Grandparent Support and Mental and Behavioural Health in Middle Childhood

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Abstract

In South African families, grandparents are a key source of both instrumental and affective support. However, a paucity of South African research has examined the association between grandparental support and grandchildren's mental and behavioural health. This study assessed the significance of grandparents in preadolescents' lives and examined the levels of grandparental support provided in relation to other social network members. It also examined whether grandparental support was associated with grandchildren's internalising and externalising problems as well as prosocial behaviour. A social network mapping procedure was completed by a sample of 120 grade 4 and 5 learners (9-12 years) from four schools in Cape Town. Teachers also completed brief cross-sectional surveys on children's mental and behavioural health. The results of repeated-measures ANOVAs indicated that children perceived grandparents as the second most important and close relationship category after parents. Furthermore, subsequent to parental support, grandparents provided the second highest level of support to grandchildren. Hierarchical regression analysis indicated that grandparental support was not significantly associated with grandchildren's internalising and externalising problems. However, grandparental support was positively associated with children's prosocial behaviour, even after demographic characteristics and parent support were controlled for ($p < .01$). Findings underscore the value of grandparents in preadolescents' lives and the need for more research to be conducted on the potential influence of the grandparent-grandchild relationship on children's well-being.

Keywords: middle childhood, preadolescence, grandparent, support, mental health, behavioural health.

Is Grandparent Support Associated with Mental and Behavioural Health in Middle
Childhood?

Literature on child development has cast grandparent involvement as supplementary to the parent-child relationship. However, in South Africa grandparents are highly active in grandchildren's lives due to the increasing role of women in the workforce, marital breakdown and the burdens placed on families by the HIV/AIDS epidemic (Hall & Wright, 2011). In one South African study over 80% of adolescents reported weekly, and even daily, visits with their maternal grandparents (Wild & Gaibie, 2014). Moreover, 38% of South African households possess co-resident grandparents (Statistics South Africa, 2013). Grandparental support has further been found to have positive associations with grandchildren's mental and behavioural health, particularly regarding prosocial behaviour (Tan, Buchanan, Flouri, Attar-Schwartz, & Griggs, 2010). According to the World Health Organisation (2005), childhood mental and behavioural well-being is likely to enhance children's quality of life concurrently and prospectively. Thus, due to the active role of grandparents in children's lives and their potential positive impact on children's well-being, research on the grandparent-grandchild relationship in South Africa is crucial.

Background

Despite a paucity of grandparent-grandchild literature, some research has depicted grandparents as being valuable to child well-being. Research suggests that grandparent support is significantly associated with adolescent psychological and behavioural health (Attar-Schwartz, Tan, Buchanan, Flouri & Griggs, 2009). Grandparent support has been associated with a constellation of behaviours such as engagement in positive activities, decision-making as well as warmth and responsiveness which are said to promote well-being through providing children with support and self-worth (Bowlby, 1974) as well as stimulation cognitively and socially (Dunifon, 2013). Studies have found grandparent support to be associated with higher rates of school competence (Attar-Schwartz et al., 2009; Feiring & Lewis, 1991), fewer internalising and externalising behaviours (Henderson, Hayslip, Sanders, & Louden, 2009; Sheridan, Haight, & Cleeland, 2011) and fewer depressive symptoms (Hamilton, 2005; Ruiz and Silverstein, 2007).

Research findings have particularly highlighted an association between grandparental support and grandchildren's engagement in prosocial behaviours (Griggs, Buchanan, Attar-Schwartz & Flouri, 2010; Gustafson, 2014; Yorgason & Gustafson, 2014). Some studies have even found grandchildren's prosocial behaviours to persist into adulthood (Antonucci, Ajrouch, & Birditt, 2013; Yorgason, Padilla-Walker, & Jackson, 2011). In addition, the few

studies conducted in South Africa have replicated international findings on grandparent support and adolscent prosocial behaviour (Levetan & Wild, 2015; Profe & Wild, 2015; Wild & Gaibie, 2014). This suggests that the positive impact of grandparent support on grandchildren's prosocial behaviour may be robust across various cultural contexts and may have long-lasting effects on the child. Thus, despite the grandparent-grandchild relationship still being a developing area of research, existing findings suggest that grandparents play a key role in children's mental and behavioural health.

However, it must be noted that not all studies have found statistically significant associations between grandparent support and children's mental or behavioural health. A nationally representative study in the USA found no association with academic performance, risky behaviours or self-esteem (Dunifon & Bajracharya, 2012). Furthermore, a South African study found no causal relationship between grandparent support and reduced substance abuse (Profe & Wild, 2015). Research has further suggested that grandparents may have a negative impact on children's psychological well-being (Dunifon, 2013). Grandparents could be a potential source of family stress as they may require financial, social or practical resources such as residential space or caregiving (Dunifon, 2013). Therefore, more research needs to be conducted in order to capture the complexities of the grandparent-grandchild relationship.

Furthermore, literature on grandparent support and child well-being has been conducted predominantly in the USA and Britain. This hinders the generalisability of findings on the grandparent-grandchild relationship as arrangements of household living, conceptualisations of family and the reasons for grandparental support are not uniform across socioeconomic, cultural or ethnic groups (Attar-Schwartz et al., 2009). In America, black youth reported grandparent support to be linked to collectivist cultural ideologies (Antonucci et al., 2013) whereas in South Africa, a majority of black youth reported greater reliance on grandparents as being due to an absence of biological parents (Harper & Seekings, 2010). Support provided by grandparents is bound by social norms which are likely to vary along social and cultural contexts (Levitt, Guacci-Franco, & Levitt, 1993). Therefore, in order to understand the effects of grandparental support on children, research must be conducted within the South African context in which grandparent support is embedded.

