescents was 15 (median = 15; SD = 1.64; range = 13-17 years old), with 41.2% identifying as Chinese and 47.1% as Malay. As with the sample of respondents for the in-depth interviews, most adolescents matched the race/ethnicity of their parents.

After in-depth interviews with 20 parent-adolescent dyads were completed, the recordings were transcribed and analyzed to guide the design of the guide for the focus group discussions. As with the in-depth interviews, questions for the parents and adolescents were similar. Questions for the focus group discussions were divided into three sections: Icebreakers and general questions, well-being questions, and COVID-19 questions. A sample list of questions is presented in the appendices (Table 7). All discussions were recorded and transcribed verbatim. Each participant was compensated with a S\$50 gift voucher (approximately US\$38) for their participation.

Pretests

Scales, variables, and items for the final survey questionnaire were selected based on the findings from the in-depth interviews and focus group discussions. After drafts of the survey

questionnaire were produced, they were pretested to collect evidence of properties and relationships. Even though most of the measures or scales in the questionnaire are based on existing validation (for instance, they may report high Cronbach's alpha or McDonald's omega as evidence of internal reliability), validity theory establishes that the validation cannot be taken for granted because of contextual differences. Low-income single-parent households in Singapore may experience a different set of socio-cultural and political conditions from those detailed in extant literature. Therefore, measures such as those related to social capital, social support, and well-being should be given particular attention (Oh et al., 2020; Schuster et al., 1990; Walen & Lachman, 2000). Pretesting the survey questionnaire ensured the appropriate adaptation of existing measures or constructs through diagnosis and analysis of item behavior and functioning.

Social workers and other experts were sources of face validity while the pretests were a strong source of content validity. An initial version of the questionnaire was first drafted. Following meetings and discussions with 5 social workers from TOUCH Community Services between March and June 2021, three more drafts were produced, exchanged, and readied for the pretest. The questionnaire was pretested with 4 parent-adolescent dyads ($n = 8$) over Zoom, phone or WhatsApp audio calls, or in person from May to June 2021. A range of communication platforms was used because of the risk of another COVID-19 lockdown, which eventually materialized and persisted following a spike in infection cases across the country. The participating households had previously completed the in-depth interviews and/or the focus group discussions and had subsequently expressed interest to be recontacted for subsequent stages of the research study.

The pretest interviewers were provided with a script crafted to complement the questionnaire. The script included information about the research study, the questionnaire, as well as the participant information sheet and the assent/consent process. Interviewers then guided the respondents through the entire questionnaire. Even though respondents were invited to complete all the questions, they were informed that they could skip questions or terminate their participation at any time. During the session, notes were taken on items or questions which were unclear or specific terms and phrases which needed clarification, the overall time taken and moments when respondents were distracted or lost interest, and sections which did not make sense to the respondents. Additional feedback was gathered from the interviewers about the interest levels and body language, if applicable, of the participants.

Each participant was compensated with a S\$50 gift voucher (approximately US\$38). Therefore, each parent-adolescent dyad received S\$100 (US\$75) in gift vouchers for their participation. Following the pretests, a final meeting involving the same team of social workers resulted in a final questionnaire. Final checks included the testing of key items in the questionnaire with detailed narratives gathered from the in-depth interviews and/or focus group discussions to ensure that important features or themes of respondent accounts were captured.

Survey

In the third and final stage, following the pretests, the survey questionnaire was administered starting from July 2021 to address the research question, of the relationship between social capital connectivity and the parental and adolescent well-being of low-income single-parent households in Singapore. Data collection is still ongoing as of the drafting of this manuscript.

Data collection, recruitment, and sampling

Using the funding from the Ministry of Social and Family Development, data collection for the survey was contracted to a research and recruitment agency in Singapore. Convenience sampling and recruitment took one of five forms, through (1) the sample of respondents who participated in the in-depth interviews, (2) households in low-income housing neighborhoods, (3) social service agencies who work with the target population, (4) online and social media advertisements, and (5) snowball sampling.

First, parents and adolescents who completed the in-depth interviews and who both expressed interest and who provided parental consent and adolescent assent to be recontacted were informed about the survey. Second, households living in rental housing (1- and 2-room flats) and 3-room flats were approached door-to-door. Addresses of these flats are made public by the Housing and Development Board (HDB) on its website. Appointments were made with those who fit the inclusion criteria and who expressed interest. Next, invitation letters were sent at least two weeks before the survey to inform them about the details of the research study and the survey. Third, both the agency and the PI reached out to social service agencies working with low-income single-parent households to publicize the survey. This included agencies which previously recruited parents and adolescents for the in-depth interviews and focus group discussions. To minimize the burden on the agencies, contact details of the research team were provided so that interested households could contact the research team directly. Fourth, the agency placed advertisements on social media. Interested households called a hotline before screening was conducted to ensure eligibility. To prevent bias and/or inducement, the advertisements only mentioned the research topic with no reference to the institution's name or

the monetary value of the reimbursement. However, full information was provided during informed consent- and assent-taking. Finally, with snowball sampling, respondents who completed the survey referred others who may be interested.

The questionnaires were administered to the parent and adolescent of each dyad separately. Surveys were either conducted face-to-face/door-to-door using a computer-assisted personal interviewing system or via telephone using a computer-assisted telephone interviewing system, depending on prevailing pandemic conditions, corresponding government restrictions, and the preference of the respondents. Questionnaires were prepared in English and translated into both Chinese/Mandarin and Malay, so that respondents could be surveyed in their preferred language. Surveys were conducted by trained fieldwork interviewers who were given written materials about the questionnaire and who received formal training. They were also trained to conduct the survey in the three aforementioned languages.

The written materials for the trained fieldwork interviewers included an annotated questionnaire with information about the objectives of the study and survey. Detailed explanations of why questions were posed and the meaning and pronunciation of key terms were provided. The materials also highlighted potential obstacles in getting responses to questions, potential respondent problems that could be anticipated ahead of time, and strategies for addressing the problems. During the formal training, interviewers and their supervisors were guided through each questionnaire question. Additional instructions were provided to ensure accurate data collection, and at the same time it was emphasized that survey participation was voluntary and that there should be no coercion of potential respondents. Other aspects of the training included appropriate communication skills (such as explaining the survey objectives,

answering queries, and convincing potential respondents to participate), roleplay, and proper etiquette and dress code when collecting data in the field.

Designing the questionnaire and guiding theoretical principles

Using thematic analysis and grounded theory techniques, qualitative findings from the in-depth interviews (including the ecomaps) and focus group discussions informed the design of the questionnaire draft. A summary of the insights, organized thematically across the categories of bonding, bridging, and linking social capital, is presented in the appendices (Table 8). Data patterns were identified, analyzed, and reported. Initial codes were produced and analyzed before moving on to theoretical sampling and thematic coding. In addition to perspectives flagged as important by the respondents, frequent and significant codes were gathered. Taken together, symbolic interactionism (Blumer, 2009; Charon, 2007), in addition to social constructionism (Berger & Luckmann, 1990; Gergen, 2015), framed this phase of the research methodology.

In general, the approach was guided by the methodology of constructivist grounded theory. Whereas *classic* grounded theory emphasizes an inductive and comparative approach to qualitative research for the development of concepts grounded in human action (Corbin & Strauss, 2014; Glaser, 1978; Glaser & Strauss, 2009), *constructivist* grounded theory further stresses that researchers are not neutral observers, that multiple interpretations are possible, and that theories ought to be developed collaboratively between respondents and researchers, thereby closing the gap between theory and empirical data (Charmaz, 2014). Because interpretations made by researchers are also social constructions and any data generated is the result of co-construction (Berger & Luckmann, 1990; Gergen, 2015), intentional acts of reflexivity and cognizance of biases and assumptions are important. When social constructionism is applied to

grounded theory, researchers are made aware of their involvement in data collection and analysis (Charmaz, 2014), that their own interpretations or social constructions are colored by personal biases and assumptions. Memos, for instance, are constantly written to consider the influence of researchers (Charmaz, 2014).

Finally, a key assumption of constructivist grounded theory is that people are actors and that different actors could offer dissimilar interpretations of the same phenomenon (Charmaz, 2014). In describing personal actions, decisions, and experiences from the perspectives of the respondents, understanding is prioritized over explanation, and ultimately through this approach theory is systematically developed and generated from the data collected (Corbin & Strauss, 2014).

Final survey questionnaire for parents and adolescents

In the final and cumulative stage of the research methodology, the drafting and pretesting process resulted in a 10-section survey questionnaire. The sections – which followed and matched insights gathered from the qualitative data, as detailed in the next chapter – were the same for parents and adolescents, although some of the questions customized appropriately for each group. For instance, details from the ecomaps led to the inclusion of more specific questions and prompts about the range of family and non-family relationships. During data collection, as previously mentioned, the ecomaps facilitated the building of rapport with respondents and further provided a rough structure for the majority of the in-depth interviews. Additionally, the in-depth interviews produced insights related to forms of bonding, bridging, and linking social capital, while the focus group discussions, centered on well-being, resulted in the selection of life satisfaction and flourishing as the dependent variables for both parents and

adolescents. Parental priorities were summarized as health, wealth, and happiness, and adolescent definitions of well-being and happiness did not differ significantly from that of parents. The one exception was personal health, which was not a concern for adolescents. A sample list of questions for each section in the questionnaire, organized thematically, is presented in the appendices (Table 9).

Each participant was compensated with a S\$30 gift voucher (approximately US\$23). Therefore, each parent-adolescent dyad received S\$60 in gift vouchers (US\$45) for their participation.

Quantitative Measures

This section details the quantitative measures for the dependent variables, independent variables, and control variables used in this study. In addition, the specific scales and items used for statistical analyses in this study are further detailed in the appendices (Table 10).

Dependent variables

Parental well-being: Parental well-being was measured by life satisfaction and flourishing. **Life satisfaction** was assessed using a 10-point single-item scale ranging from zero to 10, more commonly known as Cantril's Ladder of Life Scale, on how satisfied respondents were with their current life status (Bowen & Jensen, 2017). The **flourishing** scale which consists of 8 items on a 7-point scale (strongly disagree to strongly agree) – such as “I lead a purposeful and meaningful life” and “I am a good person and live a good life” – was used (Diener et al., 2010). In this study, for parents, the Cronbach's alpha reliability was 0.87.

Adolescent well-being: Adolescent well-being was also measured by the same **life satisfaction** and **flourishing** measures as with the parents. For adolescents, the Cronbach's alpha reliability for the flourishing scale was 0.89.

Independent variables

Bonding social capital: For both parents and adolescents, **household support** was assessed using a 4-point, 4-item scale on relationships within the home, with items such as "How much do those in your home understand the way you feel about things?" (Oh et al., 2020; Schuster et al., 1990; Walen & Lachman, 2000). In this study, the Cronbach's alpha reliabilities for parents and adolescents were 0.66 and 0.67 respectively. **Household strain** was assessed using a 4-point, 4-item scale, with items such as "How often do they let you down when you are counting on them?" (Oh et al., 2020; Schuster et al., 1990; Walen & Lachman, 2000). The Cronbach's alpha reliabilities for parents and adolescents were 0.66 and 0.72 respectively. Before respondents answered both sets of questions in the survey questionnaire, as part of the preceding questions, they had listed all the children and adults who live within their household or home (for at least 6 months in the past year), further specifying how close they felt to each of them, how often they talked, housework and caregiving duties within the household, as well as household members with health conditions. This is important because parents and adolescents were prompted to think specifically of all their household members, collectively, when assessing their perceived levels of household support and strain.

