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Meaningful Money? Unravelling Financial Functional Solidarity in Stepfamilies using the Social Relations Model

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Abstract

Family solidarity has gained interest due to several societal transitions, resulting in a surge of research inquiring specifically intergenerational solidarity. The majority of this research focuses on nuclear families with adult children. For this, traditional methodologies are typically used, which struggle to capture the complex and interdependent nature of family dynamics. Linked to the Family Solidarity 2.0 project, which seeks to examine solidarity in diverse family structures and update theoretical perspectives to reflect modern realities, this thesis explores the intricate dynamics of financial functional solidarity in stepfamilies with adolescent children. Utilising a round robin-design, stepfamily members were asked to rate their willingness to provide financial support to every other stepfamily member. The Social Relations Model was employed to disentangle between-family variance and within-family discrepancies. Results reveal that actor effects are most important in explaining between-family variance, highlighting the importance of individual predisposition. Relationship effects explain a smaller portion of variance, about as much as family effects, suggesting similar importance. Furthermore, results suggest a more nuanced description of the stepgap. It seems that in context of the household, it is the biological parent who deviates most from the family mean, by reporting and receiving above average amounts of support propensity. In conclusion, this thesis sheds light on the complexities of financial support dynamics of stepfamilies. It emphasises the importance of actor effects in shaping the consideration of financial support and challenges traditional perceptions of the stepgap.

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Completing this master's thesis may mark the final step in obtaining my master's degree, but it also signifies the first step into *'real life'*, which hopefully may be as full of learning as the past five years have been.

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Introduction

A century ago, *family* was essentially synonymous with a *nuclear* and *extended* family. Today, this is no longer the case, due to the rise in non-traditional family forms, such as stepfamilies (Audenaert, 2021; Lamanna et al., 2012). Family functions, however, have remained unchanged (Weigel, 2008). For instance, all family constellations still function as a unit of solidarity exchange. Yet, whereas nuclear families are rooted institutions that can rely on clear norms and expectations surrounding solidarity exchange, stepfamilies lack clear social customs (Ganong & Coleman, 2017; Gold, 2009). Consequently, with an increasing number of stepfamilies missing a clear social compass, questions are rising. Who takes care of whom? In what aspects are you expected to provide support? Under what circumstances does one support another? Are there any binding obligations? In the end, are you willing to earn more money to support a stepfamily member in need?

The scientific literature on family solidarity also contains several gaps and open questions. Due to various societal shifts, such as increased lifetime, most studies focus on intergenerational solidarity between aging parents and their adult children (Kalmijn, 2014; Lowenstein, 2007; Luo & Zhan, 2012). Studies on younger child-parent relationships are far scarcer (Van Imschoot et al., in press). Yet, these also have endured changes. The transition to adulthood in western, and perhaps global, society has also extended, given the prolongation of educational trajectories and the postponement of marriage (Fingerman, 2017). Therefore, the dependence of the child on the parent for support has also prolonged (Kins et al., 2013). Moreover, Hwang et al. (2021, 2023) suggested that future research should investigate early family relationship experiences, because these might play a role in how intergenerational solidarity is manifested in later life. Thus, by studying these relationships at a younger age, we could over time get a better grasp of how those adult child-parent relationships come to be and evolve over time. The majority of the current literature is also conducted on nuclear families (e.g., Fingerman et al., 2010; Mebane & Pezzuti, 2020; Suitor et al., 2017). Stepfamilies are rarely inquired in the solidarity literature. The studies that do inquire stepfamilies often make a comparison with other nuclear families (e.g., Steinbach & Hank, 2016; White, 1994). This limits our understanding of this family constellation and leaves several questions unanswered.

One last shortcoming in the current literature pertains the methodology of most research on family solidarity. Family systems theory argues that relationships are fundamentally interdependent on each other (Watzlawick et al., 1967; Minuchin, 1985), which research also has firmly established (Cook, 1993; King et al., 2014; Li et al., 2022; Scott et al., 2018). This interdependence has two implications. First, family members continuously influence each other bi-directionally. Second, social systems characterize themselves by *wholeness*, meaning that the family entity is more than the sum of its individual members (Watzlawick et al., 1967). Consequently, family research should take into account these interdependent influences. Nevertheless, many studies apply traditional statistical analysis methods, such as regression analysis (e.g., Hwang et al., 2021; Lee et al., 2016; Suitor et al., 2006). These methods make a priori assumptions about the level of analysis (i.e., individual, relational, family level; Eichelsheim et al., 2009). Moreover, past research has often only used one informant (e.g., Hogerbrugge & Komter, 2012; Hwang et al., 2021, 2023; Lee et al., 2015) to gain information regarding family relations (Eichelsheim et al., 2009). We could call into question whether this is an optimal way of inquiring inherently interpersonal and interdependent family dynamics.

To partially address this gap, this thesis will focus specifically on financial functional solidarity in stepfamilies. As familial finances both hold a practical relevance in wellbeing of children and successful transition into adulthood, it also symbolises many family characteristics metaphorically (Conger et al., 2010; Shapiro, 2007). In other words, financial support is not only a means to which family members assist each other. Who financially supports whom also symbolises boundaries, closeness, devotion and power. In what follows, this master's thesis offers a more extensive overview of the current scientific state of the art on solidarity. Gradually our focus will be narrowed to financial functional solidarity in stepfamilies. This will lead us to several research questions aiming to unravel between-family variance and within-family discrepancies in financial support exchange. By employing the Social Relations Model (SRM; Kenny & La Voie, 1984), we seek to paint a more comprehensive picture of familial interdependent relationships.

Solidarity

Solidarity as a concept sheds light upon the nature of the social bonds that ties individuals into a collective. Therefore, over the years solidarity has been a topic of inquiry in multiple disciplines, like sociology, political sciences, and social psychology (Roberts et al., 1991). Solidarity defies singular definitions. One of the earliest descriptions of solidarity stems from Thomas Hobbes, a founder of political philosophy (Hobbes, 1651). According to Hobbes, solidarity is an essential component for a well-functioning society. Based on mutual agreement among individuals, a group submits to a sovereign authority in exchange for protection and security. Solidarity, according to Hobbes, is the "glue" that helps people overcome their tendency towards self-interest. Without it, mankind would regress into perpetual conflict and war, which he calls, “the state of nature”. Durkheim, a pioneering European sociologist, also scrutinised solidarity (Durkheim, 1935). He identified two types of solidarity, *mechanical* and *organic*. *Mechanical* solidarity is based on a common culture, common beliefs and values, building upon shared experiences, rituals, and traditions. Within this type of solidarity, it is the shared culture that gives people a strong sense of cohesion. Durkheim states that *mechanical* solidarity would be dominant in small, traditional societies. In contrast, *organic* solidarity is based on interdependence and would be a feature of modern, industrialised societies. People hereby rely on each other to keep society functional, as everybody performs their tasks and functions. Within *organic* solidarity, it is the sense of interdependence that creates the need for cohesion. Durkheim, too, argued that solidarity is a necessary component of a well-functioning society, and that changes in the type of solidarity can have significant social consequences. Similar to Durkheim, the German sociologist Ferdinand Tönnies, described two types of solidarity entities: *Gemeinschaft* and *Gesellschaft* (Tönnies et al., 2001). *Gemeinschafts’ coherence* is based on a shared sense of belonging and a common identity, mostly found in small, traditional societies. In *Gesellschaft* it is based on shared interests and goals, rather than a sense of community, mostly found in large modern societies. Ties characterised by *Gesellschaft* would be weaker in comparison to *Gemeinschaft* according to Tönnies, since *Gesellschaft* would bring about a sense of individualism, rather than a sense of community.

What brings these classic political-philosophical and sociological writings together is the description of solidarity as the mechanism that brings a group together and benefits the

whole, instead of only pursuing one's own interests, which would cause the group to fall apart. However, it is important to acknowledge that the early conceptualisations of solidarity were developed within a historical context that significantly differed from the present society. The theoretical frameworks of sociologists such as Durkheim and Tönnies, for instance, were established amidst a period of tumultuous industrialisation that fundamentally transformed the social landscape. More contemporary conceptualisations include for example “the bonds of cohesion that hold a human group together” (Bengtson et al., 2002, p. 575). Another possible definition is “the integrative bonds that develop between persons, and between persons and the social units to which they belong.” (Molm et al., 2007, p. 207). One last example of a proposed definition of solidarity in contemporary literature is “feelings of sympathy for and commitment to fellow citizens” (Janmaat & Braun, 2009, p. 48). Overall, these various endeavours at defining solidarity find common ground in the notion that solidarity refers to the social connections that exist both among individuals within groups and among coexisting groups in society. These social connections are accompanied by a sense of connection and belonging. Finally, the presence of solidarity is important in the well-functioning of a civilisation. What also shines through these attempts at conceptualising solidarity is the fact that solidarity can be examined at different levels. As Rusu (2012) noted, solidarity can be understood both as a societal characteristic, and as an individual one. We can thus distinguish between the study of solidarity on a societal macro-level, of which Durkheim is an example, and the study of solidarity on individuals who are part of a smaller group.

Research on solidarity in smaller groups stems from the field of social psychology. During the 1950’s and 1960’s a lot of research was conducted on group dynamics (Back, 1951; Festinger et al., 1952; Lamphier et al., 1966). A prominent theory on group solidarity was developed by Homans (1950), who stated that group solidarity consists of four elements: interaction, sentiment, norms, and activity. Members of more cohesive groups would therefore engage frequently, appreciate each other, and share comparable normative values to group activities. Later, Heider (1959) supplemented this taxonomy by incorporating similarity. Moreover, he also posited the idea that specific configurations of the taxonomy may possess greater longevity in social relations. Another field concerned with solidarity in smaller groups is family research, which will be the area of focus in this thesis.

Family solidarity

The field of family solidarity has gained traction due to several defying societal shifts, making the study of intergenerational solidarity in particular pertinent. Defined as the "social cohesion between generations" (Bengtson & Oyama, 2007, p. 7), intergenerational solidarity has thus received increasing scholarly attention. First, as Mebane and Pezzuti stated, "the world is turning grey" (2020, p. 10). As longevity is greater than at any point in history, shared lifetime together has also insurmountably increased (Bengtson & Oyama, 2007; Kalmijn, 2014; Van Gaalen & Dykstra, 2006). Consequently, the need for physical caretaking of the elderly has grown, as well as the need for social and emotional support. This had on the one hand led to a prolonged period of support between parents and their offspring, surpassing the duration of such support in prior generations. On the other hand, as Kalmijn (2014) points out, there are developments that counteract an increase in intergenerational support. First, given the traditional gender roles that assigned women as primary caregivers, the increase in women's labour force participation has limited the available time that adult children can allocate for the care of their aging parents. Secondly, a rise in divorce rates have increased the number of parents, especially fathers, who have distanced themselves from their children. Parental separation has also made it more difficult for children to care for both parents, as one then must visit two places instead of one. Third, a decrease in fertility rates has lowered the number of within-generational members, which again creates fewer care opportunities. Fourth, individualisation has made affection more significant in the consideration of caregiving to aging parents, overshadowing normative duties. Lastly, the elderly have an increased wish for autonomy and therefore might feel resistance towards offered care from their children. As society experiences these opposing evolutions, the study of intergenerational solidarity has become increasingly relevant in today's day and age.

The most popular model applied in the study of intergenerational solidarity is the multidimensional model of solidarity from Bengtson and Roberts (1991). It builds on classical theory on social organisation (i.e., Durkheim and Tönnies), social psychology (i.e. Homans and Heider) and family sociology (Bengtson & Roberts, 1991). Since its conceptualisation the model has been used by researchers in a variety of ethnic contexts, cross-national contexts, and life courses (Mebane & Pezzuti, 2020; Steinbach & Hank, 2016). Bengtson's model offers a taxonomy of six intergenerational solidarity components (see Table 1). Some of these

categories are rooted in behavioural foundations (1-3), also referred to as “manifest” forms of solidarity (Hwang et al., 2023). Others center around the psychological and cognitive aspects of intergenerational connections (4-6), also referred to as “latent” forms of solidarity (Hwang et al., 2023).

Table 1

Six Dimensions of the Multidimensional Model of Bengtson

Construct	Description
Associational solidarity	This dimension refers to the type, frequency, and patterns of social interactions among family members in the variety of activities family members partake in. Associational solidarity is reflected in everyday lives through contact via phone, mail and face-to-face contact like sharing recreational activities or spending special occasions together.
Functional solidarity	This dimension pertains to the extent of assistance and resource sharing. Functional solidarity can be divided into a) emotional, b) functional or practical and c) financial support, given through help and services.
Structural solidarity	This dimension refers to the extent to which family members have opportunities for contact. Structural solidarity is reflected in everyday life through the residential proximity of family members, the number of family members and the health status of family members.
Affectual solidarity	This dimension refers to the nature and intensity of positive feelings towards family members. Affectual solidarity is reflected in everyday lives through feelings of warmth, closeness, trust and reciprocity of these feelings.
Consensual solidarity	This dimension refers to the degree to which family members share the same values, attitudes, and beliefs.
Normative solidarity	This dimension reflects the degree of commitment to familial roles and to meeting familial responsibilities. It is also referred to as "familism". It is reflected in everyday lives through the extent to which family members embody norms surrounding filial obligations.

Source: adapted from Bengtson and Roberts (1991)

Research that preceded Bengtson's model presented solidarity as a unidimensional metaconstruct, of which several solidarity dimensions are a direct indicator (Atkinson et al., 1986). This would imply all subdimensions are strongly correlated with each other and that by adding them together one obtains a measure of solidarity as an underlying factor. Robert and Bengtson (1990) indicated however that these six dimensions are different types of solidarity or sub-constructions of solidarity, rather than indicators of the same underlying concept. This implies solidarity is a multifaceted construct, rather than a unidimensional one. As a result, the study of these interrelations between different solidarity dimensions emerged as a line of inquiry itself (Silverstein & Bengtson, 1997; Van Gaalen & Dykstra, 2006; Van Houdt, 2021).

Initially, the interplay between the various dimensions of intergenerational solidarity was studied using cross-sectional data (Kalmijn, 2014). However, cross-sectional data hinders causal interpretation as it does not give insight into how different solidarity dimensions affect each other over time. This method therefore limits a full understanding of their interplay. Fortunately, this issue can be partially bridged by employing statistical models that allow for simultaneous causality while still using cross-sectional data (Bengtson & Roberts, 1991). Within this type of research, scholars found that when parents and children held stronger beliefs in the importance of familial duties, it was associated with higher levels of affectional solidarity. This increased affection was subsequently related to more frequent interaction, even when opportunities for such interactions were taken into account (Bengtson & Roberts, 1991). A more recent study done by Lee et al. (2015), also concluded that children's normative solidarity in relationship towards their parents is significantly associated with associational solidarity, affectual solidarity and functional solidarity. It should be noted however that the associations Lee et al. (2015) obtained are relatively small, with the exception of the relationship between normative and functional solidarity.