Grandparent Support and Middle Childhood

The age of the grandchild also influences the quality of the grandparent-grandchild relationship. Early research found that grandparents are particularly important in middle childhood (Antonucci & Akiyama, 1987). These findings are consistent with later research which has depicted support from grandparents to be perceived more favourably in middle

childhood than in early childhood and adolescence (Yorgason et al., 2011). Furthermore, a study by Griggs et al. (2010) confirmed the impact of grandparent support to be greatest in middle childhood as child well-being was associated with grandparental support at nine but not at 14 years of age. Thus, grandparents are perceived as important social network members in preadolescence.

Research has also depicted grandparents to be more significant in preadolescents' social networks than friends, but of less significance than parents (Gustafson, 2014; Kahn & Antonucci, 1980; Levitt, 2005). In contrast, Battistelli and Farneti (1991) suggested that preadolescents may perceive support from grandparents more favourably than relationships with parents. This could be due to the fact that the grandparent-grandchild relationship possesses little conflict and grandparents may buffer against harsh parenting (Barnett, Neppl, Scaramella, Ontai, & Conger, 2010). Developmental research suggests that grandparent support may be significant in middle childhood as children are growing in autonomy but may not be emotionally or cognitively prepared to form relationships with peers, and thus, extended family relations serve to bridge the shift from family oriented relationships to peer relationships (Levitt et al., 1993).

However, existing literature on the grandparent-grandchild relationship has been conducted on predominantly adolescent populations (Dunifon, 2013; Hamilton, 2005; Ruiz & Silverstein, 2007; Yorgason et al., 2011). This has been particularly evident in the research conducted on the grandparent-grandchild relationship in South Africa (Levetan & Wild, 2015; Profe & Wild, 2015; Wild & Gaibie, 2014). Thus, although grandchildren perceive grandparental support more favourably in middle childhood, previous research has been limited to adolescent populations.

Family Structure

The inconclusive findings on the effects of grandparental support can also be attributed to the varying structure of families and the interactions between them (Chase-Lansdale, Brooks-Gunn, & Zamsky, 1994). This is particularly important in the South African context as living arrangements are fluid, with children living in multigenerational households or moving between different relatives (Sibanda, 2011). A study by Levetan and Wild (2015) found that grandparent support possessed a significant negative association with internalising problems in grandchildren from three-generational households. However, in two-generational households, grandparent support was not significantly associated with children's internalising behaviours. This research highlights that the grandparent-grandchild relationship does not occur in a vacuum and it is likely to be influenced by patterns of interactions between family

members. According to Mueller and Elder (2003), the grandparent-grandchild relationship is contingent upon whether parents facilitate or restrict contact between children and their grandparents. Therefore, research needs to account for the synergistic interplay of children's relationships and analyse how these influence, reinforce or hinder the grandparent-grandchild relationship.

Research on the grandparent-grandchild relationship therefore has several limitations as it has attempted to address the effects of grandparental support in isolation from children's other social network members. Accordingly, research should utilise models which capture the differential as well as overlapping functions social network members provide. The Social Convoy Model (Kahn & Antonucci, 1980) is one of the models which could provide a more comprehensive picture of the effects of the grandparent-grandchild relationship. This model maps social networks as hierarchic, dynamic relations moving across the lifespan and shifting in importance (Kahn & Antonucci, 1980). Furthermore, it acknowledges personal factors such as age-related developmental changes which influence the grandparent-grandchild relationship. In contrast, South African research has mainly utilised an 11-item scale employed by Griggs et al. (2010) which merely enquires about the extent and quality of grandparent involvement, without regard to other social network members' involvement (Profe & Wild, 2015; Wild & Gaibie, 2014). Moreover, the Social Convoy Model allows children to map their own social networks. This is beneficial as parent reports on children's social networks have shown to inflate the role of family in children's lives (Franco & Levitt, 1998; Pittman, 2007). Therefore, the Social Convoy Model would be a useful methodology as it accounts for the fact that social networks are complex and highly embedded within a social context.

Summary

The literature on the grandparent-grandchild relationship has depicted grandparent support to be associated with a wide range of positive outcomes for children. However, research findings on the grandparent-grandchild relationship have been inconclusive. This outcome inconsistency could be attributed to an interplay of numerous demographic, social and contextual factors. However, a paucity of research has adopted a methodology which accounts for the complexities of the social milieu within a contextual framework. Moreover, despite evidence that grandparent support is particularly significant in middle childhood, research on grandparental involvement has neglected this age group. Research has also been conducted predominantly in Britain and the USA, hindering the ability to generalise findings pertaining to the grandparent-grandchild relationship to the South African context.

Study Aims and Hypotheses

Given the increasing role of grandparents in grandchildren's lives in South Africa, this study explored the grandparent-grandchild relationship within the South African context. It aimed to bridge the gaps in previous research by examining the significance of grandparents in middle childhood. In addition, to account for the synergistic relations between various social network members, the Children's Social Convoy Model (Levitt et al., 1993) was employed to measure grandparent significance. The associations between grandparent support and children's' mental and behavioural health were also assessed independently from the support of other social network members.