Bridging social capital: For both parents and adolescents, **extended family support** outside the household was assessed using the same 4-point, 4-item scale as household support (Oh et al., 2020; Schuster et al., 1990; Walen & Lachman, 2000), but in the context of extended

family members and relatives outside the household, with whom the parents and/or adolescents have met at least once in the past year. Prompts in the survey questionnaire for such individuals included grandparents, godparents, uncles, aunts, siblings, step-family, step-siblings, and cousins. In this study, the Cronbach's alpha reliabilities for parents and adolescents were 0.88 and 0.85 respectively. **Extended family strain** outside the household was assessed using the same 4-point, 4-item scale as household strain but in the context of extended family members outside the household. The Cronbach's alpha reliabilities for parents and adolescents were 0.87 and 0.68 respectively. Similarly, before answering both sets of questions in the survey questionnaire, parents and adolescents had listed family members or relative outside the home, with whom they have met at least once in the past year. They also specified their closeness to the family members, frequency of having talks, and their physical proximity in the preceding questions.

Similarly, for both parents and adolescents, **friend support** was also measured using the same support scale as per the household and extended family support (Oh et al., 2020; Schuster et al., 1990; Walen & Lachman, 2000), but in the context of the close friends they had met at least once in the past year. Prompts included close friends in past and/or present neighborhood(s), at the workplace or in school, and former romantic partners. In this study, the Cronbach's alpha reliabilities for parents and adolescents were 0.93 and 0.89 respectively. **Family strain** was assessed using the same 4-point, 4-item strain scale but in the context of the close friends of the parents and adolescents. The Cronbach's alpha reliabilities for parents and adolescents were 0.82 and 0.81 respectively. Likewise, respondents have identified these friends specifically in the preceding questions. Therefore, with both their extended family members outside the household and their friends, respondents were thinking about their relationships with these individuals before evaluating their perceived levels of support and strain.

Two additional adolescent measures include school connectedness and access to a mentor. **School connectedness** was assessed using a 5-point, 5-item scale, with items such as “I feel close to people at my school” and “I am happy to be at my school” (Bonny et al., 2000; McNeely & Falci, 2004; Resnick et al., 1997). In this study, the Cronbach’s alpha reliability was 0.81. **Access to a mentor** was a binary variable indicating if adolescents had a role model or mentor – who was not their household or family members – to whom they went to for support and guidance in their lives.

Linking social capital: For both parents and adolescents, **neighboring** as a measure of how connected respondents were to their communities/neighborhoods was assessed using a 5-point, 5-item scale, with items such as “It is very easy to talk to people living in my HDB estate” and “Residents in this block can recognize one another easily” (Housing and Development Board, 2021a, 2021b; Skjæveland et al., 1996). In this study, the Cronbach’s alpha reliabilities for parents and adolescents were 0.80 and 0.57 respectively. **Social service support** was a count of the number of social service organizations and/or agencies from which parents and adolescents drew support, reflecting if the household received support from at least one of the following (a minimum of zero and a maximum of 6, indicating that the household received help from all the sources): Community center, Family Service Center, members of parliament, Social Service Office, religious organization, or other community group(s). Finally for parents, **full-time employment** was a binary variable indicating if the parent worked full-time, spending at least 35 hours a week at the workplace.

Control variables

The control variables included **economic stress** (a 5-point, 4-item scale, with items such as “In the past year, my family didn’t have enough money to pay the bills” and “In the past year, my family didn’t have enough money for the foods I like to eat”; in this study, Cronbach’s alpha reliabilities for parents and adolescents were 0.91 and 0.81 respectively) (Wilson et al., 2020); **divorced household** (a binary variable indicating if divorce was the reason for single parenthood, compared to those who were separated, widowed, and never married); **female** (a binary variable if the parent or adolescent is female); **parental or adolescent race/ethnicity** (with the categories of Chinese, Malay, as well as Indian and others); **home ownership** (a binary variable indicating if the parents and/or adolescents are living in a home they own), and the **ages of the parent and adolescent**. As mentioned, the participating households were defined as low-income because they had at least one 13- to 17-year-old adolescent currently under the Ministry of Education’s Financial Assistance Scheme, which meant they had a monthly gross household income of S\$2,750 (approximately US\$2,070) or less or a monthly per-capita income of S\$690 (US\$520) or less. Economic stress and home ownership were still included as control variables in a study of low-income single-parent households because, as inferred from the in-depth interviews and focus group discussions, there was variance in the financial circumstances and living arrangements of the households.

Quantitative Analytical Plan

The study, focused on the relationships between social capital connectivity and the well-being of parents and adolescents, was observational and cross-sectional. A forward stepwise regression procedure was used to predict the forms of bonding, bridging, and linking social

capital influencing parental and adolescent well-being. Separate models were estimated for parents and adolescents. For each model, parental or adolescent well-being was first regressed on all the covariates, before it was regressed on each form or category of social capital (i.e. bonding, bridging, or linking social capital). For each social capital category, the variance inflation factor (VIF) was used to check for the severity of multicollinearity. Estimated coefficients with a VIF above 4 (or tolerance below 0.25) was investigated, while those with a VIF above 10 (or tolerance below 0.1) were removed. Next, all three categories of social capital were included in the full parent and adolescent well-being models. Covariates were included across each category of social capital and in both full models. The inference criteria included probability values and confidence intervals. The standard alpha level of 0.05 was used to determine if the statistical tests suggested that the results were significantly different from those expected if the null hypotheses were correct.

Overall, it was hypothesized that low-income single-parent households in Singapore with greater access to more sources of bonding social capital (greater household support and lower household strain), bridging social capital (greater extended family and friend support and lower extended family and friend strain), and linking social capital (higher levels of neighboring and greater social service support) would report higher levels of parental and adolescent well-being. Adolescents with higher school connectedness and access to a mentor and parents who were employed full-time were expected to have higher levels of well-being,

With some demographic traits, single fathers, Malay as well as Indian and other households (as racial/ethnic minorities in Singapore), respondents with higher levels of economic stress, and those who were divorced as opposed to those who were separated and/or widowed

were expected to report lower well-being. Older parents, Chinese households, and those who reported home ownership were expected to have higher well-being scores.

CHAPTER FOUR: RESULTS

In the final phase of this ongoing exploratory sequential mixed-methods study, a total of 129 parents and 132 adolescents have thus far participated in the survey. This chapter focuses on the analyses of the 251 completed questionnaires. It should be acknowledged that there were three more adolescents than parents in this phase of the study because the interviews with their parents have been scheduled but are not yet completed. Given the small sample size and that the analyses are not dyadic (i.e., the regression models are parent-only and adolescent-only models), the three additional adolescents were included. In this vein, additionally, it should also be acknowledged that this study will continue following the completion of this dissertation and that further analyses will include the full set of parent-adolescent dyads.

There were very few cases of missing data on the variables of interest (fewer than 0.5% on the variable with the highest missingness: divorced households) in the current sample. A potential explanation for the low levels of missingness might be that respondents were guided through the survey questionnaires in their preferred language by trained interviewers, who could explain unfamiliar terms or repeat questions using prepared prompts. Thereafter, to minimize the loss of statistical power, available case analysis was used (Little & Rubin, 1989), wherein estimates were computed based on a full set of cases with non-missing values for the variables.

Description of Parents and Adolescents in the Sample

The descriptive statistics of the parents and adolescents in the sample are presented in Table 1. The average parent in the sample was 43.8 years old ($SD = 6.35$). A majority of the 129 parents were single mothers (93.0%), most identified as Chinese (48.8%) or Malay (32.6%),

divorce was the primary reason for their single parenthood (72.1%), and most were working full time (58.1%). Home ownership was 39.5%, which meant most parents did not own their homes and were either renting or staying with extended family members. The average adolescent in the sample was 15.4 years old (SD = 1.78). The sex ratio of the 132 adolescents was exactly the same (50.0% were male and 50.0% female). Most identified as Chinese (50.0%) or Malay (34.1%) and were living in divorced households (70.5%). Half of them had access to a mentor.

Table 1: Survey sample characteristics of parents and adolescents

| Variables | Parents (<i>n</i> = 129) | | Adolescents (<i>n</i> = 132) | |
|--------------------------------------|---------------------------|------|-------------------------------|------|
| | M or per cent | SD | M or per cent | SD |
| Demographic variables | | | | |
| Age | 43.77 | 6.35 | 15.36 | 1.78 |
| Female | 93.00% | - | 50.00% | - |
| <i>Race</i> | | | | |
| Chinese | 48.84% | - | 50.00% | - |
| Malay | 32.56% | - | 34.09% | - |
| Indian | 11.63% | - | 9.09% | - |
| Others | 6.98% | - | 6.82% | - |
| <i>Reasons for single parenthood</i> | | | | |
| Divorced | 72.09% | - | 70.45% | - |
| Separated | 9.30% | - | 9.09% | - |
| Widowed | 16.28% | - | 15.91% | - |
| Never married | 2.33% | - | 2.27% | - |
| Economic stress | 2.27 | 1.12 | 1.76 | 0.83 |
| Home ownership | 39.53% | - | 39.53% | - |
| Dependent variables | | | | |
| Life satisfaction | 6.37 | 2.12 | 6.78 | 2.09 |
| Flourishing | 5.37 | 0.85 | 5.28 | 0.91 |
| Independent variables | | | | |
| <i>Bonding social capital</i> | | | | |
| Household support | 3.17 | 0.56 | 3.05 | 0.53 |
| Household strain | 2.08 | 0.65 | 2.13 | 0.63 |
| <i>Bridging social capital</i> | | | | |
| Extended family support | 2.99 | 1.01 | 2.52 | 0.83 |
| Extended family strain | 1.58 | 0.73 | 1.43 | 0.45 |
| Friend support | 3.33 | 0.84 | 3.32 | 0.74 |
| Friend strain | 1.47 | 0.62 | 1.56 | 0.54 |
| School connectedness | - | - | 3.75 | 0.71 |
| Access to a mentor | - | - | 50.00% | - |
| <i>Linking social capital</i> | | | | |
| Neighboring | 3.40 | 0.76 | 3.20 | 0.63 |
| Social service support | 2.07 | 1.30 | 1.98 | 1.02 |
| Full-time employment | 58.14% | - | - | - |

Note: Values are means unless otherwise noted; M = mean, SD = standard deviation

The remainder of this chapter focuses on the research question that follows: What are the relationships between social capital connectivity, involving bonding, bridging, and linking ties, and the well-being of parents and adolescents in low-income single-parent households in Singapore? It was hypothesized that low-income single-parent households in Singapore with greater access to more sources of bonding social capital (greater household support and lower household strain), bridging social capital (greater extended family and friend support and lower extended family and friend strain), and linking social capital (higher levels of neighboring and greater social service support) would report higher levels of parental and adolescent well-being (greater life satisfaction and higher levels of flourishing). Adolescents with greater school connectedness and access to a mentor and parents who were employed full-time – as forms of bridging and linking social capital respectively – were expected to have higher levels of well-being.

Correlations

The correlation matrices of selected variables for parents and adolescents are presented in Tables 2 and 3. Most expected correlation patterns between the dependent variables and the social capital variables held, except with the access to a mentor variable for adolescents.