Later, researchers increasingly turned to longitudinal data for investigating interrelationships of the dimensions, since this type of data allows for better mapping of temporal relationships and the direction of influence (Kalmijn, 2014). However, with six dimensions and potential for mutual causal relationships, the analysis of longitudinal data became more complex, and the obtained results were sometimes divided. Mixed findings can, for example, be found in the evidence surrounding the effect of structural solidarity on associational solidarity. Van Der Pas et al. (2007) and Ward et al. (2014) conducted two panel

studies revealing that associational solidarity is influenced over time by structural solidarity. Steinbach et al. (2019) investigated parent-child relationships longitudinally for a decade and could not conclude there to be an influence of geographical proximity on the frequency of contact. A good illustration of the complexity of studying solidarity longitudinally using Bengtson's multidimensional model can be found in a Dutch study performed by Hogerbrugge and Komter (2012). Here, the interplay of all dimensions was examined longitudinally, resulting in 42 possible cross-dimensional effects. After data-analysis, only 13 relations were found to be significant, suggesting only a small subset of dimensions influences each other. In addition, significant path coefficients were fairly small in size, further suggesting limited support for causal relations between the dimensions. However, the duration of the study was rather short, thus limiting the degree of change in solidarity observed. Hogerbrugge and Komter (2012) concluded that functional solidarity, affectual and associational solidarity mutually reinforce each other over time. However, they could not conclude that normative solidarity is a predictor for future associational and affectual solidarity, which contradicts previous cross-sectional results. A more recent longitudinal study by Hwang et al. (2023) established similar findings. Hwang et al. utilised longitudinal data to evaluate the interrelations of solidarity dimensions in parent-child dyads at three distinct time points: emerging adulthood, intermediate young adulthood, and established adulthood. In line with Hogerbrugge and Komter's (2012) results Hwang et al. (2023) could not conclude that normative solidarity is associated with other solidarity dimensions over time. In addition, they could confirm the existence of a mutually reinforcing relationship between associational and affectional solidarity over time, which also corresponds with the findings of Hogerbrugge and Komter (2012). Furthermore, Hwang et al. (2023) add to the literature by underscoring the importance of examining solidarity exchange in different family stages. The state of solidarity exchange at one point in time seems to be dependent of the shared family history in solidarity exchange. Perceived associational solidarity during emerging adulthood predicted functional solidarity in both intermediate young adulthood and established adulthood. Additionally, according to the study of Hwang et al. (2023) dimensions of solidarity exhibit a considerable degree of stability over time. This implies that the manifestation of solidarity in later stages of life could be partly attributed to the solidarity expressed during earlier years. Research on young families would therefore be relevant.

Another strand in solidarity research building upon Bengtson's model made use of statistical clustering techniques to examine patterns of solidarity in families. Researchers could thus form typologies of prevalent solidarity "types" of combinations of the different dimensions (Hogerbrugge & Komter, 2012; Kalmijn, 2014). One conclusion from that research line of research is that not all solidarity dimensions coincide (Kalmijn, 2014; Van Gaalen & Dykstra, 2006), further strengthening the notion that solidarity is not a unidimensional concept.

Beside these two lines of research building further on Bengtson's model by mapping between-family differences and dynamics in solidarity dimensions between parents and their children, two more recent lines of research have emerged that attempt to complement this. First, researchers are now also applying research designs that map within-family dynamics (Hogerbrugge & Komter, 2012; Schnettler & Steinbach, 2011; Suitor et al., 2006, 2017). This approach better captures the complexity of solidarity exchanges taking place at the intrafamilial level. Spitze et al. (2012), for example, revealed a nuanced interaction of intergenerational socioemotional support transactions from a within-family perspective. Specifically, when parents supported one child, they were inclined to extend similar support to their other children, a phenomenon referred to as 'enhancement'. Conversely, receiving support from one child was associated with a decrease in support from others, consistent with a 'compensation' hypothesis. Second, researchers have expanded their topic of inquiry to include intragenerational solidarity between adult siblings and how this relates to parent-child solidarity (Hank & Steinbach, 2018; Kalmijn & Leopold, 2018). Voorpostel and Blieszner (2008), for example, found that sibling support is influenced by characteristics of the relationship with the parent. A strained relationship and infrequent contact with the parent increase emotional support between siblings, indicating a compensatory mechanism, particularly among brothers. A reinforcing mechanism was also found, where sibling support is positively associated with parental support, especially among sisters.

Despite its popularity, Bengtson's multidimensional solidarity model has not gone without critique. A frequent criticism is that the model lacks attention to conflict (Bengtson & Oyama, 2007; Luescher & Pillemer, 1998; Van Gaalen & Dykstra, 2006). It only focusing on "the positive side" of solidarity, namely support provision and affection. The role of conflict is neglected. The underlying assumption to be found in the model is that conflict is solidarity's opposite. Today researchers argue that solidarity and conflict are better placed on orthogonal

dimensions rather than on one spectrum as opposites (Kalmijn, 2014). After all, very close relationships, characterised by high levels of support are not necessarily free of any tension. For example, an adult child may feel love and affection for their aging parent but may also feel burdened by the caregiving responsibilities that come with aging. The ambivalence approach was suggested as an alternative (Luescher & Pillemer, 1998). It allowed researchers to study the coexistence of positive and negative aspects within intergenerational relationships (Hogerbrugge & Komter, 2012; Van Gaalen & Dykstra, 2006). This resulted in a more complete understanding of the nature of family solidarity since those mixed feelings could be captured. However, even though it can be argued that within the ambivalence approach one arrives at a more realistic view of family relations, it is no substitute for Bengtson's model. For one, there is no consensus about what "ambivalence" is and what it stems from (Kalmijn, 2014). Moreover, only a fraction of child-parent relationships can actually be conceptualised as being "ambivalent", with high rates of solidarity and conflict (Steinbach, 2008; Van Gaalen & Dykstra, 2006). Bengtson's model therefore remains useful if at times only for stimulating new research and organising existing findings.

The majority of the research on intergenerational solidarity, is performed within the context of aging literature on families with adult children (Bengtson & Oyama, 2007; Kalmijn, 2014). Consequent to this, most research findings only relate to families with adult children and their aging parents. Only two studies were found which focused on children of adolescent age (Branje et al., 2002; Lubiewska et al., 2018) and only two on children in emerging adulthood (Hwang et al., 2021; Lee et al., 2015). Three more studies with a longitudinal design were found that included adolescents and emerging adults (Gillespie, 2019; Hwang et al., 2023; Silverstein et al., 2002). Yet, intergenerational relationship quality and support seems to be an important factor for well-being throughout the whole life cycle, not only for the elderly (Grzywacz & Marks, 1999; Lee et al., 2015; Merz et al., 2009; Umberson, 1992). As Van Imschoot et al. (in press) pointed out, a possible explanation for this hiatus might be a lack of a proper measurement applicable to adolescent children and their parents. Opportunely, Van Imschoot et al. (in press) developed The Multi Actor Family Solidarity Scale (MAFS), which enables questionnaire research in families with adolescent children.

When it comes to studying the solidarity dimensions itself, it is financial functional solidarity that has been most studied in families with adult children (Kalmijn, 2014). In these

families, financial support flows both upward (from child to parent) and downward (from parent to child), with the latter being the more prevalent form (Kohli, 1999). Upward financial support is more prominent in families with a migration history (Sana & Massey, 2005). Another distinction made within the aging literature is between inter vivos tranfers, referring to financial support during one's lifetime, and testimonial support, referring to financial support through inheritance. Testimonial support lies beyond the scope of this thesis, and thus only findings on inter vivo financial support will be covered.

The family functions as a safety net to its members in time of need (Kalmijn, 2014), where the amount of financial assistance one gives is dependent on age and situational factors (Rossi & Rossi, 1991). Financial support from parents is negatively correlated with their children's income level (Hochguertel & Ohlsson, 2009). For example, parents are less likely to offer financial aid when children are married and are higher educated (Suitor et al., 2006; van Gaalen & Dykstra, 2006). Children who were female and part of a lower economic class family were more likely to provide financial support. Children who were the younger sibling, were unmarried and had lower educational degrees were more likely to receive financial support (Kalmijn, 2014; Suitor et al., 2006; van Gaalen & Dykstra, 2006). Prevailing norms surrounding financial support also influence how families support each other financially. A Dutch study enquired these norms surrounding financial support (Van Oorschot & Kalmijn, 2005). Biological parents, who were on average 61 years old, were surveyed for support provision and support receipt. They found that only one-third thinks parents should financially support their children, although higher percentages were found in the subdivision of the younger participants of the sample. A study carried out in the US suggests higher financial support percentages (Suitor et al., 2006). 51% financially supported some children, 8% supported all children and 40% does not financially support any children. In this study, parents were on average 59 years of age, children were on average 38 years of age. These research findings provide insight into financial support among nuclear families. Yet, this tells us little about what this is like for stepfamilies.

Stepfamilies

A stepfamily is commonly defined as a family “in which at least one of the adults has a child (or children) from a previous relationship” (Ganong & Coleman, 2017, p. 8). As Pylyser et al. (2017) indicated, there are a lot of different ways to allude to a stepfamily within scientific and popular discussions: blended families, reconstituted families, reconstructed families, remarried families, second-time families, merged families, etc. Some researchers prefer terms such as "blended family" because it carries a less negative connotation than "stepfamily". Yet, in this thesis the term “stepfamily” will be used, as it is the most common term in the social and behavioural scientific field (Ganong & Coleman, 2017).

Due to demographic shifts occurring in recent years, the stepfamily as a family form has increased in occurrence. Research conducted in 2021 by the Flemish government estimates that 13% of all families are stepfamilies in Flanders (Audenaert, 2021). Since in 2016 this was estimated to be 10.7%, an increase of approximately 2.3 percentage points in the past five years is suggested (Audenaert, 2021).

Although stepfamilies are an increasingly prevalent family form, they have been around for centuries, making it an increasing, but not a recent, phenomenon (Sussman, 1998). However, the way in which stepfamilies come to be and form themselves has changed in the past century. In the past stepfamilies were most likely formed after the death of a spouse (Ganong & Coleman, 2017). The stepparent reclaimed the former role of the deceased partner, either as a breadwinner or by maintaining the household and raising the children. Thus, widow(er)s remarried after the death of their spouse in order to guarantee the care of their children. Today however, stepfamilies are on the rise due to a parallel increase in divorce rates, cohabitation, and bearing offspring while not married (Furstenberg, 2014; Ganong & Coleman, 2017; Papernow, 2013; Sweeney, 2010). Researchers have noticed a discrepancy between these motives for the formation of a stepfamily throughout history. In the past, stepfamilies were more often formed out of necessity, following a death of a spouse. In today’s day and age, personal choice seems to be more significant in the consideration (Ganong & Coleman, 2017; Sweeney, 2010).

It has been suggested that the changes in stepfamily formation motives may have added a level of complexity to the functioning of stepfamilies (Pylyser, 2019). Often, contemporary

stepfamily members are an addition to a pre-existing family, rather than a substitution of a deceased family member. This requests all family members to seek new methods of engaging and connecting within their family. In 1978 sociologist Andrew Cherlin described remarried families as incomplete institutions. More recently, Ganong and Coleman (2017) concluded that stepfamilies are still not fully institutionalised. Unclear norms surrounding expectations and obligations prevail in stepfamily relationships, keeping stepfamilies in ambiguous territory regarding for instance support provision (Ganong & Coleman, 2017; Fishman, 1983). Clinicians have also noticed that challenges may arise with divided loyalties between two households, two sets of parents and the introduction of additional siblings (Visher & Visher, 2019). Even though stepfamily formation has changed throughout the years, the importance of the family has remained stable as an institution in forming an individual's view of life, of others, of the world, and of themselves in it (Weigel, 2008). This consequently highlights the need for a better understanding of how adults and children without a shared history create a new family unit, which can perform important family functions, such as providing support.

Although research on family solidarity in stepfamilies is limited, existing studies often compare stepfamilies with nuclear families or compare step ties with biological ties (Ganong & Coleman, 2017; Hwang et al., 2019; Steinbach, 2013; Steinbach & Hank, 2016). A frequent finding in these comparative designs is weaker intergenerational solidarity among step relations than among biological relations (Hwang et al., 2019; Steinbach, 2013; Steinbach & Hank, 2016). This phenomenon has been coined the stepgap as relatively weaker step ties to biological ties is a reoccurring finding in other domains, too (Becker et al., 2013). For example, step relations tend to be weaker regarding emotional intimacy, frequency of contact, and support exchange. (Becker et al., 2013; Schnettler & Steinbach, 2011; Seltzer et al., 2013; Steinbach, 2013; Suanet et al., 2013). However, other factors affect how strong this 'stepgap' is, such as the duration of the cohabitation time, the complexity of the stepfamily structure, number of children in the household, household income, parental affirmation of familism, and the gender of the parents (Becker et al., 2013; Kalmijn, 2007, 2013; Van Der Pas & Van Tilburg, 2010). So, even though, on average, step relationships are not as close as biological relationships, we can also infer substantial variability in these relationships. This indicates strong variations within step relations (Raley & Sweeney, 2020).

When it comes to financial functional solidarity it is apparent that the stepgap leaves a mark here as well. On average, financial support is carried out to stepchildren less frequent and in smaller proportions than towards biological children (Arat & Poortman, 2023; Clark & Kenney, 2010; Killian, 2004). More specific analyses in the Netherlands showed that this average trend is made up of a sizable group of stepparents who contribute rarely towards their stepchildren, and a smaller group of stepparents who contribute very often towards their stepchildren (Arat & Poortman, 2023). One exception to this trend in stepparents' financial contributions is gifting: studies show that significantly fewer stepparents do not contribute to gift giving. Overall, current evidence shows that financial support in step-relations is lower and less frequent than in biological relations, but within this pattern there is also a lot of variation (Arat & Poortman, 2023; Killian, 2004). Henretta et al. (2013) noted that variance in financial support provision is greater between stepfamilies than within stepfamilies. This might suggest that the shared family norms and values are more influential in shaping financial support decisions than the within-family differences in step- or biological ties.