Thus, guided by previous research findings and with consideration to the South African context it was hypothesised that:

1. Grandparents are significant members of children's social networks in middle childhood.

2. Grandparents provide less support than parents, but more support than friends in middle childhood.

3. Grandparent support is positively associated with mental and behavioural health in middle childhood.

Methods

Design and setting

A cross-sectional, correlational design was employed for this study. A correlational design was employed as children's perceptions of the significance of grandparents in relation to other social network members could not be experimentally manipulated. Moreover, it is a valuable design to determine the direction and strength of associations between variables which occur naturally that is, grandparent support and child well-being (Wilson & MacLean, 2011). In addition, a quantitative framework was adopted as the measures possess standardised administrative and scoring procedures. The quantitative framework allows for replication of findings in other samples which is essential due to the paucity of grandparent-grandchild literature (Cozby, 2009). Surveys were collected from teachers and children were required to map members in their social network at one point in time. This approach was cost-effective and allowed data on a large number of respondents to be collected within a short-period of time. Children's social network mapping was conducted at schools for convenience purposes and to avoid potential contamination of data which might occur in home-settings.

Participants

Sample characteristics. The final sample (*n*=120) consisted of Grade 4 and 5 learners from two public schools (School 1 and School 2) and two private schools (School 3 and School

4) in Cape Town. The schools came from predominantly middle and upper socioeconomic status (SES) communities, with over 80% of the sample identifying as White. For the 2015 academic year, school fees for grades 4 and 5 ranged between R20 000 for School 1 to R54 500 for School 4. The sample comprised 64 (53.3%) boys and 56 (46.7%) girls aged between 9 and 12 years ($M = 10.41$, $SD = .76$). From the original sample of 135 learners, 15 children were excluded from the study as three children did not assent to participation and 12 children did not possess any living grandparents.

Sample size calculation. Sample size was determined by G*Power (Faul, Erdfelder, Buchner, & Lang, 2009), which utilised the a priori method for multiple regression using 5 predictor variables (age, gender, SES, parent support, grandparent support). Assuming that $\alpha = .05$ and targeted power = 0.80; a total sample of 114 was indicated to detect for the small effect size (Cohen's $f^2 = .08$). Thus, the final sample exceeded the required sample size.

Sampling procedure. The study employed convenience and purposive sampling techniques. Ten easily accessible, English-speaking schools were contacted and invited to participate, of which four consented. Convenience sampling enabled the desired sample size to be achieved inexpensively in a short period of time (Cozby, 2009).

Measures

Grandparental Significance. Children's complex social networks as well as grandparents' significance within these social networks were determined by the *Children's Social Convoy Model* (Levitt et al., 1993). This hierarchical mapping procedure has adapted the Social Convoy Model (Kahn and Antonucci, 1980) to allow for utility in samples younger than 13 years old. It modified the original model by adding stickers and simplifying the wording of questions. Participating learners were provided with a sheet of paper possessing three concentric circles (see Appendix A). Children were instructed as a class to place a sticker containing their name and demographic details (age, gender, home language etc.) in the centre of the diagram. Children then specified and wrote the names of varying social network members on different stickers. The researcher explained to the class that stickers should be placed in the inner circle to represent the "people who are the most close and important to you—people you love the most and who love you the most." Stickers in the middle circle were representative of "people who are not quite as close but who are still important—people you really love or like, but not quite as much as the people in the first circle." Finally, placement of stickers in the outer circle pertained to "people who are not as close as the others, but who are still important—people you still really love or like, but not quite as much as the people in the

middle circle. The circles were scored from 0-3 (*0 = no placement of relationship category in any circle,* 3 = *relationship category placed in inner circle*).

As this is a descriptive mapping procedure, validity and reliability is not well established. However, prior research adopted this framework successfully across numerous age groups (Antonucci & Akiyama, 1987; Fingerman & Birditt, 2003; Levitt et al., 1993) and geographical locations such as the Netherlands, Germany and France (Antonucci, Akiyama, & Takahashi, 2004). A convoy model employed on primary school children was also shown to possess good test-retest reliability two months later (Takahashi, 1990). In addition, evidence for face validity has been demonstrated as it was found that children's social network mapping of friends correlated with teachers' ratings of social acceptance (Levitt, 2005).

Grandparent Support. The amount of support received from all social networks was assessed by Levitt et al.'s (1993) six support questions (Appendix B). Children were required to identify all members of their social network that provided particular support functions. Sample items included "Are there people you talk to about things that are really important to you? If so, who?" Items dealt with support domains identified as important in social convoys (affective support, practical support and self-affirmation). Relationship categories were defined as parents, siblings, grandparents, other relatives (e.g., aunts, cousins), friends and professionals (e.g., teachers, au pairs). Each support question was scored from *0 (absent)* to 1 (*present*) for every relationship category to determine whether or not they had provided a particular support function (e.g., affective support). However, support was also assessed globally, as a factor analysis of support items yielded all items as loading highly on one simple factor (Levitt et al., 1993). A total support score for each relationship category was coded as a score from 0 - 6 (0 = *no support* and 6 = *all support functions fulfilled*). In cases where more than one network member was identified within one relationship category (e.g., grandmother and grandfather comprising the grandparent relationship category) the highest score within that relationship category was coded. This was done instead of averaging scores as children with high support from one social network member fare better than those who have low levels of support from numerous social network members (Furman & Buhrmester, 1985; Levitt, 2005).