For parents, household support was positively associated with life satisfaction ($r = 0.42$; $p < 0.01$) and flourishing ($r = 0.34$; $p < 0.05$). Extended family support was positively associated with life satisfaction ($r = 0.45$; $p < 0.01$) and the same relationship held between home ownership and flourishing ($r = 0.34$; $p < 0.05$). Economic stress was negatively associated with life satisfaction ($r = -0.40$; $p < 0.01$) and flourishing ($r = -0.34$; $p < 0.05$). Even though this is a

sample of low-income single-parent households (i.e., the monthly gross household income was less than US\$2,070 and/or the monthly per-capita income was less than US\$520), the descriptive statistics indicate that 39.5% of the parents owned their homes. The rest either rented their homes or were staying with their extended family members. Both economic stress and home ownership indicate a level of variance in their reported economic circumstances. In Singapore, approximately 80 per cent of the overall resident population live in government-built public housing, and government agencies are also heavily involved in the rental of public housing units to low-income Singaporean households. Even so, almost half of the present sample owned their homes. Since most of the parents in this study were divorced, a question which follows is whether their low-income status followed the divorced. There is evidence that marital separation and divorce are often associated with income loss (Conger et al., 2010; Harkness et al., 2020; R. Taylor et al., 2014), including in Singapore, where according to the 2020 Singapore Census of Population single-parent households are more likely to be of lower-income status.

For adolescents, household support was positively associated with life satisfaction ($r = 0.34; p < 0.05$) and flourishing ($r = 0.64; p < 0.001$). The same relationship also held for school connectedness with life satisfaction ($r = 0.33; p < 0.05$) and flourishing ($r = 0.45; p < 0.01$). These relations were expected. Also expected, friend support was associated positively with flourishing ($r = 0.41; p < 0.01$). Unexpectedly, access to a mentor was associated negatively with life satisfaction ($r = -0.33; p < 0.05$), and unrelated statistically to flourishing. These results are surprising and contrary to existing evidence (see, for example, Arbeit et al., 2019; Spencer, Gowdy, et al., 2019; Van Dam et al., 2019), given that almost half of the adolescents in the present sample reported having access to a mentor.

Table 2: Correlation matrix of selected variables for parents in study sample

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | |
|-----------------------------|---------|--------|---------|---------|---------|---------|--------|--------|--------|--------|--------|----------|--------|--------|----------|--------|--------|------|------|--|
| (1) Life satisfaction | 1 | | | | | | | | | | | | | | | | | | | |
| (2) Flourishing | 0.67*** | 1 | | | | | | | | | | | | | | | | | | |
| (3) Household support | 0.42** | 0.34* | 1 | | | | | | | | | | | | | | | | | |
| (4) Household strain | 0.053 | 0.16 | -0.098 | 1 | | | | | | | | | | | | | | | | |
| (5) Extended family support | 0.45** | 0.23 | 0.11 | -0.012 | 1 | | | | | | | | | | | | | | | |
| (6) Extended family strain | -0.22 | -0.035 | 0.073 | 0.37* | -0.0089 | 1 | | | | | | | | | | | | | | |
| (7) Friend support | 0.19 | 0.064 | 0.070 | 0.15 | 0.17 | 0.088 | 1 | | | | | | | | | | | | | |
| (8) Friend strain | -0.16 | -0.17 | -0.0035 | 0.49*** | 0.090 | 0.30* | 0.13 | 1 | | | | | | | | | | | | |
| (9) Neighboring | 0.24 | 0.22 | -0.13 | -0.16 | 0.17 | -0.17 | -0.18 | -0.14 | 1 | | | | | | | | | | | |
| (10) Social service support | -0.031 | 0.068 | -0.090 | 0.057 | 0.30 | 0.045 | 0.25 | 0.23 | 0.18 | 1 | | | | | | | | | | |
| (11) Full-time employment | 0.21 | 0.15 | 0.29 | 0.063 | 0.0019 | -0.091 | 0.027 | 0.086 | 0.032 | -0.064 | 1 | | | | | | | | | |
| (12) Economic stress | -0.40** | -0.34* | -0.12 | 0.035 | -0.13 | 0.23 | -0.032 | 0.23 | -0.37* | 0.069 | -0.050 | 1 | | | | | | | | |
| (13) Divorced household | 0.086 | -0.17 | 0.032 | 0.093 | 0.019 | -0.0067 | 0.077 | 0.28 | -0.28 | -0.13 | 0.31* | 0.0098 | 1 | | | | | | | |
| (14) Female | -0.13 | -0.044 | -0.037 | -0.11 | -0.0032 | 0.061 | 0.14 | -0.16 | -0.17 | 0.23 | -0.047 | 0.11 | 0.033 | 1 | | | | | | |
| (15) Chinese | -0.040 | -0.16 | -0.055 | -0.26 | -0.18 | -0.10 | -0.082 | -0.12 | 0.20 | -0.27 | 0.17 | -0.54*** | -0.015 | -0.28 | 1 | | | | | |
| (16) Malay | 0.054 | 0.037 | 0.16 | -0.12 | 0.31* | -0.021 | -0.069 | 0.040 | -0.10 | 0.19 | -0.12 | 0.50*** | -0.010 | 0.19 | -0.68*** | 1 | | | | |
| (17) Others | -0.014 | 0.17 | -0.12 | 0.48** | -0.14 | 0.16 | 0.19 | 0.10 | -0.14 | 0.11 | -0.079 | 0.087 | 0.031 | 0.13 | -0.47** | -0.33* | 1 | | | |
| (18) Home ownership | 0.19 | 0.34* | -0.018 | 0.22 | 0.093 | 0.18 | -0.15 | -0.051 | 0.25 | -0.081 | -0.085 | -0.32* | -0.027 | -0.34* | 0.066 | -0.054 | -0.020 | 1 | | |
| (19) Parent age | 0.21 | 0.023 | 0.092 | 0.068 | 0.32* | 0.10 | 0.049 | -0.073 | 0.089 | -0.044 | -0.17 | -0.45** | -0.25 | -0.17 | 0.21 | -0.13 | -0.12 | 0.17 | 1 | |

* p < 0.05, ** p < 0.01, *** p < 0.001 (two tailed tests).

Table 3: Correlation matrix of selected variables for adolescents in study sample

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) |
|----------------------------|---------|---------|--------|---------|---------|--------|--------|--------|--------|--------|--------|--------|----------|--------|--------|----------|--------|-------|--------|------|
| (1) Life satisfaction | 1 | | | | | | | | | | | | | | | | | | | |
| (2) Flourishing | 0.55*** | 1 | | | | | | | | | | | | | | | | | | |
| (3) Household support | 0.34* | 0.64*** | 1 | | | | | | | | | | | | | | | | | |
| (4) Household strain | -0.26 | -0.059 | -0.062 | 1 | | | | | | | | | | | | | | | | |
| (5) Extended fam. support | 0.19 | 0.19 | 0.30* | 0.11 | 1 | | | | | | | | | | | | | | | |
| (6) Extended family strain | -0.15 | -0.082 | -0.085 | 0.45** | 0.26 | 1 | | | | | | | | | | | | | | |
| (7) Friend support | -0.062 | 0.41** | 0.25 | 0.049 | 0.10 | 0.019 | 1 | | | | | | | | | | | | | |
| (8) Friend strain | 0.092 | -0.034 | -0.22 | 0.27 | 0.068 | 0.14 | -0.10 | 1 | | | | | | | | | | | | |
| (9) School connectedness | 0.33* | 0.45** | 0.20 | 0.23 | 0.38* | 0.20 | 0.075 | 0.25 | 1 | | | | | | | | | | | |
| (10) Access to a mentor | -0.30* | 0.0088 | -0.10 | 0.50*** | -0.13 | -0.049 | 0.030 | 0.21 | 0.29 | 1 | | | | | | | | | | |
| (11) Neighboring | 0.21 | 0.18 | 0.076 | -0.020 | 0.064 | -0.086 | 0.30* | 0.13 | 0.19 | 0.17 | 1 | | | | | | | | | |
| (12) Social service supp. | -0.13 | -0.025 | 0.087 | 0.10 | 0.27 | 0.051 | 0.016 | -0.064 | 0.00 | 0.18 | 0.15 | 1 | | | | | | | | |
| (13) Economic stress | -0.12 | -0.030 | -0.057 | 0.26 | -0.17 | 0.21 | 0.16 | 0.065 | -0.19 | 0.092 | -0.023 | 0.077 | 1 | | | | | | | |
| (14) Divorced household | 0.13 | -0.16 | -0.16 | 0.24 | 0.23 | 0.0061 | -0.22 | 0.47** | 0.24 | 0.12 | 0.087 | 0.10 | 0.17 | 1 | | | | | | |
| (15) Female | -0.30 | -0.11 | 0.17 | 0.10 | 0.024 | 0.10 | 0.018 | -0.32* | 0.012 | 0.12 | -0.13 | 0.18 | 0.19 | -0.22 | 1 | | | | | |
| (16) Chinese | 0.108 | -0.20 | -0.12 | -0.14 | -0.082 | -0.13 | -0.37* | 0.13 | 0.080 | -0.024 | -0.022 | -0.092 | -0.52*** | -0.089 | -0.069 | 1 | | | | |
| (17) Malay | -0.0044 | 0.16 | 0.043 | 0.055 | 0.14 | 0.15 | 0.36* | -0.095 | -0.013 | 0.13 | 0.13 | 0.19 | 0.45** | 0.020 | -0.032 | -0.75*** | 1 | | | |
| (18) Others | -0.15 | 0.060 | 0.12 | 0.12 | -0.074 | -0.023 | 0.037 | -0.052 | -0.098 | -0.14 | -0.15 | -0.13 | 0.13 | 0.10 | 0.14 | -0.41** | -0.30 | 1 | | |
| (19) Home ownership | -0.14 | -0.094 | 0.10 | 0.27 | -0.0052 | 0.40** | -0.16 | -0.11 | 0.26 | 0.029 | -0.19 | -0.094 | -0.043 | -0.027 | 0.35* | 0.029 | -0.093 | 0.086 | 1 | |
| (20) Adolescent age | -0.13 | -0.13 | -0.15 | -0.15 | -0.25 | -0.025 | 0.24 | -0.24 | -0.087 | 0.079 | 0.23 | -0.068 | -0.19 | -0.36* | 0.14 | 0.11 | 0.081 | -0.27 | -0.021 | 1 |

* p < 0.05, ** p < 0.01, *** p < 0.001 (two tailed tests).

Social Capital Connectivity and Well-Being

To determine whether variables assessed in the current study met the normality assumption, all continuous variables were examined for skewness and kurtosis. Then, controlling for the socio-demographic covariates (economic stress, divorced household, female headship, Chinese, Malay, home ownership, and parental age), multiple regression analyses tested the individual and collective relationship(s) between parental and adolescent access to bonding, bridging, and linking social capital and well-being, measured by life satisfaction and flourishing. Based on forward selection in a stepwise fashion, life satisfaction and flourishing were regressed on the measures of bonding, bridging, and linking social capital outlined in Tables 4 and 5. Separate well-being models were estimated for parents and adolescents. Finally, all regression models were also checked for multicollinearity. None of the coefficients exceeded a VIF of 4.