Research has also identified multiple variables interacting with the extent to which stepparents provide financial support to their stepchildren. For example, parental working status and economic well-being are positively related to the likelihood of gift giving (Killian, 2004; Rossi & Rossi, 1991). In turn, the number of children belonging to the household is negatively related to gifting to children (Killian, 2004). The type of relationship also influences the amount stepparents are inclined to financially support their stepchildren. Married stepparents tend to contribute most frequently, followed by cohabiting stepparents. Stepparents in LAT (living apart together) relationships contributed the least (Arat & Poortman, 2023; Killian, 2004). Shared residency and residential history are also positively related to the likelihood of financial support in step relationships (Arat & Poortman, 2023; Van Houdt, 2021; Van Houdt et al., 2019). Moreover, gender also seems to matter in the consideration of financial support provision. This observation also extends wider than just financial support but seems to apply to most solidarity dimensions (Davey et al., 2004; Hwang et al., 2019; Fingerman, 2001). Stepchildren in stepmother families would be more disadvantaged to receive financial support than stepchildren in stepfather families (Arat & Poortman, 2023). Since majority of stepfamilies under study are composed of parental duos of opposing gender, these gender effects are commonly attributed to the biological mother's kin-keeping efforts

(Hwang et al., 2019; Stein, 1992). Biological mothers dedicate more time and attention to preserving and building family relationships, by for example organising events. In contrast, Arat & Poortman (2023) have shown that when controlled for residency, these gender effects in financial support are no longer found. This would suggest the gender effect to be caused by children spending more time with their biological mother and stepfather because of custody arrangements, making it a disguised residency effect.

A variety of potential explanations has been proposed for the stepgap. A frequently proposed explanation is that the sudden arrival of a new stepfamily member, who appears to have a parental role but lacks a clearly defined one, can create a strain on the newly formed stepfamily (Hwang et al., 2019). Secondly, socio-biological evolutionary theory has also been suggested as a possible explanation for stronger biological ties than step ties. From an evolutionary perspective, investing in a step relationship is not as fruitful as investing in a biological relationship (Becker et al., 2013). Parents would thus selectively devote more of their support and time to their biological children to optimize their likelihood of passing on their genetic material (Berger et al., 2008). Lastly, inspiration is also drawn from exchange theory, as the biological parent typically has invested more in the child than the stepparent, since they share a longer shared history of caretaking (Becker et al., 2013). Although the first suggestion is probable, it does not explain why this stepgap persists over time, which the exchange and evolutionary theory do. Both provide a considerable proposition for as to why the stepgap exists and persists in stepfamilies.

As indicated earlier, the comparison between nuclear families and stepfamilies is a popular area of research not only in the family solidarity framework but appears to be more of a generally popular approach to stepfamily research (Brown, 2004; Love & Murdock, 2004; Manning & Lamb, 2003). However, some researchers question the extent to which this frequent comparison provides us with insightful information. On the one hand, as Becker et al. (2013) point out, it clarifies the complex relationship between biological bonds and social exchanges. On the other hand, some researchers denounce this type of research because it mainly shines light on the shortcomings of the stepfamily in comparison to the nuclear family. This contributes to the perception of the stepfamily as inferior to the nuclear family. It also does not offer insight in the factors or mechanisms that contribute to positive outcomes for the

stepfamily as a unique family constitution (Ganong & Coleman, 2017; Pylyser et al., 2018; Sweeney, 2010).

Taken together, these critiques surrounding between-family comparisons and the need for a better understanding of how stepfamilies in today's day and age create family, the *doing family* perspective is a valuable complementary theoretical framework (Hertz, 2006; Nelson, 2006; Sarkisian, 2006). Instead of defining a family in an essentialist way, with legal or biological demarcations, the *doing family* perspective rather wields a more fluid postmodern definition of what creates a family, stating that family is created and practised in everyday interactions. Connections are formed, roles are negotiated and navigated, boundaries are established, responsibilities and rights are divided through everyday interactions such as eating meals together, celebrating holidays, engaging in leisure activities, and engaging in caregiving tasks. Thus, families are created throughout these practices, with their own unique identities, values and traditions. Consequently, family relations can fluctuate over time and differ from person to person. The *doing family* perspective is therefore a useful theoretical framework for disentangling and understanding the complex and dynamic nature of family life, as a dynamic, ever-changing entity.

An introduction to the Social Relations Model

Suppose a stepparent gets asked how much they are willing to financially support their oldest child. To which the stepparent replies that they are very willing to. This obtained answer can be explained in multiple ways. The high level of willingness could be a reflection of the stepparent's personality. This would mean the stepparent generally tends to be very generous towards everyone. On the other hand, it could also be a reflection of traits belonging to the child in question, with the child generally tending to provoke people's generosity. Another possibility is that the stepparent's willingness to financially support their oldest child is a feature of their unique relationship. This would mean that stepparent's response is a unique adaptation towards their oldest child and less of a reflection of their general personality traits. A final possible explanation is that the stepparent's response can also be attributed to a prevailing family climate shared by stepparent and child where generosity is fostered. In summary, the stepparent's response can be determined by traits on the individual level, relational level, and family level. In a research context, it is important to include this, and to be aware that obtained dyadic scores can be explained at different levels (Cook & Kenny, 2006). Yet, most applied traditional statistical analyses, such as regression analysis, make a priori assumptions about the level of investigation (Cook & Kenny, 2006; Eichelsheim et al., 2009; Stas et al., 2015). A method that is able to map out all levels of analysis at a time, and thus avoids making a priori assumptions, is the Social Relations Model (SRM; Kenny & La Voie, 1984).

SRM was developed by Kenny and La Voie to account for the complex interdependence that marks social relationships (De Mol et al., 2010; Kenny & La Voie, 1984). According to SRM an obtained dyadic score is not just an objective reflection of the person being evaluated, it is the reflection of a complex interplay of individual factors, relationship-specific factors, and group factors (Cook, 2000; Stas et al., 2015). The aim is to isolate which level(s) contribute to obtained dyadic scores (Loeys et al., 2021). An SRM analysis results in a disentanglement of these dyadic scores to four SRM effects: an actor effect, partner effect, relationship effect and family effect (Cook, 1994; Kashy & Kenny, 1990). The model can be represented in equation form, as seen in (1).

$$X_{ijk} = \mu + \alpha_i + \beta_j + \gamma_{ij} + \varepsilon_k \quad (1)$$

A dyadic score of person *i* rating person *j* is represented by X_{ijk}, μ represents the family effect, α_i represents the actor effect of person *i*, β_j represents the partner effect of person j, γ_{ij} represents the relationship effect from person *i* towards person *j* and ε_k represents the instability or error of the dyadic score. Therefore, variance found in the obtained dyadic scores is decomposed into SRM effects (cf. Equation 1). This makes our observed dyadic scores a dependent variable and our SRM effects independent (i.e., latent) variables (Cook, 2001). Each of these SRM effects have an associated mean and variance. SRM variances provide us insight into the between-family differences in SRM effects. These illuminate questions like "can differences in financial support exchange between families be traced back in varying individual dispositions, varying relational differences or a varying family culture?". First, we will go through the exact meaning of the variances of the SRM effects. We will return to the SRM means later.

An actor effect points towards a general tendency of an individual to behave in a certain way across different family members (Cook, 2001; De Mol et al., 2010; Eichelsheim et al., 2009). A statistically significant actor effect provides evidence for the contribution of an individual's cross-relational characteristics to the between-family variance in obtained dyadic scores. Resuming the previous example, a statistically significant actor effect of the stepparent would provide evidence that their individual characteristics explain a part of the variance in dyadic scores across different families.

A partner effect points towards a general tendency of an individual to elicit certain behaviour from other family members (Cook, 2001; De Mol et al., 2010; Eichelsheim et al., 2009). Therefore, the partner effect refers to individual's traits of a receiver present across different family relationships. Continuing the previous example, a statistically significant partner effect of the oldest child would provide evidence for the contribution of their individual characteristics as a receiver to the between-family variance in obtained dyadic scores.

A relationship effect points towards the unique adjustment between two individuals within their own specific relationship (Cook, 2001; De Mol et al., 2010; Eichelsheim et al.,

2009). This is retrieved when a family member reports unique behaviour towards another family member. The relationship effect is thus an interaction component, as it represents the variance in dyadic scores that cannot be explained by actor, partner, or family effects. Continuing with the previous example, a statistically significant relationship effect of the stepparent's rating of the oldest child provides evidence for the contribution of their unique relationship towards the observed variance in obtained dyadic scores between families. In addition, relationship effects are always directional, due to the fact that the stepparent's report on their willingness to support their child is not the same as the child's report of their willingness to support its stepparent (Kenny & La Voie, 1984; Loeys et al., 2021).

The family effect refers to the family average at the group level. A statistically significant family effect is retrieved when systematic variations between families are found or when a high degree of homogeneity within families with respect to the researched variable is found (Cook, 2001, 2005; Kenny & La Voie, 1984). The way in which the family effect should be interpreted is not entirely clear. Methodologically, the family effect corresponds to the traits of the average family member. Consequently, we could interpret the family effect as a hypothetical averaged out family member, pointing towards the common ground between family members. Another possible interpretation is that the family effect grasps at the "family climate". In our example, a statistically significant family effect would provide evidence for the family averages to explain part of the variance across families in dyadic scores.

SRM analysis is usually employed for its variance analysis. But variance analysis provides no information on how family members quantitively differ from each other in the variable under study, which SRM-means do (D. Kenny & Kashy, 2006). They illuminate questions like "do stepparents tend to generally be more willing to provide financially support to their stepfamily members compared to other family members?". SRM-means provide insight into the within-family dynamics. In the context of this thesis, SRM-means would allow us to shed light on how family members differ from each other in the amount they are willing to financially support their family members. Thus, these means provide information about the size of the contribution of an SRM effect to an average dyadic score (D. Kenny & Kashy, 2006). One can derive a mean actor, partner, relationship and family effect. In computing the mean actor and mean partner effect, the family mean mainly serves as a point of comparison (Cook & Kenny, 2004; Kenny et al., 2006). The mean actor effect of the biological parent, for

example, maps the extent to which their general tendency differs from what was expected based on comparing it with the grand family mean. The same logic can be applied to the mean partner effect, but for general characteristics of the receiver. Relationship means are compared to the family mean and corresponding actor and partner means. For example, the mean relationship effect of the biological parent rating the older child assesses the deviation of this dyadic score from the expected value based on the actor effect of the biological parent, the partner effect of the older child and the overall family effect. Therefore, the mean relationship effect reflects the unique adjustment a family member makes towards the family member being rated.

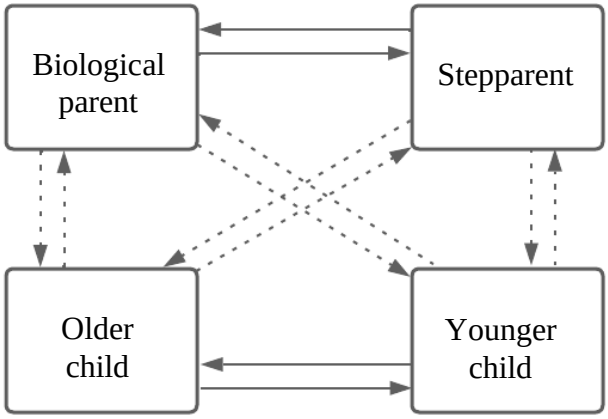
Through SRM an index of reciprocity can also be obtained (Cook, 2001; Eichelsheim et al., 2009). It can therefore shed light on the extent to which expressing willingness to provide financial support to other family members also elicits willingness to provide financial support. A distinction is made between generalised reciprocity, also known as individual reciprocity, and dyadic reciprocity. Generalised reciprocity expresses the correlation between the actor and partner effect of the same person. Thus, in the context of this thesis, it represents the association between the extent to which someone is generally willing to support other family members financially and the extent to which they generally receive willingness for financial support from other family members. Dyadic reciprocity expresses the correlation between a dyad's corresponding relationship effects. It reflects the extent to which two family members in their own unique relationship reciprocate to each other.

Although not part of the standard SRM, intergenerational and intragenerational similarity can also be retrieved from SRM measures (Stas et al., 2015). Intergenerational similarity between the stepfather and youngest child, for example, can be examined by testing the extent to which the actor or the partner effects are associated with each other by computing their correlation. Following the same logic, intragenerational similarity can be retrieved as well. The intragenerational similarity between the sibling or the parental dyad can also be retrieved through computing the correlation of their actor or partner effects.

To be able to perform an SRM analysis on questionnaire data, a round-robin design is required (Eichelsheim et al., 2011; Stas et al., 2015; Van Imschoot et al., in press). This entails all family members answering a (set of) question(s) in relation to each family member. For example, suppose in our previous example the stepparent and oldest child are part of a four-

member family, also including a biological parent and a younger child. If the question answered by the stepparent ("Are you willing to financially support your oldest child?") was prompted in the context of a round-robin design, the stepparent would also have to answer this question once holding the younger child in mind and once holding the biological parent in mind. Subsequently, all the other family members would answer the same question in relation to each other as well. Eventually, in a four-persons family, this results in 12 dyadic scores of all family members rating all family members on a given subject, eight intergenerational measures and four intragenerational measures (shown in Figure 1). By incorporating the perspective of each family member, we obtain a holistic view of the family where everyone's voice is heard (Cook, 2005). Therefore, SRM goes beyond conventional family analysis in which the unit of analysis is frequently restricted to only a single family member, a single dyad, or where the family is rated "as a whole" (Card & Barnett, 2015)

Figure 1
Round-Robin Design in a Four-Person Family



Note. Each arrow represents a dyadic score. The family member at the end of the arrow is rated by the individual at the beginning of the arrow. Intergenerational measures are represented by dashed lines, while intragenerational measures are represented by full lines.

Originally, it was the field of social psychology that started to apply SRM to analyse group processes (Eichelsheim et al., 2009). By now it has been used in family research for over 30 years, alongside other fields such as organisational psychology and communication research (De Mol et al., 2010; Eichelsheim et al., 2009). SRM can also be used in family therapy as a complementary assessment method (De Mol et al., 2010). To be clinically useful, the obtained SRM effects from the family in therapy are compared to the SRM effects of a normative sample. SRM enables the family therapist to inquire how a particular problem is embedded in the family on multiple levels. This assists the therapist in their clinical reasoning concerning potentially indicated interventions. Therefore, it is regarded as a valuable addition to everyday practice. As Loeys et al. (2021, p. 3) put it, "The application of the SRM to round-robin family data was equivalent to the development of the microscope. For the first time, a therapist could peer into the family system, observe the elements in the system and how they relate to each other, and come to some understanding of how family roles, individual differences, interpersonal relationships, and group-level effects contribute to the quality of family life."