High internal consistency for the six support questions has been found ($\alpha = .82$) (Levitt et al., 1993). et al., 1993). The support questions also possessed good test-retest reliability across age groups, with test-retest reliability after two weeks being .72 for 10-year old children and .75 for 14-year old children (Levitt et al., 1993). Moreover, consistent with findings of other support measures, a high support score was significantly associated with positive psychological outcomes such as self-esteem (Levitt, 2005). Thus, there is evidence of the

support questions possessing concurrent validity. In addition, having children report who provides support and what type of support is provided avoids demand characteristics that are intrinsic in procedures asking how much support is provided by particular relationships.

Mental and Behavioural Health. Children's mental and behavioural health, the outcome variable, was assessed by the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, 1997). As the SDQ is only suitable as a self-report measure for adolescents between the ages of 11 and 18, the teacher self-report version was utilised. The SDQ is a brief questionnaire comprising 25 items presented in a 3-point Likert Scale scored from 0 (*not true*) to 2 (*certainly true*). Items are divided into five subscales consisting of five individual items. Four subscales assess difficulties: emotional symptoms, conduct problems, hyperactivity/inattention and peer relationship problems, whereas the last subscale assesses prosocial behaviour. Alternately, the SDQ can be scored with a three subscale division comprising internalising problems (emotional and peer relation subscales), externalising problems (conduct and hyperactivity subscales) and the prosocial behaviour scale. The internalising and externalising problems scores were calculated by summing the relevant difficulties subscale scores to generate a score out of 20. Prosocial behaviour generated a score out of ten. Sample items include "many worries, often seems worried" and "helpful if someone is hurt, upset or feeling ill."

A large study conducted in Britain found good internal consistency across individual subscales (α = .73), as well as good test-retest reliability after four to six months (.62) (Goodman, 2001). However, the peer relations subscale was found to have poor internal consistency (α =.55). Thus, due to the poor reliability of the peer relations subscale the internalising and externalising problem score was analysed rather than analysis of individual subscales. According to Goodman, Lamping and Ploubidis (2010), the internalising and externalising scales are effective in low-risk samples. Furthermore, concurrent validity of the SDQ teacher self-report version has been established as it correlated strongly with similar mental health measures such as the Child Behaviour Checklist (Goodman & Scott, 1999) and the Rutter questionnaire (Goodman, 1997). Furthermore, the SDQ has been utilised to assess child mental health in numerous contexts (Achenbach et al., 2008), including South Africa (Cluver, Gardner, & Operario, 2007).

Procedures

Questionnaires were administered during a 45-minute school period. Two schools administered the questionnaires during a Life Orientation class. This subject is geared towards the promotion of health, personal skills and social relationships and was thus most relevant to

the research content. Children were provided with assent forms, stickers and a sheet with three concentric circles. Verbal instructions on how to complete the social network mapping procedure were provided to the class. Subsequent to completion of the social network mapping procedure children were asked the six support questions which they provided the answers to on the sheet. Class sizes were small (12-18 students), thus allowing the support questions to be asked as a class. Moreover, an additional research assistant was present to answer all questions and to monitor that children were completing the mapping procedure correctly. Children not participating in the study were required to complete a quiet activity in this time. Teachers completed questionnaires pertaining to participating children's psychological and behavioural health prior to the lesson.

Ethics

Permission to conduct the study was granted by an Ethics Review Committee of the University of Cape Town, the Western Cape Education Department as well as school principals. Prior to the study, learners were required to take consent forms (Appendix C) home to their parents. As the study involved minimal risk, a passive consent procedure was adopted. Forms provided detailed information regarding the purpose, procedures and duration of the study. Parents only had to return the form if they objected to their child participating in the study. Children were further required to sign assent forms (Appendix D). These forms stipulated that participation was voluntary, refusal to answer questions was permitted and withdrawal from the study could occur at any time without penalty. All participant responses were kept confidential. Teachers and parents were not provided with children's information regarding perceived support and social networks. Anonymity was maintained by removing children's names from sheets and providing them with a numerical code. There were no direct benefits provided to children for participating in the study other than contributing to psychological research. Children were, however, provided with a small chocolate subsequent to participation in the study.

Data Analysis

Analysis of data was conducted with the statistical software package IBM SPSS Statistics for Windows, Version 21.0. For all analyses, alpha was set at 0.05. Descriptive statistics and the relevant assumptions were assessed prior to statistical analyses. As a preliminary measure, the internal consistency of the social support and SDQ scale were calculated. As only a small number of questions possessed missing values, the list-wise procedure for handling missing data was employed.

Hypothesis 1. A repeated-measures ANOVA was conducted as information about a variety of relationship categories was provided by the same respondent. This is a powerful parametric test as it reduces nonsystematic error variance that is due to individual differences between groups (Field, 2013). There were six within-subject factors, representing circle placement (*no placement in circle - placement in inner circle*) for parents, siblings, grandparents, other relatives, friends and professionals. This analysis allowed the significance of grandparents to be systematically analysed in relation to the other social network categories.

Hypothesis 2. A repeated-measures ANOVA was conducted with three within-subjects factors (parent support, grandparent support and friend support) to compare the mean amount of support each child received from grandparents with parents and friends.