Parental well-being

Parental life satisfaction: When all of the bonding, bridging, and linking social capital variables in Table 4a were entered together in multiple regression analyses along with the covariates, the following variables made a significant contribution to the prediction of parents' life satisfaction: the bonding measures of greater household support ($t = 5.28, p < 0.001$) and, surprisingly, greater household strain ($t = 2.76, p < 0.05$); the bridging measures of greater extended family support ($t = 4.73, p < 0.001$), less extended family strain ($t = -2.67, p < 0.01$), greater friend support ($t = 2.55, p < 0.05$), and less friend strain ($t = -2.90, p < 0.05$); as well as the linking measure of greater neighboring ($t = 2.92, p < 0.01$). Controlling for the covariates, these variables together accounted for 55.8% of the variance in life satisfaction ($F_{16, 112} = 11.10$,

$p < 0.001$) (see Table 4a). Social service support and full-time employment were not statistically significant.

These results provide partial support for the predictions, as hypothesized, that parents who received greater shares of household support, extended family support, friend support, and support from neighbors would be significantly higher in life satisfaction than their counterparts in the sample who were less connected to supportive sources of social capital. Those with less strained relationships with extended family members and friends also had significantly higher life satisfaction scores. The meaning of the significant positive relationship between household strain and parental life satisfaction is unclear.

When parental life satisfaction was regressed on measures of bonding, bridging, and linking social capital separately in a forward stepwise fashion, controlling for the covariates, the bonding measures accounted for 35.8% of the variance in life satisfaction ($F_{9,119} = 8.94, p < 0.001$), bridging measures accounted for 39.7% of the variance ($F_{11,117} = 8.65, p < 0.001$), and linking measures accounted for 32.6% of the variance ($F_{10,118} = 7.18, p < 0.001$). These results are not tabled.

Parental flourishing: When all of the bonding, bridging, and linking social capital variables in Table 4b were entered together in multiple regression analyses along with the covariates, the following variables made a significant contribution to the prediction of parents' flourishing: the bonding measure of greater household support ($t = 3.01, p < 0.01$); the bridging measure of greater extended family support ($t = 2.23, p < 0.05$); as well as the linking measure of full-time employment ($t = 1.99, p < 0.05$). Controlling for the covariates, these variables together accounted for 47.2% of the variance in flourishing ($F_{16, 112} = 8.15, p < 0.001$) (see Table 4b).

Household strain, extended family strain, friend support, friend strain, neighboring, and social service support were not statistically significant.

These results provide partial support for the predictions, as hypothesized, that parents who received larger shares of household support and extended family support as well as those who were employed full-time (at least 35 hours a week) would be significantly higher in flourishing than their counterparts in the sample who were less connected to supportive sources of social capital.

When parental flourishing was regressed on measures of bonding, bridging, and linking social capital separately in a forward stepwise fashion, controlling for the covariates, the bonding measures accounted for 43.9% of the variance in flourishing ($F_{9,119} = 12.14, p < 0.001$), bridging measures accounted for 38.0% of the variance ($F_{11,117} = 8.94, p < 0.001$), and linking measures accounted for 41.8% of the variance ($F_{10,118} = 10.20, p < 0.001$). These results are not tabled.

Adolescent well-being

Adolescent life satisfaction: When all of the bonding, bridging, and linking social capital variables in Table 5a were entered together in multiple regression analyses along with the covariates, the following variables made a significant contribution to the prediction of adolescents' life satisfaction: the bonding measure of greater household support ($t = 4.48, p < 0.001$); the bridging measures of less friend support ($t = -3.24, p < 0.01$), greater school connectedness ($t = 5.70, p < 0.001$), and less access to a mentor ($t = -5.01, p < 0.001$).

Controlling for the covariates, these variables together accounted for 51.0% of the variance in life satisfaction ($F_{17, 111} = 8.84, p < 0.001$) (see Table 5a). Variables which were not statistically

significant in the model were household strain, extended family support, extended family strain, and social service support.

These results are not wholly supportive of the prediction that adolescents with greater shares of supportive friends and access to a mentor would score higher for life satisfaction. The meaning of these results is unclear, and it could be that different measures might have resulted in different results. However, as hypothesized, household support, school connectedness, and neighboring were positively associated with life satisfaction.

When adolescent life satisfaction was regressed on measures of bonding, bridging, and linking social capital separately in a forward stepwise fashion, controlling for the covariates, the bonding measures accounted for 29.6% of the variance in life satisfaction ($F_{9,119} = 6.97, p < 0.001$), bridging measures accounted for 41.0% of the variance ($F_{13,115} = 7.83, p < 0.001$), and linking measures accounted for 13.0% of the variance ($F_{9,119} = 3.13, p < 0.01$). These results are not tabled.

Adolescent flourishing: When all of the bonding, bridging, and linking social capital variables in Table 5b were entered together in multiple regression analyses along with the covariates, the following variables made a significant contribution to the prediction of adolescents' flourishing: the bonding measure of greater household support ($t = 8.09, p < 0.001$); and the bridging measures of less extended family support ($t = -2.12, p < 0.05$), greater friend support ($t = 2.48, p < 0.05$), and greater school connectedness ($t = 7.84, p < 0.001$). Controlling for the covariates, these variables together accounted for 67.4% of the variance in flourishing ($F_{16, 112} = 16.55, p < 0.001$) (see Table 5b). Variables which were not statistically significant in

the model were household strain, extended family strain, friend strain, access to a mentor, neighboring, and social service support.

These results are not wholly supportive of the prediction that adolescents with greater supportive extended family members outside the household score higher for flourishing. However, as hypothesized, household support, friend support, and school connectedness were positively associated with flourishing.

When adolescent flourishing was regressed on measures of bonding, bridging, and linking social capital separately in a forward stepwise fashion, controlling for the covariates, the bonding measures accounted for 45.5% of the variance in flourishing ($F_{9,119} = 12.86, p < 0.001$), bridging measures accounted for 49.8% of the variance ($F_{13,115} = 10.75, p < 0.001$), and linking measures accounted for 13.7% of the variance ($F_{9,119} = 3.26, p < 0.01$). These results are not tabled.

Parental and adolescent well-being

For the parental life satisfaction model (see Table 4a), based on the standardized coefficients, the measures of bonding social capital (especially household support, $\beta = 0.39$) had the largest influence on parental life satisfaction, followed by measures of bridging social capital (especially extended family support, $\beta = 0.36$) and linking social capital (neighboring, $\beta = 0.23$). In addition, household support ($\beta = 0.39$) and extended family support ($\beta = 0.35$) had greater influence than household strain ($\beta = 0.25$) and extended family strain ($\beta = -0.21$) respectively, but the opposite was true for friend support ($\beta = 0.17$) and friend strain ($\beta = -0.24$). Similarly, for the parental flourishing model (see Table 4b), the measures of bonding social capital (household support, $\beta = 0.24$) had the largest influence on parental flourishing, followed by measures of

bridging social capital (especially extended family support, $\beta = 0.18$) and linking social capital (full-time employment, $\beta = 0.16$).

On the other hand, for the adolescent life satisfaction model (see Table 5a), based on the standardized coefficients, the measures of bridging social capital (especially school connectedness, $\beta = 0.48$ and access to a mentor, $\beta = -0.47$) had the largest influence on adolescent life satisfaction, followed by measures of bonding social capital (household support, $\beta = 0.34$) and linking social capital (neighboring, $\beta = 0.16$). Similarly, for the adolescent flourishing model (see Table 5b), the measures of bridging social capital (especially school connectedness, $\beta = 0.54$) had the largest influence on adolescent flourishing, followed by measures of bonding social capital (household support, $\beta = 0.50$).

Table 4: Parent OLS models of life satisfaction and flourishing on bonding, bridging, and linking social capital measures

| | (a) Parental life satisfaction | | | (b) Parental flourishing | | |
|--------------------------------|----------------------------------|----------|----------|---------------------------------|----------|---------|
| | B (SE) | <i>t</i> | β | B (SE) | <i>t</i> | β |
| <i>Bonding social capital</i> | | | | | | |
| Household support | 1.47 (0.28) *** | 5.28 | 0.39 | 0.37 (0.12) ** | 3.01 | 0.24 |
| Household strain | 0.82 (0.30) * | 2.76 | 0.25 | 0.19 (0.13) | 1.46 | 0.15 |
| <i>Bridging social capital</i> | | | | | | |
| Extended family support | 0.74 (0.16) *** | 4.73 | 0.35 | 0.15 (0.068) * | 2.23 | 0.18 |
| Extended family strain | -0.60 (0.23) ** | -2.67 | -0.21 | 0.043 (0.10) | 0.44 | 0.037 |
| Friend support | 0.43 (0.17) * | 2.55 | 0.17 | 0.035 (0.073) | 0.48 | 0.035 |
| Friend strain | -0.83 (0.29) * | -2.90 | -0.24 | -0.21 (0.12) | -1.65 | -0.15 |
| <i>Linking social capital</i> | | | | | | |
| Neighboring | 0.64 (0.22) ** | 2.92 | 0.23 | 0.020 (0.10) | 0.21 | 0.018 |
| Social service support | -0.19 (0.12) | -1.54 | -0.11 | -0.017 (0.053) | -0.31 | -0.025 |
| Full-time employment | 0.11 (0.31) | 0.35 | 0.026 | 0.27 (0.14) * | 1.99 | 0.16 |
| <i>Covariates</i> | | | | | | |
| Economic stress | -0.33 (0.22) | -1.50 | -0.17 | -0.40 (0.10) *** | -4.14 | -0.52 |
| Divorced household | 0.65 (0.35) | 1.84 | 0.14 | -0.51 (0.15) ** | -3.34 | -0.27 |
| Female | -0.67 (0.63) | -1.07 | -0.081 | -0.24 (0.27) | -0.87 | -0.073 |
| Chinese | -0.51 (0.46) | -1.10 | -0.12 | -0.68 (0.20) ** | -3.37 | -0.41 |
| Malay | -0.00050 (0.46) | 0.00 | -0.00011 | -0.071 (0.20) | -0.36 | -0.040 |
| Home ownership | 0.10 (0.33) | 0.29 | 0.022 | 0.28 (0.15) | 1.93 | 0.16 |
| Parent age | -0.0044 (0.03) | -0.16 | -0.013 | -0.042 (0.012) *** | -3.64 | -0.32 |
| F-statistic | $F_{16, 112} = 11.10, p < 0.001$ | | | $F_{16, 112} = 8.15, p < 0.001$ | | |
| Adjusted-R ² | 0.5579 | | | 0.4720 | | |

B indicates the unstandardized regression coefficients; SE are the standard errors in parentheses.

β indicates the standardized regression coefficients.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two tailed tests).