Based on nine independent samples, Eichelsheim (2009) performed a systematic review of family studies using SRM. The nine independent samples were divisible on the basis of family size, including three person families and four person families, and on the basis of research topic, influence or affectivity. Eichelsheim (2009) concluded that the most important factors contributing to differences in familial relationships are actor effects and relationship effects. The finding that actor effects tend to explain a lot of variance is in line with earlier non-family-oriented research employing SRM (Kenny et al., 2001). Although relationship effects tend to explain large amounts of variance, the exact amount differs between intragenerational ties and intergenerational ties. Intergenerational ties between parents and children tend to account for less variance than intragenerational ties. The intragenerational bound of the marital relationship accounts for the most variance, explained by the fact that these relationships are voluntary, and love based, which makes them differ across families, resulting in a lot of variability in dyadic scores. It has been suggested that intragenerational ties between parents and children tend to account for less variance because they share characteristics across families, such as dependency of children and authority of parents. Furthermore, regardless of family size or research topic, partner effects were found to be only a modest source of variance in dyadic scores. Family effects only explained little amounts of

variance, possibly because family bonds do not necessarily make people alike (W. R. Cook, 2001; Plomin & Daniels, 2011).

Research questions and hypotheses

Research question 1: Is willingness to provide financial support present in the stepparent-child relationship?

Hypothesis 1: There is willingness present to provide financial support in the stepparent-child relationship.

It is expected that stepparents on average are willing to provide financial support to their stepchildren, given that previous research highlighted both a perceived obligation and actual provision of financial assistance in stepfamily relations (Aquilino, 2005; Arat & Poortman, 2023; Henretta et al., 2013; Killian, 2004).

Research question 2: To what extent is variance in dyadic scores on willingness to provide financial support in stepfamily relationships explained by different SRM effects?

Hypothesis 2: Mainly actor and relationship effects are relevant in explaining variance in dyadic scores measuring willingness to provide financial support to stepfamily members, as opposed to partner and family effects.

It is expected that mainly actor and relationship effects account for the variance in dyadic scores, as this seems to be a general trend in previous SRM research (De Mol et al., 2010; Eichelsheim et al., 2009; Finkenauer et al., 2004; Pylyser et al., 2020; Schrodt et al., 2008).

Research question 3: Are there unique adjustments present in the stepparent-child relationships in terms of willingness to provide financial support (mean relationship effects), when individual and family factors are accounted for (actor effect, partner effect and family effect)?

Hypothesis 3: Unique adjustments are found of the stepparent to the children and of the children to the stepparent. Their willingness to provide financial support is lower than what is expected by individual and family factors alone. This translates into mean relationship effects below zero.

These hypotheses are based on what we would expect if the stepgap is also in force within stepfamilies in terms of willingness to provide financial support (Arat & Poortman, 2023; Clark & Kenney, 2010; Killian, 2004). With these hypotheses, we aim to obtain a deeper and more nuanced understanding of the stepgap phenomenon within stepfamilies, by unravel it through the lens of SRM-means.

Research question 4: Is the stepparent's willingness to financially support the biological parent related to the extent to which the biological parent is willing to financially support the stepparent, independent of individual or family characteristics (actor, partner and family effect)? In other words, is dyadic reciprocity present between the stepparent and biological parent?

Hypothesis 4: Dyadic reciprocity is present between the stepparent and biological parent. This results in a positive correlation between the stepparent's and biological parent's relationship effects of each other.

Eichelsheim's (2009) systematic review and Branje et al.'s (2002) empirical research have demonstrated dyadic reciprocity to mainly be a feature we can expect of horizontal relationships as opposed to vertical relationships. Therefore, it is expected a statistically significant dyadic reciprocity is reflected in the parental relationship.

Research question 5: Are parents similar in the way they are generally willing to financially support their stepfamily members (their actor effects), and in the way they generally elicit willingness to provide financial support (partner effects) among their stepfamily members? In other words, do we observe intragenerational similarity?

Hypothesis 5: A statistically significant intragenerational similarity cannot be found in the parental pair.

This hypothesis is based on Pylyser et al.'s (2020) finding that biological parents and stepparents differ significantly in the extent to which individual and relational characteristics

contributed to perceived mattering in relation to the children. In the biological parent-child relationship, perceived mattering was almost entirely determined by individual factors. In the stepparent-child relationship, unique relationship effects in particular mattered. Based on this finding, it would be expected that the biological parent and stepparent are not similar in the relative importance of their actor or partner effects. This aligns with Van Houdt et al.'s (2018) findings indicating that step ties are more conditional than biological relations. This again suggests that the relative importance of individual and relational characteristics differs between biological and stepparents.

Method

Procedure

Approval for the project was granted by the Ethics Committee of the Faculty of Psychology and Educational Sciences at Ghent University. Data was derived through two waves. In the first wave, families were recruited through snowballing, convenience sampling, social media and through master's students between August 2021 and March 2022. Because of Covid-19 data collection was carried out online. Efforts were made to acquire a geographically evenly distributed sample, by spreading the call for participants to different municipalities and cities. When someone expressed interest, email addresses were acquired. They would later receive an information letter with a more detailed description of the study, their opportunities for participation and termination options, risks and advantages associated with their participation, data confidentiality and contact information for potential further questions. Participants were provided by an online link forwarding them to Qualtrics, where the survey could be completed. With a unique, personal code, received through email, participants could access the questionnaire. This code enabled anonymous processing of the data. It was emphasised to the participants that there were no right or wrong answers, and that answers should not be discussed with other participating family members. The questionnaire took 30 minutes. Debriefing was not provided by default, but participants could obtain a summary of the group level results when requested. Family-specific results were not disclosed. This first wave of data resulted in 82 recruited families, but also contained a lot of missing data. Often only three family members finished the questionnaire, instead of four. Thus, a second wave of data collection was organised.

The second wave of data collection ran from October 2022 to February 2023. The procedure in wave two differed from wave one in two ways. The first difference in the second wave was the organisation of home visits. A master's student visited the participating family for data collection, where all four family members were present. Secondly, the second time around participating families were compensated by a reward. By participating, families had a chance to win a family outing. This second wave of data resulted in 10 more recruited families.

Participants

Although the original dataset includes multiple family types, this dissertation will focus on a subset of stepfamilies, as mentioned earlier. Inclusion was based on four criteria: (a) the family had to consist of one biological parent with at least one or more children, one stepparent (of the opposite sex), and a maximum of two children (both from the same biological parent) who could complete the questionnaire, (b) families had to be Dutch-speaking and residing in Flanders, (c) children had to be between the ages of 11 and 23 years of age, and (d) the children had to be living (partially) at home with the participating parents and had to be financially dependent on their parents. An age limit of at least 11 years of age was opted for to guarantee that the child would cognitively be sufficiently developed to understand and complete the questionnaire. The maximum age of 23 years was selected since it generally reflects the final year of university in Belgium. Students often live (partially) at home and are financially dependent on their parents. In order to perform an SRM analysis on the data, a maximum of four family members was opted for to complete the questionnaire. The two participating children needed to be biologically related to the same parent. If the two participating children would not be biologically related to the same parent, each parent in the quartet would be a biological as well as a stepparent. All participants, including minors, received the necessary information about their participation in the study. All provided their informed consent to participate and to process their personal data. For underage children, parents provided informed consent.

This resulted in a total of 91 stepfamilies recruited to participate in this study (N = 91). The average age of the biological parent was 46.33 (range: 38 – 57, *SD* = 4.80). The stepparent's average age was 46.34 (range: 30 – 70, *SD* = 8.02). The older child was on average 17.98 years of age (range: 11 – 23, *SD* = 2.80) and the younger child on average was 15.75 years of age (range: 11 – 22, *SD* = 3.04). Biological parents were in 31.87% of cases male, and 68.13% of cases female. Of all stepparents, 67.78% were male and 32.22% were female. In 39.50% of instances, older children were male, and in 60.50% of cases, they were female. 45% of the younger children were male and 55% were female. Biological parents and stepparents were also asked how many years they have been together. The mean relationship duration according to the biological parents was 7.35 years (range: 0.5 – 18, *SD* = 4.54).

According to stepparents, the mean relationship duration was 7.80 (range: 0 – 18, *SD* = 4.72). All participating biological and stepparents answered this question. Relationship type was also inquired with both stepparent and biological parent, with 90 participating stepparents and 91 participating biological parents answering this question. Approximately 35.91% indicate they are married (stepparent = 35.56%, biological parent = 36.26%). About 50.82% stated they are cohabiting but not married (stepparent = 50%, biological parent = 51.64%). Finally, 13.26% indicate they are in a non-cohabitational relationship (stepparent = 14.44%, biological parent = 12.08%).

Instruments

To capture the financial aspect of functional family solidarity the Multi Actor Family Solidarity Scale (MAFS) is employed (Van Imschoot et al., in press). Through cross-validation the MAFS demonstrated acceptable to good reliability and measurement model validity across intergenerational and intragenerational family ties. Cronbach's α (calculated per subscale) ranged from 0.71 to 0.84 in the validation study (Van Imschoot et al., in press). The MAFS was validated and administered in Dutch. One can find an additional evaluation of the construct validity of the MAFS performed on our dataset in the appendix. This scale consists of three subscales corresponding to the three facets of functional solidarity, (a) emotional support, (b) practical or instrumental support and (c) financial support. Table 2 displays the four items of the financial support subscale relevant to this study. Each subscale encompasses four items, bringing about a total of 12 items. Every item interrogates a family member's willingness to provide support to another family member.

Table 2
Items of the Multi Actor Family Solidarity Scale (MAFS)

Financial functional solidarity items
1. If ... needs money, I am willing to earn extra money for ... .
2. I would help..., no matter how much money it costs me.
3. If helping ... means giving money, I would rather not do it (reverse-scored).
4. I'm willing to donate personal belongings I find important to..., should ... need them.

Note. Adapted from *How to Measure Family Solidarity? The Multi Actor Family Solidarity Scale (MAFS) (P. 18), by Van Imschoot et al., in press*

The three dots ("…") will continuously be replaced by the names of other participating family members, following the round-robin design. Items were assembled in a 1-10 scale format, guided by five guiding points: "never", "rarely", "sometimes", "often", and "very often". The scale used sliders to select responses. The slider had to be tapped to register an answered question. This way a distinction can be made between a neutral answer (tapped) and an unanswered question (not tapped). The full questionnaire completed by the participating families did not only consist of these four items but contained a total of 20 to 25 items. This is because this thesis is part of a broader project surrounding family solidarity in Flanders, FamSol 2.0. Therefore, in addition to the functional solidarity dimensions, conflict and ambivalence were also inquired.

Statistical analysis

The statistical analysis will be performed utilising R Studio (RStudio Team, 2023). The package fSRM will be employed (Stas et al., 2015). With the use of this particular software, an SRM analysis with predetermined roles can be conducted, as is the case with families. Because of this, fSRM package also makes use of structural equation modeling (SEM), and therefore is based on the package Lavaan (Rosseel, 2012). To process missing data, full information maximum likelihood will be applied. The quality of model fit will be assessed using the p-value of the chi squared test, CFI, TLI and RMSEA. Acceptable levels of power would be present for detecting medium-size and large-size effects with a sample size of 91 families

(Kenny & Kashy, 2006). Four latent variables will be estimated: actor, partner, relationship, and family effects. Actor and partner effects are based on three observed dyadic scores. Family effect is based on 12 observed dyadic scores. Relationship effects are based on one observed dyadic score. Therefore, the error variance cannot be separated from the relationship effect. All loadings will be fixed to one.

Results

Missing data

Before testing our hypotheses, missing data must first be analysed. This way we can assess the impact of missing data on the validity, reliability, and robustness of findings. Cook (2001) described three levels at which data can be missing in a round-robin design. The first is the *item-within-scale level*, where a single item belonging to a certain scale measuring a particular family relationship is missing. For example, one stepparent completed all questions that probed for willingness to support financially, except one specific question. In the online questionnaire, participants were notified when a specific question was not answered. Therefore, *item-within-scale* missingness is ruled out. A second level at which missing data can be situated is the *relationship-within-respondent level*. When data are missing on this level, all items measuring a specific relationship within a certain family are missing. For example, a biological parent reported on the relationship with their two children, but not on the relationship with the stepparent. Thirdly, data missing on the *respondent-within-family level* indicates that a particular family member did not participate in the questionnaire. Evidently, a final form of missingness arises when an entire recruited family unit does not participate in completing the questionnaire. If this is the case, they will be excluded from the sample.

In total, 92 families participated by completing the questionnaire. Even though our SRM model is intended for four-person families, 12 of these 92 families comprised only three participating members: a stepparent, a biological parent, and only one child. The children from three-person families were categorised under "older child" in our SRM model. Consequently, the three dyadic scores normally rated by the younger child were missing in these 12 families. Therefore, these missing dyadic scores can be traced back to the absence of a second sibling, rather than other confounding variables. Of the dyadic scores that could still be obtained in these three-person families, about 26% are missing.

The other 85 families consisted of four members. One of these families completing the full questionnaire would result in all 12 dyadic scores. One family was excluded from the sample due to seven missing dyadic scores. In total, 8% of dyadic scores are missing within the four-person families. More specifically, at least one dyadic score is missing in 50 of our participating families, representing about 59% of our families. There was no missing data in 41% of our participating families.

For the missing data, full information maximum likelihood (FIML) was used. FIML estimates missing data points based on the existing data in the survey. It can bridge the gap between missing data and accurate estimation, making analyses more comprehensive. FIML can only be used on data which are *missing completely at random* (MCAR; missingness is due to factors uninvolving measured variable(s)) and *missing at random* (MAR; missingness is due to measures uninvolving the dependent variable(s)). It cannot be said that our missing data is completely at random, though we may assume that it is missing at random.

Descriptive statistics

Table 3 summarises descriptive data on our dyadic scores. The mean score, standard deviation and Cronbach's alpha associated with each relationship-specific measure are described.