Hypothesis 3. Pearson Correlation Coefficients were used to assess the association between grandparent support and children's internalising and externalising problems as well as prosocial behaviour.

Hierarchical multiple regressions were run on significant correlations to determine whether the results remained significant when controlling for parental support and demographic factors. Unlike stepwise regression, the order of predictor variable entry in hierarchical regressions are guided by theory (Field, 2003). Thus, guided by prior literature, gender, age and SES were added in the first block of the hierarchical regression analysis as control variables. This was due to the fact that they have previously been associated with children's mental and behavioural well-being. For instance, females have been found to have higher levels of internalising problems and prosocial behaviour than boys. Furthermore, conduct and emotional problems have found to increase with age (Muris, Meesters, & van den Bergh, 2003) and lower SES has been associated with increased total difficulties in children (Attar-Schwartz et al., 2009). School was utilised as a proxy for SES as demographic questions did not directly inquire about the SES of children and were thus was not sensitive enough to detect fine dissimilarities between the middle- to upper SES sample. Therefore, public schools and private schools were used to represent middle and upper SES families respectively.

Subsequently, parental support was added as the second block in the analysis as it has been associated with fewer internalising and externalising problems in children (Levetan & Wild, 2015). Moreover, adding parental support into the analysis allowed the effects of grandparent support to be assessed in addition to, as well as in isolation from, this relationship. Finally, grandparental support was added as the third block in the hierarchical regression.

Deviations to normality in both parametric tests were found (Appendix E). Placement of parent, sibling, grandparent and other relatives were negatively skewed with placement of professionals being positively skewed. This is not surprising considering that children in middle childhood have been reported to perceive family as the most important members of social networks (Levitt, 2005). Reflection and natural logarithmic transformations were applied to all placement variables (Appendix E). According to Field (2013), as variables are being compared with one another and variables are substantively interpretable (i.e., 3 = *placement in inner circle*, 0 = *no placement*) transformations must be conducted on all compared variables so that interpretation of data is meaningful. Log transformations slightly reduced the skew for the placement of grandparents and other relatives. However, transformations had little effect on the parent and sibling variables and further disrupted the normal distribution of the professional and friendship variable.

Support variables were fairly normally distributed. The parent support variable was negatively skewed; however a natural logarithmic transformation had little effect on the skew of this variable. It was decided not to employ log transformations on the two parametric tests due to the transformations' limited success in establishing normality. Furthermore, as group sizes are equal ANOVA is fairly robust against deviations to normality (Field, 2013).

Statistical analyses possessed a few outliers. However, in every case removal of outlier did not impact on the significance of results. The hierarchical multiple regression analysis possessed one outlier outside two standard deviations of the mean. However, Cook's distance (0.1) indicated no reason for concern (Cook & Weisberg, 1983). No influential cases exceeding Mahalanobis Distances of 25 were demonstrated. Thus, no cases were deleted from the dataset.

Results

Grandparent Significance

Descriptive statistics. The significance of grandparents in relation to children's other social network members, as indicated by circle placement, was assessed (Table 1). In partial support of hypothesis 1, 65.8% of children included grandparents in the inner circle and only 1.7% placed grandparents in the outer circle. Furthermore, all participants included grandparents in one of the three concentric circles.

Table 1

Placement of Relationship Categories in the Children's Social Convoy Model's Concentric Circles (n=120)

	Inner Circle	Middle Circle	Outer Circle	Absent	*M*	*SD*
Parent	118	2	0	0	2.98	0.13
Grandparent	79	39	2	0	2.64	0.52
Sibling	82	14	9	15	2.36	1.07
Other Relative	44	62	7	7	2.19	0.79
Friend	21	55	43	1	1.80	0.73
Professional	11	31	27	51	1.02	1.03

Note. M = mean*, SD* = standard deviation.

Repeated-measures ANOVA. Results indicated that children's perceptions of the closeness and importance of various relationship categories differed significantly, $F(3.5, 415.41) = 94.05$, $p < .001$, partial $\eta^2 = .44$. According to Cohen (1992), results demonstrate a medium effect size. These results were interpreted by the Greenhouse-Geisser estimates of sphericity ($\varepsilon = 0.70$) as sphericity was violated ($\chi^2(14) = 186.46$, $p < .001$). Bonferroni's post-hoc test was used as it is fairly robust against violations of normality and sphericity. Results indicated that parents were perceived as significantly more important than all other relationship categories ($p < .001$). Grandparents were perceived as significantly more important than friends ($p < .001$), other relatives ($p < .001$) and professionals ($p < .001$). Grandparents were also perceived as more important than siblings, however, this difference was not statistically significant ($p = .12$). Hypothesis 1 was therefore supported as participants perceived their relationship with grandparents to be second in closeness and importance only to that with parents.

Grandparent Support

Reliability analysis. Good internal consistency was found for the six support questions ($\alpha = .78$). However, the Cronbach's alpha value for the support questions for parents ($\alpha = .54$), grandparents ($\alpha = .61$) and friends ($\alpha = .58$) were not particularly high. However, these values fall within an acceptable range for correlational research (Nunnally, 1978). Low internal consistency could be attributed to the fact that there are only six items on a scale as Cronbach's alpha is sensitive to item number (Field, 2013).