Table 5: Adolescent OLS models of life satisfaction and flourishing on bonding, bridging, and linking social capital measures

| | (a) Adolescent life satisfaction | | | (b) Adolescent flourishing | | |
|--------------------------------|----------------------------------|----------|---------|----------------------------------|----------|----------|
| | B (SE) | <i>t</i> | β | B (SE) | <i>t</i> | β |
| <i>Bonding social capital</i> | | | | | | |
| Household support | 1.35 (0.30) *** | 4.48 | 0.34 | 0.86 (0.11) *** | 8.09 | 0.50 |
| Household strain | 0.11 (0.33) | 0.34 | 0.032 | -0.034 (0.12) | -0.29 | -0.023 |
| <i>Bridging social capital</i> | | | | | | |
| Extended family support | -0.14 (0.24) | -0.59 | -0.054 | -0.18 (0.085) * | -2.12 | -0.16 |
| Extended family strain | -0.83 (0.42) | -1.95 | -0.18 | -0.089 (0.15) | -0.59 | -0.044 |
| Friend support | -0.74 (0.23) ** | -3.24 | -0.26 | 0.20 (0.081) * | 2.48 | 0.16 |
| Friend strain | 0.075 (0.32) | 0.24 | 0.019 | 0.034 (0.11) | 0.31 | 0.020 |
| School connectedness | 1.43 (0.25) *** | 5.70 | 0.48 | 0.70 (0.089) *** | 7.84 | 0.54 |
| Access to a mentor | -1.95 (0.39) *** | -5.01 | -0.47 | -0.11 (0.14) | -0.81 | -0.062 |
| <i>Linking social capital</i> | | | | | | |
| Neighboring | 0.53 (0.24) * | 2.23 | 0.16 | -0.021 (0.085) | -0.25 | -0.015 |
| Social service support | -0.19 (0.15) | -1.30 | -0.094 | 0.006 (0.053) | 0.11 | 0.006 |
| <i>Covariates</i> | | | | | | |
| Economic stress | 0.37 (0.24) | 1.51 | 0.14 | 0.042 (0.086) | 0.49 | 0.038 |
| Divorced household | 0.071 (0.40) | 0.18 | 0.015 | -0.47 (0.14) ** | -3.31 | -0.23 |
| Female | -0.80 (0.35) * | -2.28 | -0.19 | -0.32 (0.12) * | -2.56 | -0.17 |
| Chinese | 0.98 (0.46) * | 2.14 | 0.24 | -0.25 (0.16) | -1.57 | -0.14 |
| Malay | 1.14 (0.50) * | 2.28 | 0.26 | -0.00031 (0.18) | 0.00 | -0.00016 |
| Home ownership | -0.66 (0.36) | -1.84 | -0.16 | -0.33 (0.13) * | -2.57 | -0.18 |
| Parent age | 0.026 (0.10) | 0.25 | 0.021 | -0.059 (0.036) | -1.63 | -0.11 |
| F-statistic | $F_{17, 111} = 8.84, p < 0.001$ | | | $F_{16, 112} = 16.55, p < 0.001$ | | |
| Adjusted-R ² | 0.5101 | | | 0.6738 | | |

B indicates the unstandardized regression coefficients; SE are the standard errors in parentheses.

β indicates the standardized regression coefficients.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two tailed tests).

CHAPTER FIVE: DISCUSSION AND CONCLUSION

This study has first examined the within-group variations of bonding, bridging, and linking social capital in a sample of low-income single-parent households in Singapore, and subsequently investigated how the variations relate to the well-being of parents and adolescents of these households. A total of 251 completed survey questionnaires (129 parents and 132 adolescents) were analyzed. In-depth interviews (36 parent-adolescent dyads) and focus group discussions (32 respondents) – together with the study’s theoretical frameworks – guided the selection of measures and instruments for the questionnaire. Therefore, the study addressed the following research question: *What are the relationships between social capital connectivity and the well-being of parents and adolescents in low-income single-parent households in Singapore?*

The study was jointly guided by social capital theory (Coleman, 1988; Field, 2016; Widmer, 2010), family systems theory (Cox & Paley, 1997), and ecological theories of human development (Bronfenbrenner, 1977, 1986; Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). It was principally predicted that parents and adolescents of low-income single-parent Singaporean households with greater access to sources of bonding, bridging, and linking social capital would report higher levels of well-being, as measured by life satisfaction (Bowen & Jensen, 2017) and flourishing, a measure of perceived success in important areas such as relationships and self-esteem (Diener et al., 2010). With measures of bonding social capital, parents and adolescents were expected to have greater household support and lower household strain. With bridging social capital, they were expected to have greater extended family and friend support and lower extended family and friend strain. With linking social capital, they were expected to have higher levels of neighboring and greater social service support. Parents who

were employed full-time (linking social capital) and adolescents with higher school connectedness and access to a mentor (both bridging social capital) were also expected to have higher well-being scores.

In this chapter, the findings are first summarized. Next, the discussion section considers the research question in the context of social capital theory, family systems theory, and ecological theories of human development as well as previous empirical evidence. Finally, the conclusion addresses the results broadly, suggests implications for practice and policy, and presents the limitations and some considerations arising from the COVID-19 pandemic.

Summary of Findings

The findings were largely consistent with the hypotheses, barring a few exceptions. For parents, as hypothesized, those who received household support, extended family support, friend support, and support from neighbors had higher life satisfaction scores than their counterparts who were less connected to supportive sources of social capital. Those with less extended family and friend strain also reported higher life satisfaction. As predicted too, those who received greater shares of household support and extended family support as well as those who were employed full-time (at least 35 hours a week) had higher flourishing scores than single parents in the sample who possessed less social capital connectivity. Contrary to what was expected, there was a significant positive relationship between household strain and parental life satisfaction.

For adolescents, as hypothesized, household support, school connectedness, and neighboring were positively associated with adolescent life satisfaction. As predicted too, household support, friend support, and school connectedness were positively associated with adolescent flourishing. However, contrary to expectations, adolescents with greater shares of

supportive friends and access to a mentor scored lower for life satisfaction. Those with greater supportive extended family members also scored lower for flourishing.

Overall, measures of bonding social capital had the largest influence on both parental life satisfaction and flourishing (compared to bridging and linking social capital, in that order), while bridging social capital measures had the largest influence on both adolescent life satisfaction and flourishing (compared to bonding and linking social capital, in that order).

Discussion

Social capital theory broadly describes how individuals connect through their social relationships and networks with others, which in turn allow them to accumulate human capital that might be associated with improved well-being and development (Coleman, 1988; Field, 2016; Widmer, 2010). More specifically, bonding social capital (or intra-familial social capital) involves resources accrued through strong ties with family and near kin or relatives in the same household, while bridging social capital (or inter-familial social capital) involves resources accrued through weak ties with more distant acquaintances such as friends and peers (J. Zhang et al., 2019). Linking social capital involves resources and relationships characterized by power differences oftentimes from institutional sources (Woolcock, 2001), such as state agencies and social workers.

When complemented by family systems theory and ecological theories of human development, the classification of social capital as bonding, bridging, and linking is useful to identify the context and/or settings from which parents and adolescents of low-income single-parent households draw social capital sources that influence their well-being and development. These doubly-disadvantaged households – experiencing both financial stress and the absence of a

parent in the household (Ministry of Social and Family Development, 2020) – are also more likely to need compensatory kin and non-kin support (Lindstrom et al., 2019; Lumino et al., 2016; Neves et al., 2019; R. D. Taylor et al., 2008). The need to access such support has been observed in Singapore (Cheang & Goh, 2018; Cheng & Pfeifer, 2015; Cheung & Sim, 2017; Kwan, 2021). However, the heterogeneity of low-income single-parent households in Singapore based on household and family structure is poorly understood. This gap in the literature is significant because households with varying levels of bonding, bridging, and linking social capital are likely to receive different levels of social support and resources from different family and non-family individuals, which in turn influence the well-being of parents and adolescents. In other words, low-income single-parent households may generally be doubly disadvantaged through financial distress and the absence of a parent in the household, but they are not disadvantaged, in terms of social capital connectivity and well-being, in the same way.

Recall too that family systems theory explains the importance of interactions between family members and familial relationships within family structures. In short, individuals can be understood in the context of their families and relationships with other family members. The theory examines individual family members as part of a systemic whole consisting of other family members (Cox & Paley, 1997). For example, in the present context, reciprocal interactions between single parents and their adolescent children and relations within larger family groups (for example, extended family members within and beyond a household) are often connected and interdependent. In family systems theory, these patterns of interaction have been described as contextual factors (Bortz et al., 2019), because developments in one sub-system can affect other sub-systems. Overall and over time, families build relationships and take action, with the important implication that relationships between family members or sub-systems cannot be

understood in isolation of the broader family relationships which surround them (de Bel et al., 2019). Recall further that within this context, ecological theories of human development provide a conceptual structure to better understand the nesting of social capital within and beyond family systems. The ecological framework examines how individuals interact with and relate to their communities or environments, further emphasizing how development occurs through person-context interactions across socially organized levels (Bronfenbrenner, 1977, 1986; Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006), such as schools and friendship and mentoring relationships for adolescents and the workplace for parents.

Bonding social capital: The well-being benefits of household support for parents and adolescents

Household support consistently and positively influenced both parental and adolescent well-being (both life satisfaction and flourishing), as hypothesized. Low-income single parents and their adolescents who have supportive relationships with their household/family members living in the same home access a range of information, advice, and assistance, and this is consistent with existing research affirming the general importance of household/family ties to the psychological well-being of parents and the positive development of adolescents (Ben-Eliyahu et al., 2014; Murry & Lippold, 2018). Similarly, the benefits of high-quality relationships within the household are also consistent with social capital and ecological systems theories (Alvarez et al., 2017), that supportive interactions in the microsystem of the household improve parental and adolescent well-being. For instance, a previous study upon which this study was built (Kwan, 2021), involving a sample of youths from low-income Singaporean households, found that high-quality household/family ties – low family conflict, high family connectedness, high average closeness to all family members, and a high number of family members to whom an adolescent

is very close – were all associated with higher levels of positive youth development. Future research on household support and its consistent well-being benefits for both parents and adolescents could explore varied configurations of household/family structure (Brown et al., 2015; Harcourt & Adler-Baeder, 2015), including but not limited to other children/siblings (and/or stepsiblings) as well as extended family members who are living with the single parents and their adolescents (Berger & Carlson, 2020).

Unexpectedly, household strain was positively associated with parental life satisfaction. This was not expected because in the extant literature, difficult or stressful relationships within the household and other forms of household conflict have been previously found to be negatively related to the well-being of households/families (Widmer, 2010). However, the positive relationship between household strain and parental life satisfaction in the present study might be explained by the notion that it is not the existence of household strain or conflict *per se* that is noxious, but how it is or is not addressed or resolved, which might influence parental feelings of well-being. Some recent research has illustrated how social capital sources bring a mix of support and difficulties (Neves et al., 2019), and that many interdependent household/familial relationships are characterized by both cooperation and conflict (Hoang et al., 2020). Future research on relations in low-income single-parent households might consider how household support and strain interact as well as how low-income parents process and/or troubleshoot difficult or stressful events within the household.

Bridging social capital: Extended family support and strain for parents and adolescents

As expected, parents who received larger amounts of extended family support outside the household had higher life satisfaction and flourishing scores, while those with less extended

family strain also had higher life satisfaction. There is much research that supports these findings on the types of support rendered (Billingsley et al., 2020; Reyes, 2020), as well as the range of relationships and interactions (Kwan, 2021; Lin & Yi, 2019; Sheppard & Monden, 2019; Wu, 2019). Studies have found grandparents, in particular, to be important sources of caregiving support in low-income and/or single-parent households (Dallas, 2004; Tan, 2018).

Contrary to expectations, adolescents with greater supportive extended family members scored lower for flourishing. The meaning of this is unclear, though extant research may provide some clues. Adolescents may be expected to provide social support to extended family members, instead of receiving such support. In mainland China, youths in single-parent households are more likely to have a co-residing grandparent (M. Wang et al., 2019). Nonetheless, while grandparents have been found to provide important caregiving support for employed low-income parents who have to spend more time away from home, it is often only the case if the grandparents do not themselves require caregiving assistance (Kwan, 2021; Lin & Yi, 2019; Sheppard & Monden, 2019; Wu, 2019). If grandparents do require support – whether financial, medical, or psychological – resources may instead be diverted away from the parents and adolescents of the household (Lin & Yi, 2019; Wu, 2019).