Table 3

Mean score, Standard Deviation, and Cronbach's α by Dyadic Score

Dyad	Mean	Standard Deviation	Cronbach's alpha
stepparent			
→ older child	6.79	2.31	0.83
→ younger child	6.94	2.37	0.84
→ biological parent	7.97	1.87	0.74
biological parent			
→ older child	7.76	1.72	0.70
→ younger child	7.69	1.80	0.72
→ stepparent	7.26	2.07	0.80
older child			
→ younger child	7.00	2.18	0.79
→ stepparent	6.07	2.18	0.84
→ biological parent	7.39	1.91	0.79
younger child			
→ older child	7.02	1.88	0.76
→ stepparent	6.29	2.23	0.84
→ biological parent	7.34	1.86	0.78
across dyadic scores	7.13	2.03	0.79

Note. Rater above, rated person behind arrow

Out of twelve dyadic scores, the stepparent's rating of the biological parent is the highest (M = 7.97, range = 3-10, SD = 1.86). The lowest score was the older child's rating of the stepparent (M = 6.07, range = 1.5-10, SD = 2.18). The mean propensity to provide financial support per dyadic score ranges from 6.07 to 7.97. This indicates a distribution skewed to the right, which is further confirmed by examining of histograms of the dyadic scores (see appendix). Across all 12 dyads, the average willingness to provide financial support to another stepfamily member is 7.13. We can also conclude that no extreme outliers are present in the mean dyadic scores. The mean ratings of stepparents and children of each other range from 6.07 to 6.94. In other words, stepparents and children report that they are *sometimes* to *often* willing to support each other financially. Therefore, these ratings are in line with our first hypothesis stating that, on average, stepparents and children are willing to financially support each other.

The widest spread is found in the dyadic score where the stepparent rates the youngest child (SD = 2.37), whereas the smallest spread is found in the dyadic score where the biological parent rates the youngest child (SD = 1.80). Cronbach's alpha is a measure that calculates inter-item correlation, intending to assess how closely related individual questionnaire items are. In other words, Cronbach's alpha is intended to evaluate the internal consistency of questionnaire items. It provides an estimate of the extent to which separate items can be categorised together. Overall Cronbach's alpha ratings of different dyadic scores fluctuate between 0.70 and 0.84, which points towards an acceptable to good internal consistency (Gliem en Gliem, 2003).

SRM analysis

Fit measures

Before we can interpret our computed SRM effects we first have to compare the variance-covariance matrix of the 12 obtained dyadic scores to the model we put forward. This allows us to inspect the quality of our fit. If the fit proves insufficient, the SRM effects cannot be interpreted. The relevant fit indices that for this purpose first are to be examined are the chi-square test, CFI, TLI and the RMSEA.

The chi-square test inspects the discrepancy between the distribution of observed scores and expected scores. More specifically, it examines the extent to which we can or cannot

attribute this discrepancy to chance. The null hypothesis states that the discrepancy is due to chance, while the alternative hypothesis states the discrepancy is indicative of a genuine difference. Since preferably the observed data fit the model put forward, a non-significant p-value would indicate there to be a *goodness of fit*. Upon conducting the chi-square test, the following is found: $X^2(43, N = 92) = 75.896$, $p < 0.01$. A significant p-value indicates that there is a real discrepancy between the observed scores and the expected scores, rejecting the null hypothesis. This does not speak in favour of our *goodness of fit*. However, it is important to note that out of all fit indices, the chi-square test is least reliable. Since it is influenced by sample size and correlations between outcome variables, results might be biased.

Next, the CFI and TLI will be examined. These fit indices compare the fit of the measurement model in comparison to a baseline model and are better suited to smaller sample sizes ($N < 100$; Bentler, 1985). A CFI higher than .90 is considered acceptable and a CFI higher than .95 is considered optimal (Hu & Bentler, 1999; Cook, 1994). Similarly, a TLI above .90 is considered a good fit (Hu & Bentler, 1999). Both vary between 0 and 1. A CFI of 0.956 (>.95) and a TLI of 0.939 (>.90) were found, indicating an optimal fit.

A last crucial fit index to consider is the RMSEA. A lower RSMEA indicates a better fit, with .01 being rated as an excellent fit, .04 as a good fit and .08 as a mediocre fit (MacCallum et al., 1996). An RMSEA of .097 was found with a 90% confidence interval of [0.065;0.128]. Although the RMSEA found falls below the optimal range, the confidence interval also implies a moderate fit. It is essential to recognize that the RMSEA is influenced by factors such as sample size and degrees of freedom (Kenny et al., 2014). In our case, the small sample size and moderate amount of degrees of freedom our RMSEA might be slightly enlarged. To sum up, we can conclude there is an acceptable fit.

Variance analysis

In Table 4 an overview is displayed of the estimated variance, standard error, and confidence interval of the different SRM effects. A statistically significant estimated variance of an SRM effect implies that there are significant differences between families regarding this effect.

Table 4

Estimated Variance, Standard Error and Confidence Interval of the SRM Effects

SRM effect	Estimated Variance	Standard Error	90% Confidence Interval
Family	0.68**	0.26	[0.24; 1.11]
Actor			
Biological parent	1.92***	0.46	[1.17, 2.67]
Stepparent	3.60***	0.51	[2.76, 4.43]
Older child	2.29***	0.52	[1.44, 3.15]
Younger child	2.40***	0.56	[1.47, 3.32]
Partner			
Biological parent	0(NA)	0	[0, 0]
Stepparent	0.31	0.33	[-0.23, 0.86]
Older child	0.40**	0.14	[0.18, 0.62]
Younger child	0.31**	0.13	[0.10, 0.52]
Relationship			
Biological parent – Stepparent	1.50**	0.50	[0.68, 2.32]
Biological parent – Older child	0.01	0.04	[-0.07, 0.08]
Biological parent – Younger child	0.14*	0.07	[0.15, 0.26]
Stepparent – Biological parent	1.73***	0.43	[1.02, 2.45]
Stepparent – Older child	0.01	0.03	[-0.05, 0.06]
Stepparent – Younger child	0.07**	0.03	[0.02, 0.13]
Older child – Biological parent	0.35*	0.17	[0.07, 0.63]
Older child – Stepparent	1.50***	0.46	[0.75, 2.26]
Older child – Younger child	1.59*	0.69	[0.46, 2.72]
Younger child – Biological parent	0.38**	0.16	[0.11, 0.64]
Younger child – Stepparent	1.35**	0.49	[0.54, 2.16]
Younger child – Older child	0.62***	0.19	[0.30, 0.93]

Note. Rater in front, rated person behind

*p<.05; **p<.01; ***p<.001, single-sided test that assesses if the variance is greater than zero

Family effect: When assessing the estimated variances of the SRM effects, a statistically significant family effect is found (estimated variance = 0.68, SE = 0.26, $p < .01$). This implies that overall willingness of family members to financially support each other varies across families. In other words, the willingness to financially support another family member in stepfamilies partly depends on the family you belong to and share characteristics with.

Actor effect: Each family member's estimated variance of their actor effect is found to be statistically significant. For example, the significant actor effect of the older child (estimated variance = 2.29, SE = 0.52, $p < .001$) indicates that between-family variance is partly accounted for by the varying individual tendencies of older children to be willing to provide financial support. The same conclusion can be drawn for the biological parent (estimated

variance = 1.92, SE = 0.46, p < .001), stepparent (estimated variance = 3.60, SE = 0.51, p < .001) and younger child (estimated variance = 2.40, SE = 0.56, p < .001). All actor effects being statistically significant reflects the importance of individual differences among family members in their readiness to provide financial support. It implies that for each family role these individual factors vary across families. Thus, some family members have by themselves a greater propensity than others to financially support other family members.

***Partner effect**:* The only partner effects found to be statistically significant are those of the younger child (estimated variance = 0.31, SE = 0.13, p < .01) and older child (estimated variance = 0.40, SE = 0.14, p < .01). These statistically significant partner effects indicate that the children tend to be rated similarly by different family members. This could be due to their individual ability to elicit willingness for financial support, and that this ability of the children varies across families. This individual factor, the extent to which one is capable of eliciting willingness in others, seems to be relevant in explaining between-family variance only in the case of the children.

***Relationship effect*:** For each dyadic score, we find a statistically significant relationship effect, with the exception of the biological parent's rating (estimated variance = 0.01, SE = 0.04, p > .05) and the stepparent's rating (estimated variance = 0.01, SE = 0.03, p > .05) towards the older child. From a statistically significant relationship effect, we can infer that the unique adjustment of the rater towards the rated person in the readiness to support each other financially varies across families. This relationship effect is independent of how the rated person as an individual is typically rated (i.e., partner effect), of how the rater as an individual typically rates family members (i.e., actor effect), and of how family members as a group are typically willing to support each other financially (i.e., family effect). The statistical significance of nearly all relationship effects underscores the rater's unique relationship with the evaluated family member in assessing their willingness to financially support them. Statistically significant relationship effects should however be interpreted with caution, since every relationship effect also includes error variance.

Relative variance decomposition

In Table 5 an overview is displayed of the relative variance explained per SRM effect for every dyadic score. Figure 2 represents a visual representation of Table 5. The bottom row shows the

average relative variance of each SRM effect across the 12 dyadic scores. Note that every row, sums up to 100%, since the measurement error is not separated from the relationship effects (Stas et al., 2015).

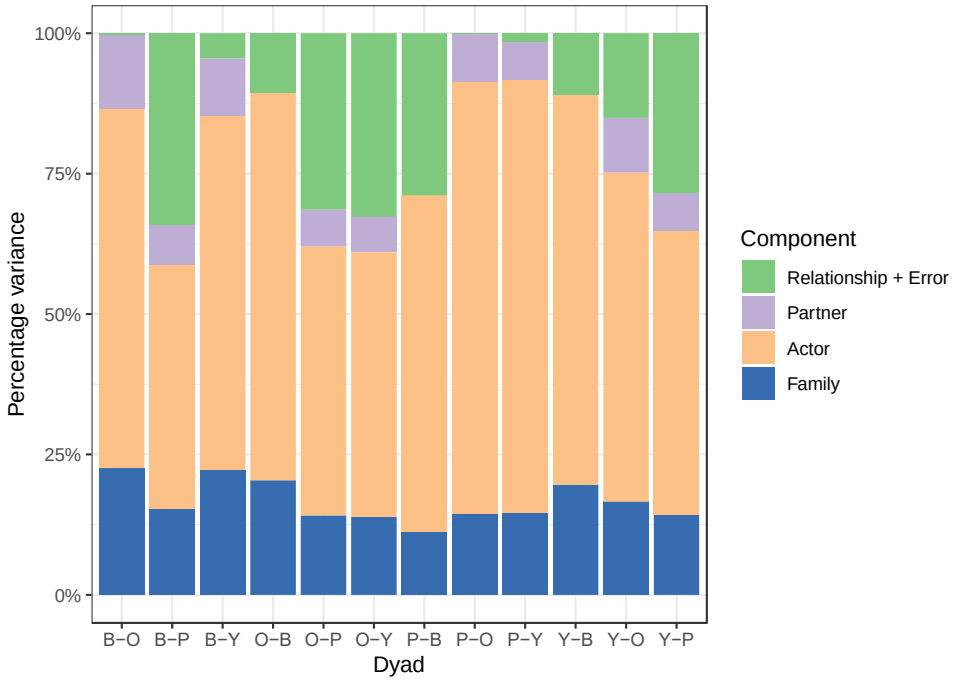
Table 5

Relative Variance Decomposition

Dyad	Family	Actor	Partner	Relationship
stepparent				
→ older child	14	77	9	0
→ younger child	15	77	7	2
→ biological parent	11	60	0	29
biological parent				
→ older child	23	64	13	0
→ younger child	22	63	10	4
→ stepparent	15	43	7	34
older child				
→ younger child	14	47	6	33
→ stepparent	14	48	7	31
→ biological parent	20	69	0	11
younger child				
→ older child	17	59	10	15
→ stepparent	14	51	7	28
→ biological parent	20	69	0	11
Cross-relational mean	17	61	6	17

Note. Rater above, rated person behind arrow

Figure 2
Relative Variance Decomposition



Note. In the figure, 'B' represents the biological parent, 'P' represents stepparent, 'Y' represents the youngest child, 'O' represents the oldest child. Each dyad is denoted with the rater mentioned first, followed by the person being rated. For example, the first dyad 'B-O' reflects the biological parent rating the oldest child.

Overall, the interfamilial variability in willingness to financially support stepfamily relatives is most accounted for by actor effects, with an average of 61%. Actor effects are especially influential in the stepparent's ratings of the children and accounted for 77% of variance. Following actor effects, family and relationship effects both explain 17% of the variance across dyadic scores, although their relative contribution varies per dyadic score. The family effect explained the most amount of variance in the biological parent's ratings of the children (22 and 23%). Relationship effects generally account for more variance in intragenerational dyadic scores (mean = 25%) in contrast to intergenerational dyadic scores (mean = 10%). An exception to this can be found in the intergenerational ratings of the children towards the stepparent, where relationship effects on average accounted for 29.5% of the variance. Lastly, partner effects seem to explain very little of variance, averaging 6%.

Noteworthy is that the partner effect of the biological parent across all raters explains zero variance. Furthermore, the variance in parental ratings of the younger and older child are explained in a similar way by the different SRM effects.

Taken together it seems that interfamilial variance in willingness to financially support stepfamily members is mainly explained by individual characteristics of the raters themselves, less by the unique relationship family members have or the family they belong, and hardly by the characteristics of the rated family member. These observations can shed some light on research question two. Findings are in line with our second hypothesis stating that mainly actor effects are relevant in explaining the variance in dyadic scores measuring willingness to provide financial support to stepfamily members. As hypothesised, relationship effects are in almost all dyads statistically significant in explaining the observed variance, although their relative contribution is lower than expected. Relationship effects are relatively as important as family effects in explaining dyadic score variance.

Reciprocities

Reciprocities can only be interpreted if the required SRM variances are also found to be statistically significant. Therefore, only the generalised reciprocities of the children could be calculated, since only the partner effects of the two children are found to be statistically significant. Since the relationship effects of parents towards the older child were not found to be statistically significant, we cannot calculate these dyadic reciprocities. Table 6 displays an overview of the interpretable generalised and dyadic reciprocities.

Table 6
Estimated Generalised and Dyadic Reciprocities

SRM effects	Covariances	Standard Error	Correlation	Confidence Interval
Generalised reciprocity				
Actor effect older child – Partner effect older child	-0.07	0.04	-.07	[-0.15, 0.01]
Actor effect younger child – partner effect younger child	-0.03	0.05	-.03	[-0.13, 0.08]
Dyadic reciprocity				
Dyadic reciprocity biological parent – stepparent	0.02	0.31	.01	[-0.60, 0.64]
Dyadic reciprocity biological parent – younger sibling	0.05	0.06	.23	[-0.06, 0.17]
Dyadic reciprocity older sibling – younger sibling	0.17	0.19	.17	[-0.22, 0.55]
Dyadic reciprocity stepparent – younger sibling	-0.05	0.08	-.17	[-0.21, 0.10]

Note. *p<.05; **p<.01; ***p<.001 (for a two-sided test that assesses whether the covariance differs from zero.)