Descriptive statistics. For every item, parents received the highest support scores in relation to the other relationship categories. Furthermore, parents had the highest support score overall, with the majority of participants reporting parents to provide all support functions (M = 5.51, SD = 0.88). Descriptive statistics of the overall level of support for each relationship category are displayed in Table 2.

Table 2

Means and Standard Deviations of the Total Support Provided by Relationship Categories (n=120)

	M	SD
Parent Support	5.51	0.88
Grandparent Support	3.29	1.73
Sibling Support	2.57	1.96
Other Relative Support	2.67	1.68
Friend Support	2.90	1.41
Professional Support	1.40	1.67

Individuals within different relationship categories appeared to serve different support functions. Grandparents were reported to provide affective support more than instrumental support. Children rated grandparents highest on question six, pertaining to people who make them feel special (M = 0.84, SD = 0.37) but lowest on question four, pertaining to people who help them with their homework (M = 0.42, SD = 0.50). In contrast, parents obtained higher scores for instrumental support than for affective support and self-affirmation. Parents were rated lowest on question five (M = 0.84, SD = 0.37) with nine participants stating that their parents were not people that do fun things with them. However, siblings (M = 0.65, SD = 0.47), other relatives (M = 0.67, SD = 0.22) and friends (M = 0.92, SD = 0.78) all scored the highest on this question.

Repeated-measures ANOVA. As sphericity was violated, degrees of freedom were corrected $\chi^2(2)$ = 9.36, p = .009) using the Huyhn-Feldt correction of sphericity (ε = 0.94). According to Girden (1992), the Huyhn-Feldt correction should be used instead of the Greenhouse-Geisser estimate if sphericity is greater than 0.75. Analysis depicted a significant difference between the perceived amount of support received from parents, grandparents and friends, $F(1.85, 232)$ = 157, p <.001, partial η^2 = .58. Thus, parent, grandparent and friend

support accounted for 58% of the variance in children's support. Bonferroni's post-hoc test determined parent support as significantly greater than grandparent support ($p<.001$) and friend support ($p<.001$). Support from grandparents was also significantly greater than support from friends ($p<.001$). Therefore, in confirmation of hypothesis 2, grandparents provided less support than parents, but more support than friends.

Grandparent Support and Mental and Behavioural Health

Reliability statistics. Cronbach Alpha indicated that the SDQ possessed good internal consistency ($\alpha = .74$). Furthermore, all subscales possessed good internal consistency (externalising problem scale, $\alpha = .87$; internalising problem scale, $\alpha = .76$ and prosocial behaviour, $\alpha = .79$).

Descriptive statistics. The descriptive statistics for the SDQ outcome measures are displayed in Table 3. The sample possessed higher levels of externalising and internalising behaviours and lower levels of prosocial behaviour than were reported in a community sample in Britain (Meltzer, Gatward, Goodman, & Ford, 2000). However, according to De Guzman, Do and Kok (2014) the systematic variability between different cultures and SDQ outcomes could be attributed to a range of contextual factors (e.g., parenting style, learning environment, exposure to violence etc.).

Table 3

Descriptive Statistics for Children's Mental and Behavioural Health (n=120)

	M	*SD*
Externalising Behaviour[a]	5.55	4.14
Internalising Behaviour[a]	4.44	3.39
Prosocial Behaviour[b]	6.66	2.25

Note. [a]Scale ranges from 0-20, [b]Scale ranges from 0-10.

Correlations. Pearson product-moment correlation coefficients demonstrated that grandparental support was significantly positively correlated with children's prosocial behaviour ($r(118) = .23, p = .007$) but was not significantly negatively correlated with children's internalising problems ($r(118) = -.03, p = .35$) or externalising problems ($r(118) = -.08, p = .20$).

Regression Analysis. A hierarchical multiple regression was conducted to investigate whether grandparent support still had a significant positive correlation with prosocial behaviour after controlling for demographic factors and parent support. Table 4 summarises the results of the correlation analysis. Data did not possess heteroscedasticity and residual plots for prosocial behaviour did not deviate from normality. Furthermore, the sample was adequately large (greater than 100) so the assumption of normality did not need to be fulfilled (Lumley, Diehr, Emerson, & Chen, 2002). Tolerance statistics and Variance Inflation Factor (VIF) statistics indicated no problems of collinearity within the data.

Table 4

Correlations between Covariates, Parent Support, Grandparent Support and Prosocial Behaviour (n=120)

	1	2	3	4	5	6
1. Age	-					
2. Gender[a]	.31***	-				
3. SES[b]	-.05	-.32***	-			
4. Parent support	-.27***	-.10	-.07	-		
5. Grandparent Support	-.13	-.01	.11	.28***	-	
6. Prosocial Behaviour	-.05	-.24**	-.01	.06	.22**	-

[a] 0 = female, 1 = male [b] 0 = private schools, 1 = public schools,
$*p < .05$, $**p<.01$, $***p<.001$

SES, gender and age were added as control variables in the first block of the hierarchical multiple regression, followed by parental support and grandparental support respectively. Results are summarised in Table 5. The hierarchical regression model with all five predictors was significant, $R^2 = .13$, $F(5, 114) = 3.24$, $p = .009$. Gender ($\beta = -0.30$, $t = 3.09$, $p = 0.003$) significantly contributed to children's prosocial behaviours independently, with boys reporting significantly less prosocial behaviour than girls. Furthermore, grandparent support significantly contributed to children's prosocial behaviours ($\beta = 0.25$, $t = 2.72$, $p = 0.008$), independently contributing 5.7% of the variance in prosocial behaviour. Thus, in partial support of hypothesis 3, grandparental support was significantly associated with children's prosocial behaviour.