In some instances, the formation of extended family households has been found to be positively associated with poverty reduction (Reyes, 2020), and some forms of adaptation have been fostered through kin networks in the face of economic hardship (Billingsley et al., 2020). In particular, given the prevalence of three-generation households and the tradition of family and kinship ties among extended families in Asia, studies on the effects of grandparental or intergenerational support are increasingly ubiquitous, such as in China (Du et al., 2019; Sun et al., 2019; Wu, 2019; C. Zhang et al., 2019) and Thailand (Thianthai, 2019). Even so, beyond the

presence of cohabiting grandparents and/or extended family members, relationship quality and the availability of support within the household warrant further investigation. In other words, it is not just about their presence and availability *per se*, but the quality of these family ties

Future research might explore the circumstances around which extended family support is associated with beneficial and problematic outcomes for adolescents. Some of these issues in Singapore might include: whether adolescents are called upon to provide caregiving or psychological support to older extended family members outside the household (Lin & Yi, 2019; Wu, 2019), investigations that explore how single parents mediate the relationship between extended family members and adolescents using the actor-partner interdependence model, a longitudinal model for measuring bidirectional effects in interpersonal relationships (Cook & Kenny, 2005; Sanner & Jensen, 2021), as well as an investigation of the influence of the receipt and provision of extended family support, including frequency of contact and perceived extent of subjective closeness (R. J. Taylor et al., 2021).

Bridging social capital: Friend support and strain for parents and adolescents

Supportive friends were associated with improved parental life satisfaction and better adolescent flourishing, as hypothesized. Similarly, parents with less friend strain also had higher life satisfaction. The benefits of close friendships are well-established in the literature (Stanton-Salazar, 2011). Accessing friend support in peer networks is a positive source of bridging social capital for adolescents (De Coster et al., 2021), and others have found that having support from friends is important for the well-being and development of Singaporean adolescents from low-income and/or single-parent households (Cheung & Sim, 2017). Contrary to expectations, adolescents in the present study with greater shares of supportive friends scored lower for life

satisfaction. The meaning of this finding is unclear, although there is some research showing that large numbers of adolescent friendships can have both beneficial and detrimental effects (Masten et al., 2012). This is a matter for future research in Singapore.

Bridging social capital for adolescents: School connectedness and access to a mentor

As hypothesized, school connectedness was positively associated with both adolescent life satisfaction and flourishing. Accruing support through the school – involving day-to-day interactions with friends, classmates, and teachers, who constitute important and positive sources of social capital – has been established in existing research to be associated with improved well-being outcomes for adolescents (Carter et al., 2007; Dufur et al., 2015; Li et al., 2008). Existing research in Singapore has also documented how adolescents spend a lot of their time in school, in classrooms, in co-curricular activities, and in enrichment programs (Teo, 2019). School affords access to a rich set of relationships, from whom the adolescent can draw support and other resources, including mentoring. However, access to a mentor was linked to lower life satisfaction scores in this study. This is surprising given existing research showing that natural or informal mentors can help and provide needed advice and/or support (Arbeit et al., 2019; Spencer, Gowdy, et al., 2019; Van Dam et al., 2019). Given the cross-sectional research design, reverse causality could also be a potential explanation for the negative association between mentor access and adolescent life satisfaction. In this vein, adolescents who are less satisfied with their lives may be more likely to seek out mentors or initiative mentoring relationships outside the household, or they could also be assigned mentors. In this sample, household strain was positively correlated with access to a mentor, suggesting that adolescents with greater stress and conflict in their households could be more likely to have a mentor ($r = 0.50$; $p < 0.001$).

Additionally, a more nuanced mentoring measure might be needed in future research. Such a measure might differentiate between mentors who are assigned to the adolescent and those chosen by the adolescents (Preston et al., 2019; Spencer, Keller, et al., 2019), and/or the types of mentoring programs that are available (Spencer, Gowdy, et al., 2019). There also was no significant association between mentor access and adolescent flourishing in this study.

Contrasting influence of bonding and bridging social capital for parents and adolescents

Measures of bonding social capital had the largest influence on both parental life satisfaction and flourishing, whereas bridging social capital measures had the largest influence on both adolescent life satisfaction and flourishing. These findings were not unexpected. For single parents, that bonding social capital measures – especially household support – influenced their well-being the most is consistent with both government policies and existing research in Singapore, where the family has been emphasized as the first line of socio-economic support (Haskins, 2011; Rozario & Rosetti, 2012; Tarmugi, 1995). Although measures of bridging social capital – that is, extended family members outside the household and close friends – are still well-documented as important support sources for parents of low-income and/or single-parent households, it is plausible that parents would first approach household/family members for help before reaching out to others (Cheng & Pfeifer, 2015; Glendinning et al., 2015).

Similarly, it is not surprising that for adolescents of low-income single-parent households, bridging social capital measures influenced their well-being the most. It is well-established that in adolescence (Stanton-Salazar, 2011), adolescents – who spend more time outside the household in a variety of other ecological contexts – gain greater access to more environments and ecosystems and can thus draw more support from their friends and peers (Mastrotheodoros et

al., 2019; Tremblay Pouliot & Poulin, 2021). Household/family members still remain important and significant sources of social capital, but adolescents will have more peer interactions in the school, neighborhood/community, and other sites of leisure and/or recreation.

Linking social capital: Neighboring, social service support, and full-time employment

Both parents and adolescents who received greater support from neighbors had higher life satisfaction scores compared to their counterparts who received less support, as expected. It is possible that low-income single parents and their adolescents who are embedded in neighborhoods which are perceived to be safe and supportive might be more likely to benefit from positive relationships with their neighbors and friends than those who are not. This is consistent with ecological theories of human development and extant research documenting the importance of caring relationships in the neighborhood/community (Ben-Eliyahu et al., 2014; Ferguson, 2006). Future research could examine the range of individuals and relationships – family friends, neighbors, youth or social workers, sports coaches, or tutors (Meltzer et al., 2018) – in the neighborhood or community of the parents and adolescents. They could provide descriptions of how these individuals are identified and how they configure their broader support groups to which they have access.

There was no significant association between neighboring and both parental and adolescent flourishing. In addition, there were no significant associations between social service support – a count of the number of social service organizations and/or agencies from which parents and adolescents drew support – and parental and adolescent well-being (both life satisfaction and flourishing).

As hypothesized, parents with full-time employment reported higher levels of flourishing than single parents in the sample who had less social capital connectivity. Existing research has established the workplace as a site of linking social capital, wherein working parents can draw support from co-workers (Son & Bauer, 2010), and/or benefit from family-friendly policies (Jang, 2009). Still, whether the positive association between full-time employment and parental flourishing is the result of increased household income or having greater access to friends, colleagues or co-workers, and bosses in the workplace – as sources of linking social capital (Field, 2016; Woolcock, 2001) – is unclear and thus warrants further investigation. Future research should consider the implications of employment being tied to qualification for state social assistance in Singapore (Au-Yong, 2019; Brownstein, 2017; Glendinning et al., 2015), the interactions and types of social support single parents may draw from their workplaces, and the distinction between the types of support received and/or given and if the relationships would be more accurately categorized as a form of bridging (i.e., if the parents perceive individuals at the workplace as friends) or linking social capital (i.e., if employment is characterized purely as a means to make ends meet).

There was no significant association between full-time employment and parental life satisfaction.

Conclusion and Implications for Practice and Policy

From a practice perspective, if valid, the preliminary results in this study suggest that low-income single-parent households with access to sources of bonding, bridging, and linking social capital are likely to cope better than their counterparts without the same levels of access. Consequently, social service agencies and social workers who work with these households can

better identify resilience-promoting and protective factors within and beyond the household (Leticq, 2019; Murry & Lippold, 2018; Sanner et al., 2020). For instance, they can work to better understand the individuals and processes within the household of single parents (since bonding social capital had the largest influence on their well-being) and within the friendships and school networks of the adolescents (since bridging social capital had the largest influence on their well-being). In addition, prior to the implementation of social programs and services, it would be productive to assess the levels of support and strain experienced by single parents and their adolescents across the different categories and/or sources of social capital. In addition, consistent with best practices in survey/questionnaire development, this study has led to a survey questionnaire – informed by qualitative in-depth interviews and focus group discussions – which could be used and continued in the future.

From a policy perspective, the nuanced depictions of the social relationships and networks accessed by low-income single parents and their adolescents bring attention to the need to help those who lack access to adequate social capital sources. Financial and social welfare assistance in Singapore heavily emphasize self-reliance and family as the first line of support (Haskins, 2011; Rozario & Rosetti, 2012; Tarmugi, 1995), which thereby makes it especially challenging for low-income single-parent households/families who have lower bonding and bridging social capital connectivity. In this vein, it may be incumbent on the government to provide additional sources of linking social capital (Field, 2016; Woolcock, 2001) – which in the Singaporean context would take the form of community centers, Family Service Centers, members of parliament, Social Service Offices, religious organizations, and/or other community group(s) – and further assist households/families in need. Relatedly, the findings may also dispel

persistent stereotypes of parents and adolescents from low-income single-parent households by acknowledging their heterogeneity based on differing levels of social capital connectivity.

Study Limitations and Pandemic Considerations

Study limitations

Data collection: The sample of parents and adolescents who responded to the survey questionnaire was recruited through non-random convenience sampling, and thus the findings cannot be generalized to the wider population of low-income single-parent households in Singapore. In addition, this dissertation is part of a larger study that is yet to be completed, and thus while some of the results are suggestive, they are preliminary and not yet complete. Neither the country's Department of Statistics nor the Ministry of Social and Family Development maintains a full roster of low-income Singaporeans living in single-parent households. The Department of Statistics has a list of addresses for households of single parents with child(ren) households, but it is not disaggregated by income levels or housing type, which if available could be used as a proxy for household socio-economic status. The department's roster also contains no information on the ages of the children, so it would not have been possible to identify households with adolescents between the ages of 13 and 17 (or of any other age groups).

Similarly, comparisons to other countries or cultures must be further contextualized. Building upon this study, upon its completion, researchers in Singapore could sample for all single-parent households in the country to first compare the social capital and well-being of those from lower-income households with those with higher incomes. Subsequently, within-group analyses can be conducted among the low-income single-parent households, with further comparisons based on households with children and adolescents of different ages and/or age

groups. Finally, for the survey, to ensure that the sample was not limited to households receiving services from TOUCH Community Services, additional recruitment beyond the initial sample included households who were not participating in existing government programs or services or receiving agency-based support. This increased sample heterogeneity but not representativeness.

Research design: A cross-sectional research design allows for the study of associations but not causation. Focusing on social capital and its variation among low-income single-parent households is not likely to offer conclusive explanations for why particular relationships or configurations may potentially be associated with higher levels of parental and/or adolescent well-being. As mentioned too, reverse causality would thus be a potential explanation for some of the surprising findings in this study. In this vein, adding the dimension of temporality through a longitudinal design – for instance, by tracking households over a longer period of time using both quantitative and qualitative instruments – could be useful for future investigation.

In addition, and especially from a family systems theory perspective (Cox & Paley, 1997), future studies with an interest in household and/or family structure should employ triadic or even quadratic research designs, involving multiple household and family members and investigating their interactions with one another. More specifically, beyond a single parent and an adolescent, other individuals of interest include the non-resident biological parent, another adolescent or sibling within the home, or an extended family member such as a grandparent or an older family adult. In this study, they were found to be very important sources of social capital and support. For adolescents, positive relationships with friends, classmates, and teachers were especially cherished, and their parents expressed a desire to better know these individuals. Parents wanted

to be more familiar with the friends with whom their adolescents spent the most time and to learn more about their adolescents' academic development from their teachers.