No statistically significant covariance is found for any of the reciprocities examined. Specifically for the dyadic reciprocity of the parental dyad this means that the way in which the biological parent uniquely rates the stepparent does not correlate significantly with the way in which the stepparent uniquely rates the biological parent. The results therefore contradict our hypothesis stating that the biological parent's unique willingness to provide financial support to the stepparent would be positively associated with the stepparent's willingness to provide financial support to the biological parent (r = .012, SE = 0.31, $p > .05$).

Intragenerational similarities

Similar to reciprocities, intragenerational similarities can only be interpreted if the required SRM effects are also statistically significant. Therefore, the intragenerational similarity between parents' partner effects could not be interpreted.

Table 6

Estimated covariances of the intragenerational actor- and partner effects

SRM effects	Covariates	Confidence interval	Correlation
Actor effect biological parent – actor effect stepparent	-.36	[-1.04, 0.32]	-.137
Actor effect older child – actor effect younger child	.11	[-0.79, 1.00]	.05
Partner effect older child – partner effect younger child	.35**	[0.10, 0.61]	NA

Note. *p<.05; **p<.01; ***p<.001 (for a two-sided test that assesses whether covariates differ from zero)

In Table 6 an overview is displayed of the estimated covariances of the intragenerational actor- and partner effects. Only the intragenerational similarity between the older child and the younger child's partner effects are statistically significant. This finding implies there is an association between the younger sibling's overall propensity to provoke willingness in others to financially support them (i.e., partner effect), and their older sibling's capacity to do the same. No other statistically significant intragenerational similarities are found. Therefore, the data aligns with the hypothesis stating intragenerational similarities would not be found between the parents ($r = -.137$, $p > .05$).

SRM means

Table 7 presents the SRM means, further illustrated by Figure 3.

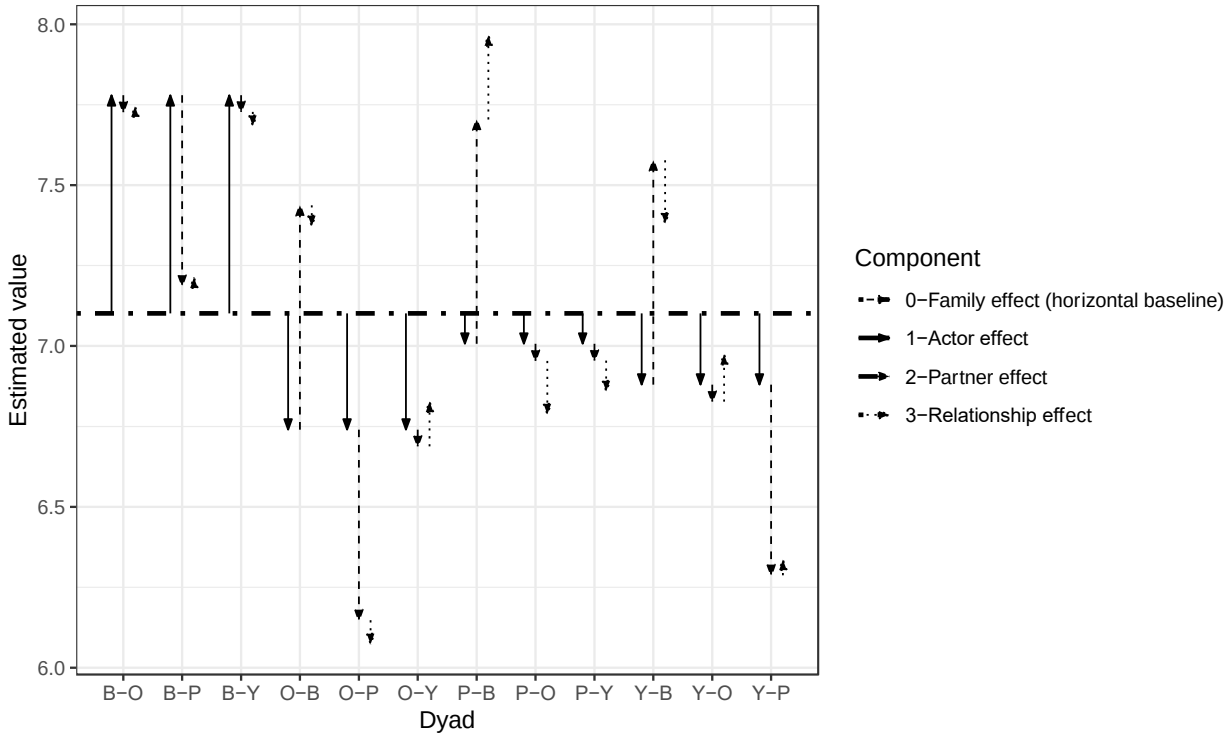
Table 7
Analysis of Mean Reported Willingness to Provide Financial Support at Individual, Dyadic and Family Level

SRM effect	Mean	Standard Error	Confidence Interval
Family	7.10***	0.13	[6.89, 7.32]
Actor			
Biological parent	0.68***	0.15	[0.44, 0.92]
Stepparent	-0.10	0.16	[-0.36, 0.17]
Older child	-0.36*	0.16	[-0.62, -0.10]
Younger child	-0.22	0.16	[-0.48, 0.03]
Partner			
Biological parent	0.70***	0.07	[0.58, 0.81]
Stepparent	-0.59***	0.09	[-0.74, -0.44]
Older child	-0.05	0.05	[-0.13, 0.03]
Younger child	-0.05	0.06	[-0.15, 0.05]
Relationship			
Biological parent – Stepparent	0.03	0.08	[-0.11, 0.16]
Biological parent – Older child	0.02	0.05	[-0.06, 0.09]
Biological parent – Younger child	-0.04	0.06	[-0.14, 0.05]
Stepparent – Biological parent	0.26***	0.08	[0.14, 0.39]
Stepparent – Older child	-0.17***	0.04	[-0.24, -0.10]
Stepparent – Younger child	-0.10	0.05	[-0.18, -0.01]
Older child – Biological parent	-0.07	0.06	[-0.17, 0.04}
Older child – Stepparent	-0.07	0.08	[-0.20, 0.05]
Older child – Younger child	0.14	0.09	[-0.05, 0.29]
Younger child – Biological parent	-0.20***	0.06	[-0.29, -0.10]
Younger child – Stepparent	0.05	0.07	[0.04, 0.26]
Younger child – Older child	0.15*	0.08	[-0.08, 0.17]

Note. *p<.05; **p<.01; ***p<.001 (for a two-sided test that assesses whether mean differs from zero)

Figure 3

Visual representation of mean reported willingness to provide financial support at individual, dyadic and family level



First, we find the family mean, which is 7.10. Here, the family mean represents the average willingness to provide financial support across all families. The mean is situated within the *often* category.

In addition, two mean actor effects are statistically significant. A first one is that of the biological parent (M = 0.68, SE = 0.15, $p < .001$). This indicates that the biological parent is more willing to provide financial support to family members, on top of what would be expected, considering the family mean. The next significant actor effect is that of the older child (M = -0.36, SE = 0.16, $p < .05$). From this, we can infer that the older child tends to indicate less willingness to offer financial support than we would expect based on the family mean.

Two mean partner effects are also statistically significant. First, we find a significant partner effect in the biological parent (M = 0.70, SE = 0.07, $p < .001$). In other words, the biological parent tends to elicit more willingness for financial support in others than the

average family member. The opposite is true for the stepparent, where it is found that the stepparent, on average, elicits less willingness to provide financial support in others (M = -0.60, SE = 0.09, $p < .001$).

We find four statistically significant mean relationship effects. A first significant relationship effect is that of the stepparent assessing the biological parent (M = 0.26, SE = 0.08, $p < .001$). This indicates that the stepparent feels more unique willingness towards the biological parents to support them financially compared to what we would expect based on the mean actor, mean partner and mean family effect. The same reasoning applies to the stepparent's rating of the older child (M = -0.17, SE = 0.04, $p < .001$), the younger child's rating of the biological parent (M= -0.20, SE = 0.06, $p < .001$) and the younger child's rating of the older child (M= 0.15, SE = 0.08, $p < .05$). These results do not support the third hypothesis stating that the unique adjustments of the stepparent and the children towards each other are lower in contrast to what we would expect based on individual and family factors. Only the mean relationship effect from the stepparent towards the older child falls below zero and is statistically significant. All other relationship effects were not found to be statistically significantly different from zero.

Discussion

This dissertation aimed to unravel financial functional solidarity in stepfamilies with adolescent children using the Social Relations Model. Survey data were collected following a round-robin design. In this design, stepfamily members rated their willingness to provide financial support to every other stepfamily member. By employing SRM analysis, between-family variance in dyadic ratings could be disentangled simultaneously at the individual, relational and family level. In addition, the SRM-means provide insight into within-family dynamics. The majority of the previous literature on financial functional solidarity focused on adult child-parent relationships in nuclear families, using traditional methodologies. In addition, a large part of the stepfamily literature adopts a comparative design with nuclear families. This research has taken a different route, however. Its methodology more fully captured the complexities of family solidarity exchange. In doing so, it offers a more nuanced understanding of the complex and interdependent mechanism that comprise financial functional solidarity. Current research attempts to complement and broaden our knowledge on how financial functional solidarity operates in stepfamily bonds by approaching stepfamilies as a stand-alone family form. This fosters a more equal regard of diversity in family structures.

The first research question examined whether or not there is willingness present to support each other financially in the stepparent-child relationships. As hypothesised, willingness to provide financial support is present in the stepparent-child relationships. Ratings between stepparents and children ranged from 6.08 to 6.79. In other words, stepparents and children feel willingness to financially support each other *sometimes* to *often*. This observation aligns with previous findings (Aquilino, 2005; Arat & Poortman, 2023; Henretta et al., 2013; Killian, 2004).

The second research question probed the extent to which variance in willingness to provide financial support in stepfamilies is explained by different SRM effects. Our hypothesis posited that mainly actor and relationship effects would be relevant in explaining the variance in dyadic scores, as this seems to be a general trend in previous SRM research (De Mol et al., 2010; Eichelsheim et al., 2009; Finkenauer et al., 2004; Pylyser et al., 2020; Schrodt et al., 2008). The results showed that actor effects explained the largest amount of between-family variance in dyadic scores. On average, actor effects accounted for 61% of variance. This implies that whether one receives financial support as a stepfamily member mainly depends on

the individual tendencies of their other stepfamily members. It supports the idea that a family is a configuration of people with some autonomy and agency rather than simply a relational network (De Mol & Verhofstadt, 2011). In addition, our results show that, with the exception of parental ratings of the older child, every relationship effect is statistically significant. However, across all dyads, relationship effects seem to relatively explain as much variance as the family effect, namely 17%. This contrasts with previous research, where relationship effects frequently accounted for around 30% of the variance (Eichelsheim et al., 2009; Pylyser et al., 2020; Schrodt et al., 2008). This contrast suggests that specifically for financial support provision in stepfamilies, shared family characteristics are as important as unique relationship effects. It also seems to imply that there is more consensus about financial support propensity in stepfamilies, compared to previously studied topics in SRM research. This also corresponds with Henretta et al.'s conclusion that "provision of financial help from (step)parents to children is a family phenomenon" (2013, p. 1148), upon observing that the degree of difference in financial support provision between stepfamilies was significantly greater than within-stepfamily relational differences. It should be noted however that the relative variance explained by these relationship effects does vary substantially across relationships (range = 0 - 34%). More variance is explained by relationship effects in intragenerational relationships than in intergenerational relationships, which is a recurrent finding in family SRM analyses (Buist et al., 2004; Eichelsheim et al., 2009). Partner effects explained, as expected, a negligible portion of the variance.

Subsequently, the unique adjustments of the stepparent and children towards each other (i.e., mean relationship effects) were examined. Based on previous studies we would expect to find less intergenerational solidarity among step relations than among biological relations (Hwang et al., 2019; Steinbach, 2013; Steinbach & Hank, 2016). In SRM terms we expected to find a lower mean relationship effect of the stepparent and children towards each other in contrast to what we would expect to find based on individual and family factors. Results show however that only the mean relationship effect of the stepparent's rating of the older child reached statistical significance, showing a uniquely lower level than what we would expect to find based on the mean actor effect of the stepparent, the mean partner effect of the older child or the mean family effect. However, we could call into question whether a statistically significant mean relationship effect of -0.17 on a 10-point scale is practically significant. No

other mean stepparent-child mean relationship effects were found to be statistically significant. This indicates that the stepgap is not retrieved. However, if we widen our view and take the other mean SRM effects into account, the following stands out. It is the biological parent that has a statistically significant mean actor and partner effect which is meaningfully above the family mean. This indicates that the biological parent cross-relationally reports and receives higher willingness compared to the family average. It also appears that the mean actor effect of the stepparent does not differ from the family mean, but their mean partner effect is lower in comparison to the family mean. This perhaps implies a more nuanced description of the stepgap. That is, in the context of the entire household, it would be mainly the biological parent deviating from the family average by reporting and receiving significantly more amounts of financial support propensity. This finding suggests a change in the way in which we frame the stepgap. Namely, in context of the entire stepfamily, it is mainly the biological parent who forms an exception, rather than the stepparent. This contrasts with how the stepgap is usually described, namely by emphasising that it is the step relationships that are less close (e.g., Becker et al., 2013; Hwang et al., 2019).

The next research question focused on dyadic reciprocities between both parents. Based on previous research, the hypothesis was put forward that dyadic reciprocity would be present between the two parents, since typically dyadic reciprocity seems to feature more prominently in horizontal relations rather than in vertical relations (Branje et al., 2002; Eichelheim, 2009). Yet, incongruent to our hypothesis, a statistically nonsignificant result was found. In other words, the way one parent positions themselves uniquely generously towards the other parent does not correlate significantly with the way the other parent would uniquely position themselves generously towards them.

Lastly, we focused on intragenerational similarities between both parents. Since previous research found that the biological parents and stepparents significantly differed in the relative contribution of each SRM effect, it was hypothesised that the parents are not similar in the relative importance of their actor or partner effects (Pylyser et al., 2020). Results revealed that intragenerational similarity between the two parents' actor effects was nonsignificantly different from zero, implying that the two parents are not similar in the relative contribution of their actor effects. In other words, the general willingness of one parent to provide financial support to stepfamily members does not correlate with the general willingness of the other

parent. This could reflect that the intragenerational parental dyad generally does not relate in a similar way to their family members. Results do show intragenerational similarity between the older child and the younger child's partner effect, implying that the likelihood of children to tend to evoke generosity in others positively correlates.