Table 5

Results of Hierarchical Multiple Regression Analysis Predicting Children's Prosocial Behaviour

	Variable	ΔR^2	β
		Prosocial Behaviour	
Step 1	Age	.07	.06
	Gender[a]		-.30**
	SES[b]		.13
Step 2	Parent Support	.001	-.04
Step 3	Grandparent Support	.06	.25**
			R=.35
			Adj. R^2 = .09

Note. [a] 0 = female, 1 = male, [b] 0 = private schools, 1 = public schools
**$p < .01$.

Discussion

This study investigated the significance of grandparental support and preadolescents' mental and behavioural health. Initially, it examined whether preadolescents actually perceived grandparents as important and close members of their social networks. Grandparents were expected to provide more support than friends, but less support than parents. It was also hypothesised that grandparental support would be negatively associated with children's externalising and internalising behaviours, as well as positively associated with grandchildren's prosocial behaviour. Support for the study hypotheses emerged from a sample of preadolescent learners from four schools in Cape Town.

In support of the first hypothesis, grandparents were reported to be significant members of children's social networks in middle childhood. These findings are consistent with international research conducted on the grandparent-grandchild relationship in preadolescent samples (Barnett et al., 2010; Bryant, 1985; Levitt, 2005; Levitt et al., 1993). Findings indicated that second to parents, children perceived grandparents as the most important and close relationship category. An earlier study conducted in the USA supported these findings, as preadolescents perceived grandparents as the most important social network members after parents (Furman & Buhrmester, 1985). Furthermore, studies in middle childhood have found the importance of grandparents to be consistent across gender and ethnic lines (Levitt, 2005).

Thus, it could be suggested that the strong presence of grandparents in middle childhood is a normative developmental trajectory whereby grandparents provide a secure environment for children not yet confident enough to establish relationships beyond the family (Levitt et al., 1993). However, longitudinal research will need to be conducted to capture the developmental changes in relationship categories across various age groups.

It was also found that children did not perceive grandparents as significantly more important than siblings. These findings may be attributed to the fact that the sample had more contact with siblings than grandparents. Physical distance and frequency of contact between grandchildren and grandparents is a likely predictor of how significant children perceive grandparents to be in their lives (Dunifon, 2013). According to Furman and Buhrmester (1985), due to living arrangements many children have daily contact with siblings. However, frequent contact with grandparents is likely to be associated with poverty (Dunifon, 2013). Grandparents are likely to coreside with families facing adversity as they provide practical and financial support. Thus, as the sample comprised children from middle and upper SES families, it is possible that children did not have contact as frequently with grandparents as they did with siblings. Nevertheless, the study findings indicate that grandparents have a strong presence in preadolescents lives irrespective of living arrangements.

The first hypothesis was tested using the Children's Social Convoy Model (Levitt et al., 1993), a measure not previously employed in the South African context. Research has tended to assess grandparental support in isolation from other social network members. In contrast, this study analysed grandparents' importance in relation to children's other social network members. Thus, grandparents were not only determined as important, but as significantly more important than all other social network members other than parents and siblings. Furthermore, this model was advantageous as no assumptions regarding children's social network members are made. For instance, it is not assumed that parents will be important and close to the child, rather children are provided with the autonomy to decide who is important to them. This is crucial in the South African context as relationships are complex, with many children not having parents as primary caregivers (Hall & Wright, 2011). Despite the homogeneity and size of the sample, the study provides preliminary support that children's social networks can be measured by the Children's Social Convoy Model (Levitt et al., 1993) within the local context.

The second part of the study assessed grandparental support in relation to other social network members. Results indicated that different relationship categories fulfilled different yet overlapping support functions. Although parents received the highest rating on all three support

functions, the provision of support functions were obtained from numerous social network members. Receiving a support function from numerous social network members is beneficial as it ensures that children can obtain a specific support function even when one social network member is unwilling or unable to provide it (Furman & Buhrmester, 1985). Children reported that grandparents provided high levels of affective support but relatively low levels of instrumental aid. This parallels Furman and Buhrmester's (1985) research, which found that second to parents, grandparents provided the highest levels of affection. In a qualitative study conducted on a middle SES sample, children reported time with grandparents to be relaxing and a break from parents' strict routine. This may explain why the study sample did not report grandparents as providing high levels of practical support. In effect, findings illustrated that although relationship categories provide overlapping support functions, children viewed grandparents as particularly supportive and affectionate.

Furthermore, consistent with research, grandparents were found to provide the second highest levels of support overall, following parents (Gustafson, 2014; Kahn & Antonucci, 1980; Levitt, 2005). This contradicts Battistelli and Farneti's (1991) suggestion that children would perceive grandparents as providing the highest levels of support, as the relationship is absent from conflict. However, harsh parenting and familial conflict does not necessarily indicate that parents are not providing support. Furthermore, the study sample appeared to have very positive interactions with parents, as only nine participants reported that parents did not have fun with them. Therefore, support from grandparents may have been redundant in moderating conflict in the parent-child relationship. Nevertheless, in confirmation of hypothesis two, children reported that grandparents provided more support than friends but less support than parents.