In this study too, adolescent questionnaires only included the perspective of the focal adolescent, which would be limiting if adolescents have a large number of siblings, some of whom may have different evaluations of family and parenting dynamics. Similarly, some questions in the parent questionnaires were also centered on the focal adolescent, even though it is highly likely that parents have different relationships with their different children. Studying variance of self-reports among different adolescents or siblings should be of interest in the future. Again, much of the foregoing discussion is consistent with family systems theory (Cox & Paley, 1997). Tied to a later limitation about respondent bias, parents who nominated one of their adolescents for survey could have chosen one to whom they were the closest.

Last but not least, the focus on low-income single-parent households with adolescents means that other interactions or intersections – including but not limited to transnational households, households with an incarcerated parent, and households with neurodivergent children or adolescents – have not been adequately analyzed. Subsequent studies could involve the replication of measures and/or instruments in this study with different household/family types who are under these circumstances.

Respondent bias: With self-response or social desirability bias, parents and adolescents were likely to portray or to convey more positive perspectives when specifying and/or evaluating sources of social capital or support. They may also offer responses which they think the survey interviewers wish to hear. Social desirability bias was especially likely to feature when parents were asked about the quality of the relationships with their adolescents or other family members.

Additionally, as a selection or non-response issue, the households who were recruited and who assented and consented to participating in the survey are assumed to be more likely to have positive relationships within the dyad and/or with other individuals. It is very plausible that parents and adolescents who enjoy better relationships with one another or their loved ones were more likely to participate in the study, compared to their contemporaries who have poorer or even non-existent relationships.

Pandemic considerations

The COVID-19 pandemic affected the preparation and administration of the survey questionnaire as well as the overall timeline for data collection. Like most countries around the world, Singapore was not spared by COVID-19. The country reported its first imported COVID-19 case on January 23, 2020 and its first case of local transmission two weeks later (Lum & Tambyah, 2020), more than a month before a global pandemic was declared (World Health Organization, 2020). Despite effective early efforts at contact tracing and isolating close contacts, Singapore struggled with high rates of infection and large infection clusters in the migrant worker dormitories (Woo, 2020). The uncontrolled spread of the virus resulted in the announcement of a stay-at-home order or lockdown – termed a “circuit breaker” – on April 7, 2020. Since the end of the lockdown on June 1, 2020, despite continued travel restrictions out of the country, individuals have slowly resumed old routines, albeit with mandated mask-wearing and restrictions on the size of social gatherings. More than a year later, with the emergence of new virus variants and a high number of unlinked community cases, some distancing restrictions were reimposed. Vaccination rates are improving and are comparatively high, but the government has warned that Singaporeans must learn to live with the virus.

One significant change involved the use of digital technologies. Instead of administering the survey door-to-door – even during periods when the caseloads were low – parents and adolescents were guided through the survey either via phone calls or Zoom. Under lockdown or when Singaporeans were encouraged to remain at home, households without access to a computer or laptop and/or a stable Internet connection could not be reached or surveyed. Be that as it may, most adolescents in the samples had little trouble with using Zoom because they were becoming increasingly adept at using digital technologies (Shin & Li, 2017). Many were already tech-savvy and were also able to troubleshoot for their parents. Schools had switched to home-based learning at different moments and Singaporean students were still expected to attend some synchronous lessons and to complete online assignments. On the other hand, some parents needed more time to get used to digital platforms. Because many of them were deemed essential workers and were still working, the lockdown(s) did not necessarily make scheduling easier.

Zoom usage presented privacy-related difficulties. In general, participants who completed the survey through Zoom were more likely to be distracted. Some looked away or were preoccupied with their mobile devices while others needed constant prompting during survey administration. Privacy was a more serious concern, for some adolescents did not have a room to themselves or their parent(s) or other family members were within earshot. This challenge of completing the surveys in semi-private settings was not unique to Zoom *per se*, because low-income households in Singapore tend to reside in smaller-sized houses with few spare or empty rooms.

Finally, in compliance with social and physical distancing guidelines in Singapore and in consideration of the emotional and financial challenges that low-income households were likely to be facing, constant adjustments had to be made to extend the data collection timeline. Overall

data collection, which was slated to begin in April 2020, was postponed by four months and only started in August 2020. Much more time was needed, and delays in the earlier stages of the research meant that data collection for the survey was further delayed and is currently ongoing. Transitions into the “circuit breaker” and imposition of new restrictions were especially stressful of parents and adolescents. As such, households who initially expressed interest to participate in the study were given more time to decide. Administratively, additional planning was needed to arrange for the delivery of reimbursement vouchers, to adjust the informed assent and consent process, and to better facilitate team-based discussions and collaboration while data collection was ongoing.

APPENDICES: FIGURES

Figure 2: Sample ecomap completed by a single mother.

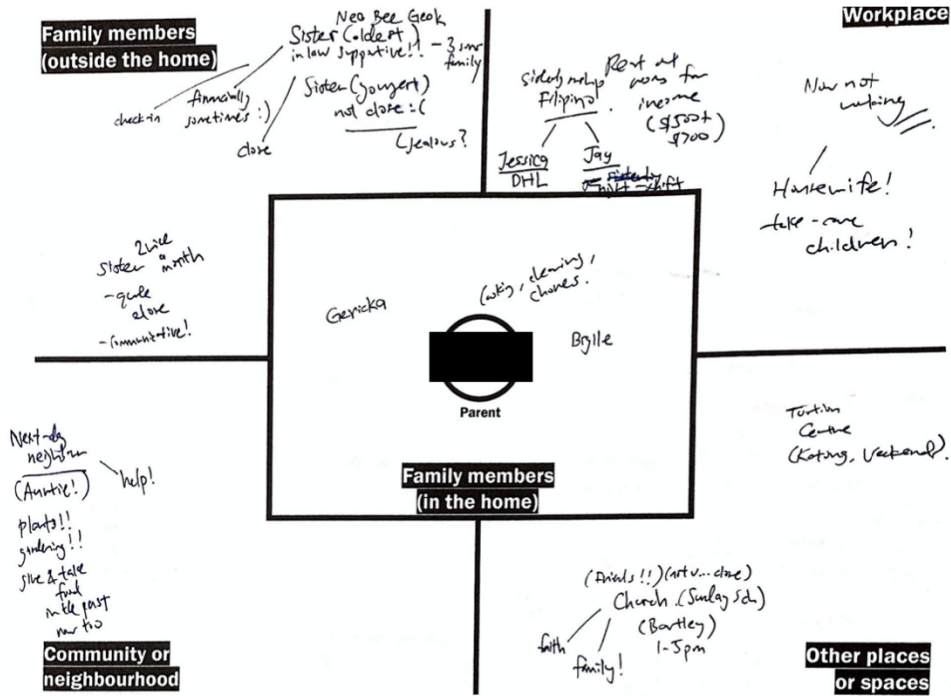
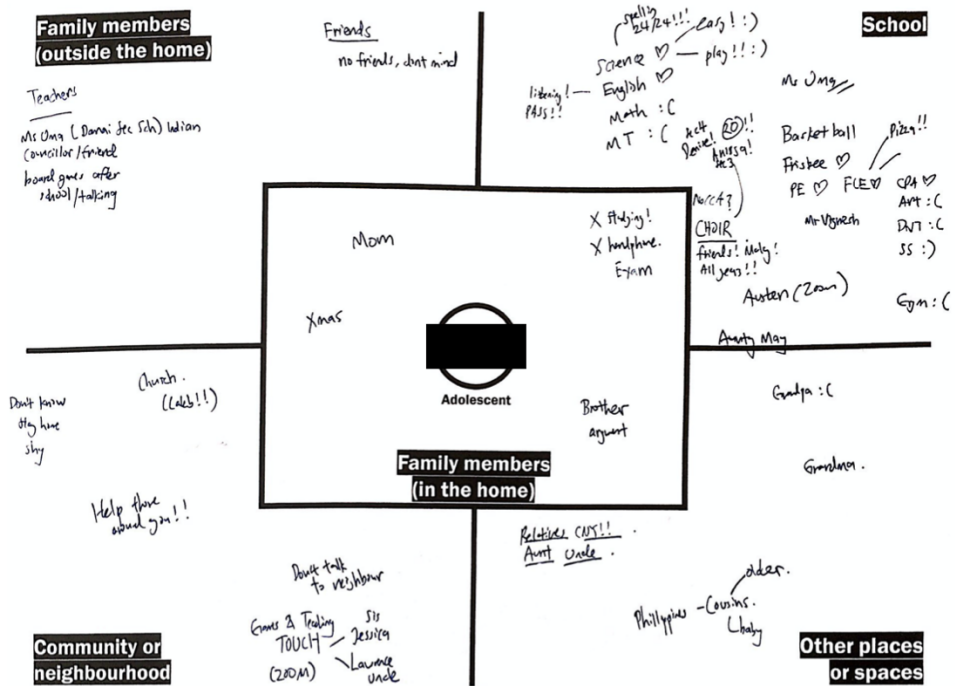


Figure 3: Sample ecomap completed by an adolescent.



APPENDICES: TABLES

Table 6: Semi-structured interview guide

The sections and a sample list of corresponding questions in the semi-structured interview guide. These were the questions for parents, but the questions for parents and adolescents were largely similar.

| Sections | Sample questions |
|--|--|
| <i>Using the ecomap</i> | <ul style="list-style-type: none"> • Who is present and available in your home? • In your home, with whom do you spend the most time? What do you do together? • What does he or she do for you? At the same time, what do you do for him or her? |
| <i>After the ecomap</i> | In your home / workplace / community or neighborhood, did you leave anyone out? |
| <i>The “grand tour” question, on hopes and aspirations</i> | <ul style="list-style-type: none"> • How do you feel about the future? • What is your biggest hope or aspiration for the future? |
| <i>Stress and well-being</i> | <ul style="list-style-type: none"> • What makes you stressed? • What are you most worried about? |
| <i>Other family and non-family individuals</i> | We talked about the most important people in your life. Who are the other people in your life, who you think are not as important? |
| <i>Parent-child dynamic in a single-parent family</i> | What does your family like to do together? |
| <i>Adolescent well-being and developmental needs</i> | How has your child changed over the years, as he or she grew up into teenager? |
| <i>Non-resident parent</i> | How often do you meet your former partner(s)? Where does he or she live? |
| <i>Partnership of resident parent</i> | <ul style="list-style-type: none"> • What are the romantic relationships you have been in or explored since the separation? • How have your new partner(s) interacted with your child(ren)? • What do your child(ren) think of hm or her? |
| <i>Other individuals in the home</i> | Who lives with you? To whom are you closest to? |
| <i>In the workplace</i> | Where is work for you? What do you do? |
| <i>In the community / neighborhood as well as institutional access and support</i> | <ul style="list-style-type: none"> • What do you like most about the area you live in? • And what do you like least about it? Why? How does this show itself to you? |
| <i>Agency support</i> | Are you receiving any support from any organizations? Which organizations? |

*Religion and
religious institution*

- What is your religion or faith?
- What is your experience at (religious institution)? When did you first go?
- What do you like most about your experience? What do you like least?

*COVID-19
pandemic*

- How has the coronavirus situation / circuit-breaker affected your life?
- During the circuit breaker, what was the most challenging with your family members?
- And what was the happiest moment with them?

Conclusion

Based on what you have shared today, what is one thing you would like to tell your child(ren)?