Implications

This thesis contributes to our theoretical knowledge and understanding of solidarity in stepfamilies, an increasingly prevalent family structure often overlooked in previous research on family solidarity (Audenaert, 2018; Fingerman et al., 2010; Mebane & Pezzuti, 2020; Suitor et al., 2017). In addition, given that the majority of existing research on family solidarity focuses on adult child-parent dyads (Lawton et al., 1994; Lowenstein, 2007; Luo & Zhan, 2012), this thesis may contribute to the to the mapping of the lifelong exchange of financial support by focussing on stepfamilies with adolescent children. Therefore, it addresses the significance underscored in previous research concerning the exploration of early child-parent family interactions (Hwang et al., 2021, 2023).

Not only does this thesis contribute to the theoretical knowledge about stepfamilies, it can also offer added value towards clinical practice. Heireman & Lemmens (2010) found that a growing number of stepfamilies are taking the step towards professional counselling. Here, they often encounter shortcomings. Their unique complexities, challenges, strengths, and needs are insufficiently recognised, understood and supported. It goes without saying that clinical counselling could be more effective when the therapist understands the specific family dynamics of the family form sitting in front of them and applies more appropriate interventions from there. Moreover, financial support propensity of stepfamily members offers a lens into the social constellations they are a part of, as it symbolises family characteristics such as boundaries, commitment, and power (Shapiro, 2007). Therefore, this thesis may serve as an informative resource for counsellors.

Lastly, this thesis can contribute to form a knowledge base for the modernisation of Belgian civil law regarding family maintenance duty (art. 205 - 211, common law family maintenance obligation 1981). Currently, the legal framework is primarily grounded in normative solidarity. It mainly focuses on legal affiliation and the ability to provide support. In

doing so, it does not take into account existing or historical links between parties. This thereby excludes family ties that are not based on consanguinity. As a result, stepfamily relationships are not evaluated in the same manner as biological family ties. However, personal feelings of affection, care and a sense of belonging are increasingly recognised as significant features in contemporary family contexts. Therefore, this thesis can provide empirical grounds to support the establishment of renewed legal principles, as it sheds light on the intricate dynamics of stepfamilies concerning financial support.

Limitations and suggestions for future research

A first notable shortcoming pertains to the characteristics of our sample. Possibly, a selection bias may have occurred due to non-probability sampling methods. Participants were recruited by master students using snowball sampling, convenience sampling and social media calls. This allows us to suspect that the sample may be biased by families with a particular socio-economic profile. Moreover, since participant's involvement in the study relied on voluntary participation, participating families in our sample are willing to allow researchers into their households. Families which are, for example, in conflict are presumably less likely to do so, for reasons of shame, for instance. A descriptive analysis of our sample also revealed a skewed gender distribution in our sample, about two-thirds of biological parents are women. Taken together, these factors raise concern about the extent to which our sample is representative of the whole population of stepfamilies. This could compromise the external validity of our results. We should therefore be careful about any generalisation to the entire population of stepfamilies.

To shield results from these shortcomings, future replicative studies should thus prioritise the collection of larger and more representative samples with balanced proportions of relevant demographical characteristics in the population. This would improve the rigour, reliability, and generalisability of findings in the field. After all, a larger and more representative sample would not only allow for more precise estimations of SRM effects by reducing margins of errors, it would also enable the use of a more complex model where the effects can be estimated with two indicators instead of one (Cook, 2013). As a result, the

relationship effects could be separated from the error variances and would not be an overestimate of the true effects.

In obtaining a more representative sample, gender is an essential demographical characteristic to take into account, since family solidarity as a whole appears to be a gendered phenomenon. In other words, family solidarity dynamics seem to manifest differently depending on the gender of the children and (step)parents. For instance, biological mother's ties with daughters seem to be characterised by stronger affection across the life course, and more instrumental and emotional support exchange (Davey et al., 2004; Fingerman, 2001; Rossi & Rossi, 1991; Spitze & Logan, 1990). The drive to provide support also seems to differ between daughters and sons: while daughters are more likely to act out of altruïsm, sons are more likely to act out of filial duty (Finley et al., 1988; Parrott & Bengtson, 1999; Silverstein et al., 1995). For stepparents specifically, stepfather families show closer step ties than stepmother families (Kalmijn, 2013; King, 2006). Stepmother families also show more tension and strain than stepfather families (Furstenberg, 1987). Future research can best take this into account by aiming for an equal distribution of gender between the parents and ideally a large enough sample so that analyses can be split up if necessary. Considering these gender effects would enrich our understanding of the formation and maintenance of these family solidarity ties in a nuanced way.

Furthermore, there are also a substantial amount of missing data. This reduces the reliability of the data, which may cause poorer *goodness of fit* (Cook, 2001). Therefore, to compensate for these missing data, FIML was used, which can be used in case of MCAR and MAR. It was assumed that the missing data are MAR and are therefore not directly related to the extent to which willingness to provide financial support was expressed. However, no formal test was conducted to verify this.

Obtained scores from the questionnaire might have lost some accuracy due to social desirability bias and the online format of the questionnaire. The topic of financial support occurs within the private sphere of families, and an expectation of loyalty may lead individuals to feel compelled to indicate a greater willingness to provide financial support than they would in reality feel. Furthermore, in the first data collection wave, the questionnaire was administered in a non-controlled online setting. Since the questionnaire was rather long and

took about half an hour, there is a chance of distraction, which would produce a less accurate result.

These issues could potentially be tackled in future research by continuing the use of home visits, as was the case in the second data collection wave. Such visits could mitigate missing data and enhance accurate responding. Particularly in the case of using lengthy questionnaires and complex survey designs, such as the round-robin format, challenges may appear in ensuring complete and accurate responding. A more conducive environment for collecting data is fostered when researchers conduct home visits, potentially reducing distraction, respondent fatigue, and early termination of the questionnaire. It also enables help in completing the questionnaire and increases engagement. Home visits also offer an opportunity to strengthen SRM research with an added qualitative component, or open-ended survey questions. While SRM analysis allows us to map at multiple levels simultaneously the between-, and within-family dynamics of financial support provision, it does not enable us to identify the whys of this matter. It gives us no information of the underlying cause or motives of these effects. Adding a qualitative component or open-ended survey questions could assist identifying underlying motives of observed SRM patterns.

In this thesis, SRM analysis allowed us to consider the entire household context. Yet children in stepfamilies often only partially reside in the household. It is therefore likely that they bring outside influence into the family. Future research should consider taking these outside influences into account. An important assumption SRM upholds in this regard is the absence of extradyadic effects. These refer to effects outside of the dyad under examination. In other words, the interaction between two people is thought to be exclusively determined by those two individuals, and not influenced by external factors. However, in the context of a complex group such as a stepfamily, where outside influence is likely brought in, by for example partly resident children, it is highly likely that extradyadic effects would be present. The likely violation of this assumption may have potentially distorted our estimated SRM effects.

Future research could also opt for a longitudinal design, to track how support dynamics evolve over time. This approach would provide insights into the extent to which support dynamics in early family life are related to the way in which support dynamics manifest in later

family life. In the case of the stepfamily, exploring how financial solidarity evolves over time after the stepfamily is formed is an interesting avenue of exploration.

Finally, future research on stepfamilies could continue to approach this family form as a stand-alone family unit without making comparisons with nuclear families. This approach is more suitable for identifying the mechanisms contributing to positive outcomes for stepfamilies as a unique family constitution. Unique complexities, challenges and strengths of stepfamilies are more difficult to acknowledge by weighing them against the nuclear family as the *gold standard*.

Conclusion

This thesis took an innovative approach of exploring financial functional solidarity by focusing on stepfamilies with adolescent children and utilising SRM analysis on round-robin questionnaire data. By doing so, it addressed several gaps in family solidarity and stepfamily literature, particularly by investigating younger, non-nuclear families and employing a methodology that more accurately captures the interdependent nature of family solidarity.

The SRM analysis revealed that mainly actor effects are important in accounting for between-family variance, highlighting the importance of individual predispositions and autonomy of stepfamily members. Thereafter, relationship effects and family effects emerged as equally important, implying that the provision of financial support is as much a function of shared family characteristics as it is a function of a unique relationship between two family members. From a within-family perspective, our research further indicates that in the context of the entire household, it seems to mainly be the biological parent who deviates from the family mean, by experiencing above average amounts of support propensity. Unexpectedly, no evidence of dyadic reciprocity was found within the parental dyad, while the absence of intragenerational similarity in the parental dyad aligned with our expectations.

These findings provide a deeper theoretical understanding of the lifelong exchange of financial support in stepfamilies. They may also inform therapeutic interventions aimed at fostering stronger familial bonds and navigating the unique challenges stepfamilies face. Future research should prioritise obtaining larger and more representative samples, ensuring the robustness of findings. By incorporating home visits, one could mitigate missing data, foster accurate responding, and provide opportunity for a qualitative insight, thereby sharpening our understanding of the issue. Additionally, considering outside influences of the other family stepchildren partly reside in or opting for a longitudinal design present interesting avenues for future research.

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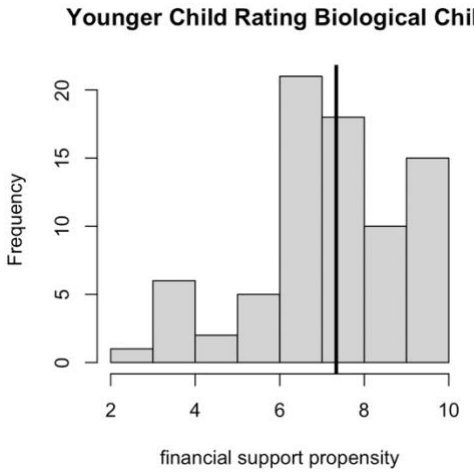
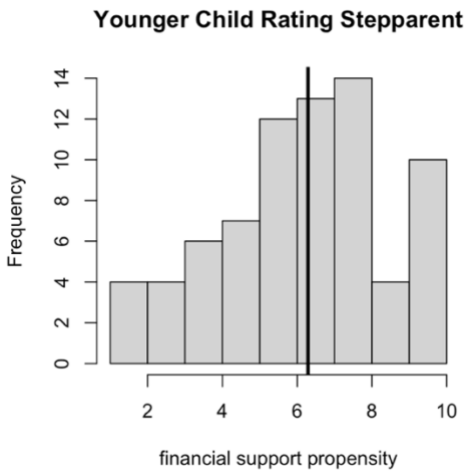
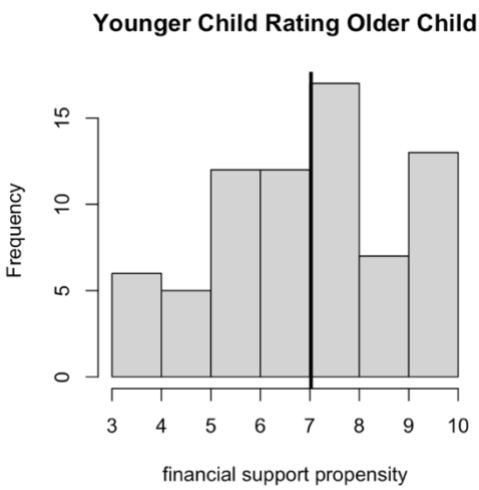
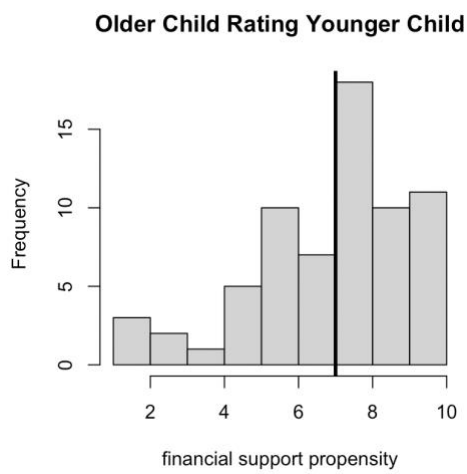
Appendix

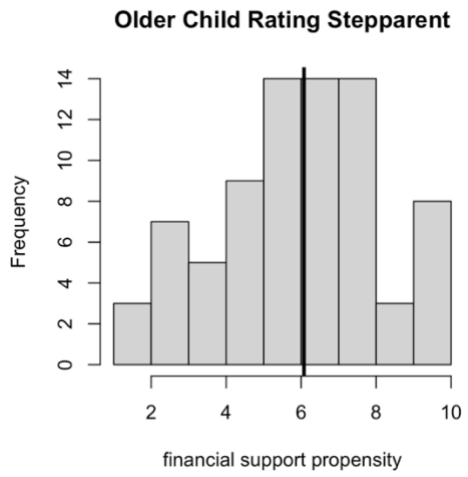
Histograms of dyadic scores with added mean

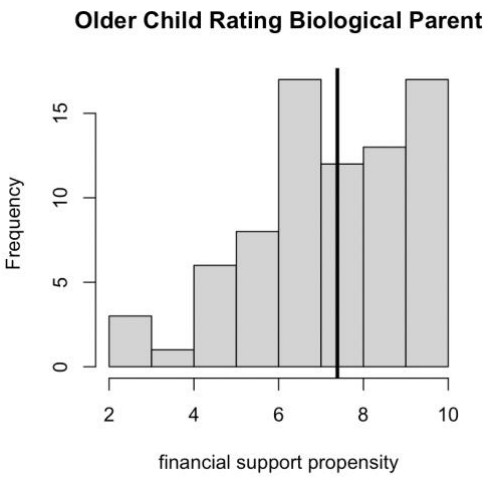


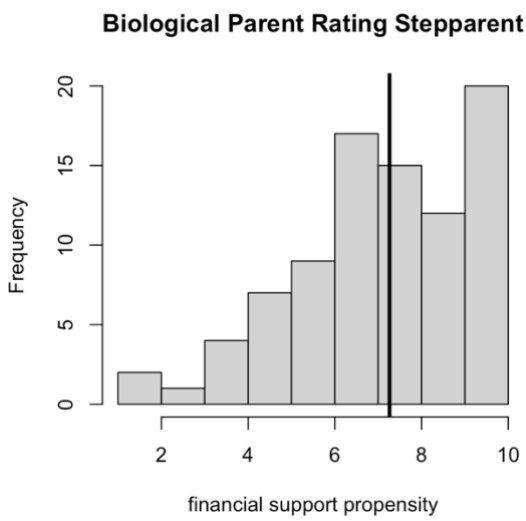


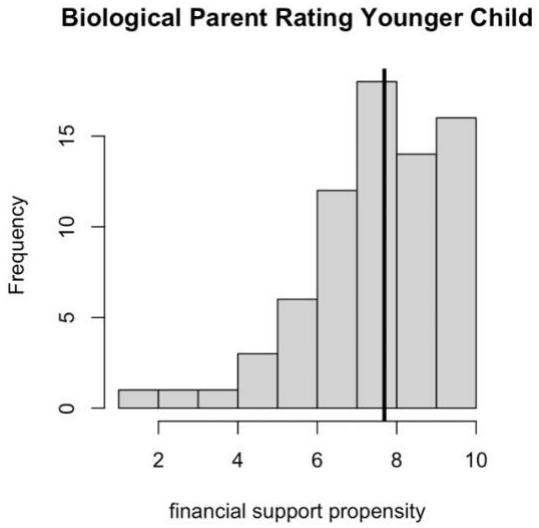


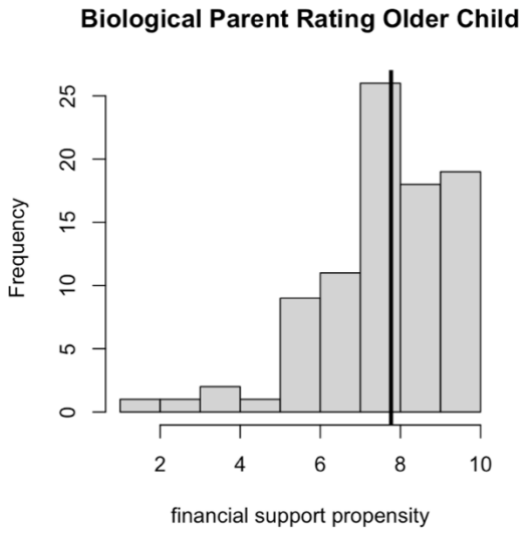


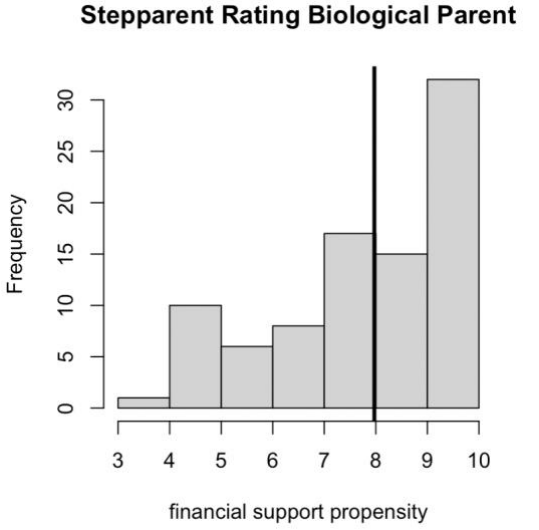


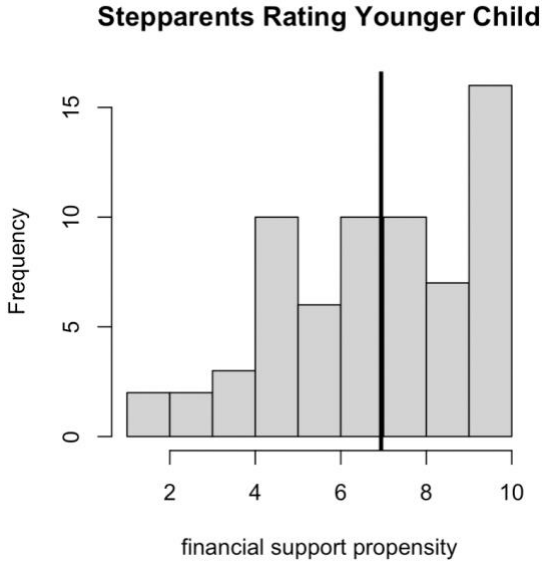


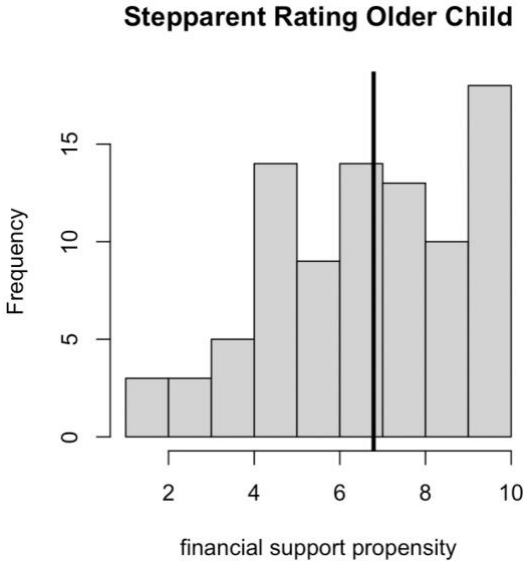

Biological Parent Rating Stepparent
Frequency
0
5
10
15
20
2
4
6
8
10
financial support propensity


Biological Parent Rating Younger Child
Frequency
0
5
10
15
2
4
6
8
10
financial support propensity


Biological Parent Rating Older Child
Frequency
0
5
10
15
20
25
2
4
6
8
10
financial support propensity


Stepparent Rating Biological Parent
Frequency
0
5
10
15
20
25
30
3
4
5
6
7
8
9
10
financial support propensity


Stepparents Rating Younger Child
Frequency
0
5
10
15
2
4
6
8
10
financial support propensity


Stepparent Rating Older Child
Frequency
0
5
10
15
2
4
6
8
10
financial support propensity

Construct validity of MAFS's financial support subscale

The construct validity of the Multi Actor Family Solidarity Scale (MAFS) was assessed using confirmatory factor analysis (CFA). This was done for each relationship type: parents rating partners, children rating children, parents rating children and children rating parents. The measurement model consisted of one latent factor, financial functional solidarity, represented by four indicators corresponding to the four questionnaire items. Residual error correlations were not included in the model.

To address interdependency within the family dataset, the dataset was first transformed. A separate dataset was created for each CFA model, thus one for every relationship type. In these new datasets, one dyadic score per family was randomly selected for each questionnaire item. For example, for every questionnaire item in the new dataset of parents rating parents, either the stepparent's rating of the biological parent was selected, or the biological parent's rating of the stepparent was selected out of every family. Consequently, none of the four indicators contained more than one score from each family. This would result in less biased estimates.

All CFA models were fitted using the Lavaan package (Rosseel, 2012). Given the non-normal distribution of our data, maximum likelihood estimator was used to provide more reliable estimates. Full information maximum likelihood was applied to handle missing data. The quality of the fit was examined using the same fit indices as previously applied to our SRM model fit (see section Fit measures). One additional fit measure we will regard is the Standardized Root Mean Squared Residual, which is ideally below .08 (SRMR; Browne & Cudeck, 1992; Steiger, 1990). Table 7 presents the fit indices for the CFA models, all of which showed an excellent fit (p-values > .05, CFI > .95, TLI >.90 , RMSEA < .08, SRMR < .08). The recommended standardized factor loading for round-robin designs of at least .40 was applied (Cook, 1993). All factor loadings exceeded this cut-off and were statistically significant. The only exception to this is item 4 in the model of parents rating parents, which only reached marginal significance and a factor loading of .33. Figures 4, 5, 6, and 7 display the factor loadings for each model. It stands out, however, that this analysis resulted in practically perfect fit indices (CFI = 1.00, TLI = 1.00, RMSEA = 0). Possibly this also indicates overfitting, likely because of the small sample size (91 scores per indicator). To

verify these findings, we repeated the CFA without first transforming the dataset, which increased the sample size. This second analysis also yielded good fit indices, shown in Table 8. Figures 8, 9, 10 and 11 display the corresponding factor loadings for each model, all of which exceeded the cut off.

Table 7
Fit Indices of the Confirmatory Factor Models

Model	p-value (Chi square)	CFI	TLI	RMSEA (90% CI)	SRMR
parents rating parents	. 624	1.00	1.00	0 [0, .19]	.02
children rating children	.787	1.00	1.00	0 [0, .17]	.02
parents rating children	.495	1.00	1.00	0 [0, .18]	.02
children rating parents	.942	1.00	1.00	0 [0, .05]	.01

Note. The fit indices presented are the scaled and robust estimates.

Figure 4
Proposed Measurement Model and Standardised Factor Loadings for the CFA model of Parents Rating Parents

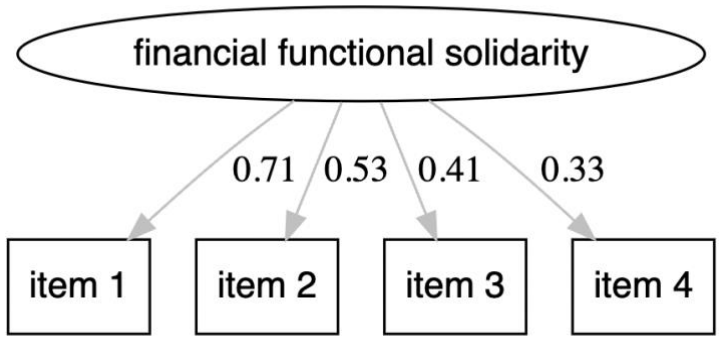


Figure 5
Proposed Measurement Model and Standardised Factor Loadings for the CFA model of Children Rating Children

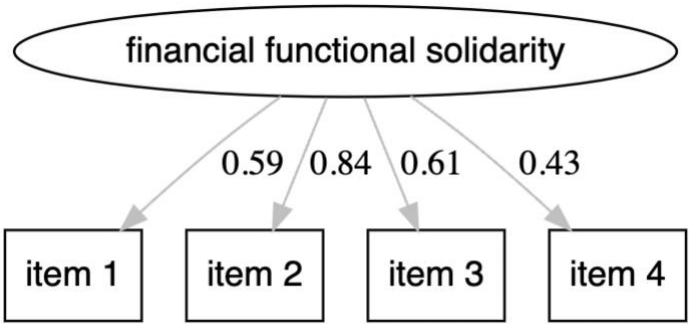


Figure 6
Proposed Measurement Model and Standardised Factor Loadings for the CFA model of Parents Rating Children

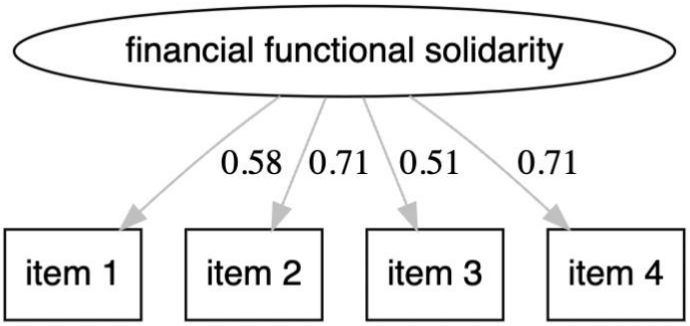


Figure 7
Proposed Measurement Model and Standardised Factor Loadings for the CFA model of Children Rating Parents

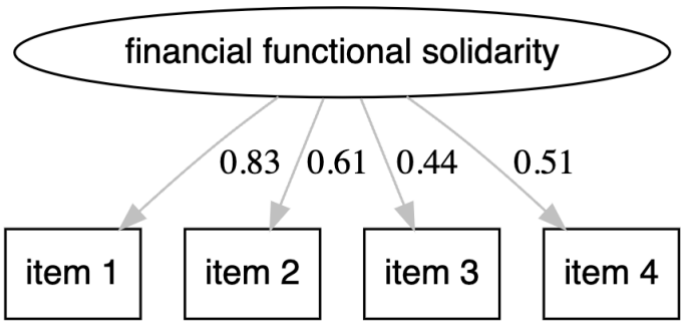


Table 8
Fit Indices of the Confirmatory Factor Models

Model	p-value (Chi square)	CFI	TLI	RMSEA (90% CI)	SRMR
parents rating parents	. 203	.99	.97	.06 [0, .21]	.03
children rating children	.578	1.00	1.00	0 [0, .124]	.02
parents rating children	.542	1.00	1.00	0 [0, .09]	.01
children rating parents	.636	1.00	1.00	0 [0, .08]	.01

Note. The fit indices presented are the scaled and robust estimates.

Figure 8
Proposed Measurement Model and Standardised Factor Loadings for the CFA model of Parents Rating Parents

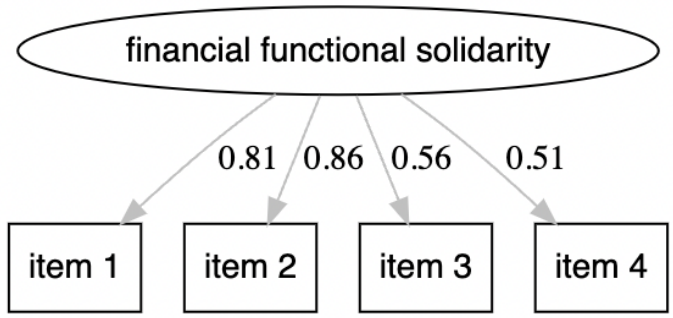


Figure 9
Proposed Measurement Model and Standardised Factor Loadings for the CFA model of Children Rating Children

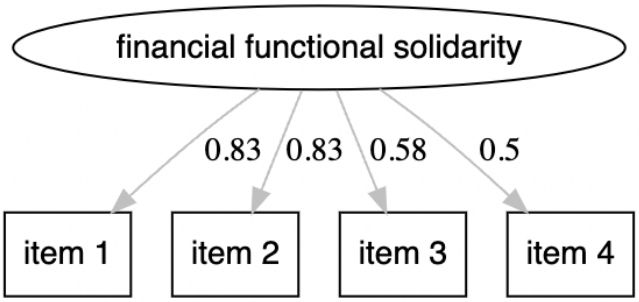


Figure 10
Proposed Measurement Model and Standardised Factor Loadings for the CFA model of Parents Rating Children

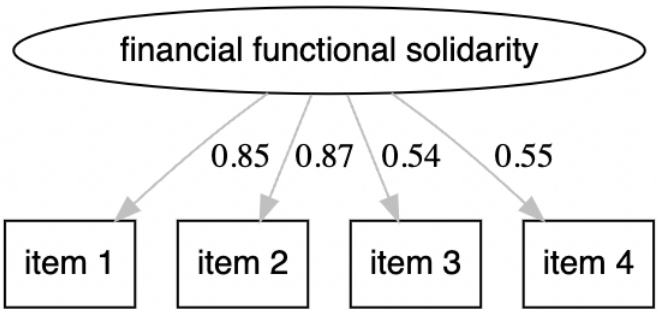


Figure 11
Proposed Measurement Model and Standardised Factor Loadings for the CFA model of Children Rating Parents