Table 7: Focus group discussion guide

The sections and a sample list of questions in the guide for the focus group discussions. Questions for parents and adolescents were similar.

| Sections | Sample questions |
|---------------------------------|---|
| <i>General questions</i> | <ul style="list-style-type: none"> • In your own words, how would you describe happiness or well-being? • What does a good life look like for you, in the future? • What matters most to you in life? <p><i>For parents:</i> Besides your children and family, what matters most to you or who makes you the happiest?</p> |
| <i>Adolescents / parents</i> | <ul style="list-style-type: none"> • What gives you the greatest happiness in: • What is most important for you, right now? • What is most challenging in your life, right now? |
| <i>COVID-19 questions</i> | <ul style="list-style-type: none"> • Let’s talk about life during the pandemic. How did your well-being change during lockdown? And how did your well-being change after lockdown, during the pandemic? • How has COVID-19 affected your life? How has COVID-19 improved your life? • What has been most challenging? And how have you managed during this period? |
| <i>Well-being and happiness</i> | <ul style="list-style-type: none"> • Do you agree with our definition or understanding of well-being (Others have defined or understood well-being as such)? On a scale of 1 (strongly disagree) to 10 (strongly agree), do you agree with these definitions? • Which part of the definition is more significant to you? • Which part of the definition is a little more strange to you? |

Table 8: Summary of qualitative insights and thematic influence on questionnaire

A summary of the qualitative insights and how they influenced the choice of items in the questionnaire, organized thematically across the categories of bonding, bridging, and linking social capital.

| Themes | Influence on choice of items in questionnaire |
|---|---|
| <u>Bonding social capital</u> | |
| <i>Housing and household composition and overall family dynamics (inside the home)</i> | <p>Key questions for the questionnaire include:</p> <ul style="list-style-type: none"> • Parentification, • Sibling relationships. • Adolescent cognizance of living in a single-parent household. |
| <i>Parent-adolescent relationship</i> | <ul style="list-style-type: none"> • Relationships between parents and adolescents could be determined by mutual closeness, assessments of parenting and being parented, and their joint activities. • Relatedly, how each dyad navigated adolescents' peer relationships and the many roles and responsibilities the single parent had to juggle were important considerations for the questionnaire. |
| <i>Non-resident biological parent / romantic partner / father or mother figure</i> | <ul style="list-style-type: none"> • Questions about parental and adolescent relationships with the non-resident parent could be organized chronologically • Insights highlighted the romantic relationships of both parents and adolescents. |
| <u>Bridging social capital</u> | |
| <i>Extended family members (outside the home)</i> | <ul style="list-style-type: none"> • Consistent with the ecomaps, both parents and adolescents not only identified how close they felt to individuals in their lives, but also specified the things they did for those individuals and the help they received in return. • Questionnaires will include questions about the proximity of extended family members outside the home to the respondents |
| <i>Social and friend network and support and workplace (for the parents) / school (for the adolescents)</i> | <ul style="list-style-type: none"> • As documented through the ecomaps, parents and adolescents were closest to classmates and friends they met in primary and secondary school. • In addition to the tension over the adolescents' peer relationships, the academic environment of the school was critical to the parents. |
| <u>Linking social capital</u> | |
| <i>Community / neighborhood</i> | <ul style="list-style-type: none"> • Respondents described their living conditions based on their own homes and their surrounding community and/or neighborhood. • Within the home, respondents were likely to be dissatisfied with cramped living conditions and the lack of privacy or personal space. |
| <i>Other social support</i> | <ul style="list-style-type: none"> • As with the social and friend support network and support of the respondents, other forms of social support were also documented in the ecomaps • The in-depth interviews and focus group discussions brought attention to how the oft-overwhelmed single parents, who had to balance different demands associated with single parenthood, navigated a constellation of needs and support. |
| <u>Well-being and other themes</u> | |

| | |
|--|---|
| <i>Well-being</i> | <ul style="list-style-type: none">• <u>Parental well-being</u>: For parents, their priorities could be summarized as health, wealth, and happiness.• <u>Adolescent well-being</u>: For adolescents, their definitions of well-being and happiness did not differ significantly from that of the parents, though their personal health was not often a concern. |
| <i>Insights from the ecomaps about relationships</i> | <ul style="list-style-type: none">• Overall, relationships across different contexts were documented to be complex, messy, and heterogenous.• Details from the ecomaps led to the inclusion of more specific questions and prompts about the range of family and non-family relationships. |
| <i>Family and household transitions</i> | <ul style="list-style-type: none">• The well-being of low-income single-parent families are likely to differ based on the reasons for single parenthood• Findings revealed a range of experiences and transitions over time |

Table 9: Sample list of survey questionnaire questions

The sections and a sample list of questions in the questionnaire. These were the questions for parents, but the questions for parents and adolescents were largely similar.

| Sections | Sample questions |
|--|--|
| <i>Housing and household composition and overall family dynamics (inside the home)</i> | <ul style="list-style-type: none"> • Do you intend to move out of your current home and move to a new place in the next five years? • In what type of housing would you like to live? • Within your household or home, could you tell us all the other children and adults who usually live in your household (at least 6 months in the last year)? Tell us their first name, their sex, their age, and also how they are related to you. • How much do those in your home understand the way you feel about things? • How often do they criticize you? |
| <i>Parent-adolescent relationship</i> | <ul style="list-style-type: none"> • There are some things my child does that really bother me a lot. • Please tell me whether you make rules about these things, or does [your focal child] decide for [himself/herself]? • What percentage of your child's friends misbehaved or broke rules? |
| <i>Non-resident biological parent / romantic partner / father or mother figure</i> | <ul style="list-style-type: none"> • What is your current marital status? • What were the three most important reasons for your (last) separation / divorce? • How many romantic relationships have you had in your life? • RIGHT NOW, other than his/her birth parent, is there a man/woman in your child's life who spends a lot of time with him/her or who is very close to him/her – someone almost like a father/mother? |
| <i>Family and household transitions</i> | <ul style="list-style-type: none"> • In which year were you married? • In which years did you give birth? • Have you ever moved to a new house since you were married / had your first baby? • In which years did you start and end your other romantic relationships? • In which years did important family members have a serious illness which affected you? |
| <i>Extended family members (outside the home)</i> | <ul style="list-style-type: none"> • Who are the family members or relatives you have met at least once in the past year? Tell us their first name, their sex, their age, and also how they are related to you. • How often do your family members or relatives outside the home help you with caregiving, to look after your child(ren)? • How much do family members or relatives outside the home understand the way you feel about things? • In an average year before the pandemic, how often did you visit your own parents? |
| <i>Community / neighborhood</i> | <ul style="list-style-type: none"> • How satisfied are you with your current flat or house? • What do you like least about your current neighborhood? • Have you received or provided help in times of emergency? • I feel a sense of belonging to this housing estate/town. |

Social and friend network and support and workplace (for the parents) / school (for the adolescents)

- Who are the close friends you have met at least once in the past year? Tell us their first name, their sex, their age, and also how or where you first met them (e.g., primary, secondary school, old or current workplace).
- How much can you open up to them if you need to talk about your worries?
- How often do they get on your nerves?

Other social support

- From which of the following organizations do you draw support? Check all that apply.
- If I need to buy a pair of shoes for my child(ren) but I am short of cash, there is someone who would lend me the money.

Well-being

- How satisfied are you with your current life status?
 - In the past year, how much did you feel like other people cared about you?
 - In the past year, I felt like I couldn't do anything right.
 - In the past year, my family didn't have enough money for the foods I like to eat.
 - What do you hope for yourself after your children complete their education, start work, and start their own families?
-

Table 10: Scales and items used for statistical analyses

| Construct | Items | Response range |
|--|--|--|
| <u>Dependent variables</u> | | |
| Life satisfaction (1 item) (Bowen & Jensen, 2017) | Imagine a ladder of life with the top rung representing the “BEST possible life for you” and the bottom of the ladder representing the “WORST possible life for you”. How satisfied are you with your current life status? | 1 = <i>Worst possible life for you</i> 10 = <i>Best possible life for you</i> |
| Flourishing scale (8 items) (Diener et al., 2010) | Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement. <ol style="list-style-type: none"> 1. I lead a purposeful and meaningful life. 2. My social relationships are supportive and rewarding. 3. I am engaged and interested in my daily activities. 4. I actively contribute to the happiness and well-being of others. 5. I am competent and capable in the activities that are important to me. 6. I am a good person and live a good life. 7. I am optimistic about my future. 8. People respect me. | 1 = <i>Strongly disagree</i> 2 = <i>Disagree</i> 3 = <i>Slightly disagree</i> 4 = <i>Neither agree nor disagree</i> 5 = <i>Slightly agree</i> 6 = <i>Agree</i> 7 = <i>Strongly agree</i> |
| <u>Independent variables</u> | | |
| Household support; Extended family support; Friend support (4 items) (Oh et al., 2020; Schuster et al., 1990; Walen & Lachman, 2000) | The questions are about your relationships within your home*. <ol style="list-style-type: none"> 1. How much do those in your home* understand the way you feel about things? 2. How much do they really care about you? 3. How much can you rely on them for help if you have a serious problem? 4. How much can you open up to them if you need to talk about your worries? <p>* The questions were amended accordingly for extended family support and friend support.</p> | 1 = <i>Not at all</i> 2 = <i>Rarely</i> 3 = <i>Occasionally</i> 4 = <i>A lot</i> |
| Household strain; Extended family strain; Friend strain (4 items) (Oh et al., 2020; Schuster et al., 1990; Walen & Lachman, 2000) | The questions are about your relationships within your home*. <ol style="list-style-type: none"> 1. How often do they criticize you? 2. How often do they make too many demands on you? 3. How often do they let you down when you are counting on them? 4. How often do they get on your nerves? <p>* The questions were amended accordingly for extended family support and friend support.</p> | 1 = <i>Never</i> 2 = <i>Rarely</i> 3 = <i>Occasionally</i> 4 = <i>Often</i> |
| School connectedness (5 items) (Bonny et al., 2000; McNeely & Falci, 2004; Resnick | In your school, how much do you agree with the following statements? <ol style="list-style-type: none"> 1. I feel close to people at my school. | 1 = <i>Strongly disagree</i> 2 = <i>Disagree</i> 3 = <i>Neutral</i> 4 = <i>Agree</i> |

et al., 1997)

2. I feel like I am part of my school.
3. I am happy to be at my school.
4. The teachers at my school treat students fairly.
5. I feel safe in my school.

5 = *Strongly agree*

Neighboring
(5 items) (Housing
and Development
Board, 2021a, 2021b;
Skjæveland et al.,
1996)

How much do you agree with the following statements?

1. It is very easy to talk to people living in my HDB estate.
2. Noise from my neighbors can be very annoying.
3. I can always get help from my neighbors when in need.
4. Residents in this block can recognize one another easily.
5. Residents here care about the maintenance of their block.

1 = *Strongly disagree*
2 = *Disagree*
3 = *Neutral*
4 = *Agree*
5 = *Strongly agree*

Control variable

Economic stress
(4 items) (Wilson et
al., 2020)

1. In the past year, my family didn't have enough money to pay the bills.
2. In the past year, my family didn't have enough money to buy things I needed.
3. In the past year, my family didn't have enough money to buy the things I wanted.
4. In the past year, my family didn't have enough money for the foods I like to eat.

1 = *Not at all*
2 = *Once or twice*
3 = *About once a month*
4 = *Several times a month*
5 = *Everyday*

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