Finally, hypothesis three was only partially confirmed, as support from grandparents was not significantly associated with internalising and externalising behaviours in children. Although numerous studies have found an association between grandparent involvement and internalising and externalising behaviours in adolscents (Attar-Schwartz et al., 2009; Ruiz & Silverstein, 2007; Sheridan et al., 2011), some studies have reported no significant relationship between these variables (Dunifon & Bajracharya, 2012; Profe & Wild, 2015). A recent study conducted in South Africa reported that once parental involvement was controlled for, the association between grandparental support and problem behaviours was no longer significant (Levetan & Wild, 2015). However, in this study, grandparent support was not even protective against problem behaviours in the preliminary correlation analysis. Grandparents could have had little effect on the sample's externalising and internalising behaviours as children's parents

provided high levels of support. Barnett et al. (2010) reported that grandparents had a greater influence on children's mental health when levels of parental support were low. Thus, grandparents may have merely reinforced family's existing strengths, having little influence independently (Elder & Conger, 2000). The inconsistent findings between grandparent support and children's internalising and externalising problems highlight that the grandparent-grandchild relationship does not occur in a vacuum and is likely to be influenced by numerous contextual factors such as grandparent's sensitivity to the child's needs, familial circumstance as well as the individual characteristics of grandparents and children (Lavers & Sonuga-Barke, 1997).

It was found, however, that grandparental support is positively associated with children's prosocial behaviours irrespective of children's demographic characteristics and parental support. This finding is consistent with the growing body of research which suggests a unique association between grandparental support and adolscents' prosocial behaviour (Griggs et al., 2010; Tan et al., 2010; Wild & Gaibie, 2014). It has been proposed that the grandparent-grandchild relationship fosters relationship-building and empathic skills, which children may carry into their own relationships (Domitrovich & Bierman, 2001). A qualitative study by Fruhauf and Orel (2008) further proposed that children develop prosocial behaviours by caring for sickly grandparents.

The present study findings expand on research conducted internationally (Attar-Schwartz et al., 2009; Yorgason et al., 2011) as well as on South African research conducted predominantly on adolescent (Levetan & Wild, 2015; Profe & Wild, 2015; Wild & Gaibie, 2014) and 'Coloured' (mixed-race) samples (Levetan & Wild, 2015). Furthermore, this study expands on previous studies which have relied solely on self-report measures for grandparent support and prosocial behavior. By utilizing a self-report measure for grandparent support and a teacher's report measure for children's prosocial behaviour, the association between the two variables cannot simply be attributed to shared method variance. Findings of the current and previous studies suggest a robust association between grandparental support and prosocial behaviour across numerous age groups, ethnic groups and geographical contexts.

Interestingly, parent support was not associated with prosocial behaviour. This may be attributed to the fact that children scored parents highly on the support measure. Although this finding is consistent with parent-child literature, a restricted range has been reported to reduce the correlation between two variables (Cozby, 2009). Furthermore, some research has found no association between parental support and prosocial behaviour in children from stepparent and single parent families (Dunn et al., 1998). Parental support may be high in single and

stepparent families. However, contact with children may not be particularly empathic or nurturing and thus may not foster prosocial behaviour in children (Dunn et al, 1998). Thus, family structure may have moderated the association between parental support and children's prosocial behaviour.

Study Limitations and Directions for Future Research

In consideration of the study findings, numerous limitations must be acknowledged. Firstly, conclusions regarding causal relationships are precluded due to the correlational study design. In the present study it is likely that the grandparent-grandchild relationship has a bidirectional association with child mental and behavioural health. For instance, supportive and empathic grandparents may foster prosocial behaviours in grandchildren. However, nurturing and empathic children may encourage grandparents to be more supportive. A longitudinal study suggested that prosocial behaviour is a result of grandparental support (Yorgason et al., 2011). However, more longitudinal studies need to be conducted to gain a clear understanding of the direction of effects involved in the grandparent-grandchild relationship. These studies will also provide insight into the long-term implications of grandparental support for children's mental and behavioural health as well as determine the age-related changes in perceived grandparent support. Qualitative research on the grandparent-grandchild relationship has also been limited. Future research should employ a qualitative method to enhance understanding of the nature of the grandparent-grandchild relationship.

Furthermore, convenient sampling methods resulted in a sample comprising of predominantly White, middle- to upper SES, English-speaking preadolescents. White citizens only comprise 8.4% of the South African population (Statistics South Africa, 2014). Thus, the generalisability of study findings are hindered as the study sample is unrepresentative of the culturally and ethnically diverse South African population. The patterns and quality of social network relationships differ across ethnic lines, with Black youth reporting greater reliance on grandparents than White youth in South Africa (Harper & Seekings, 2010). Families coping with poverty-related adversities such as unemployment and a high crime rate may also precipitate higher levels of support from grandparents (Barnett et al., 2010). Thus, with the sample comprising predominantly White, middle- to upper SES preadolescents the influence of grandparents on grandchildren's lives may have been underestimated. As the Children's Social Convoy Model (Levitt, 1993) had not been previously employed in the South African context, there was good reason to pilot the measure on first language English speaking preadolescents to assess utility. Nevertheless, future studies should recruit samples

representative of the South African population to investigate the grandparent-grandchild relationship more thoroughly.

Another limitation is that the present study only included children's self-reports of grandparental support, neglecting grandparent's perceptions of provided support. This limits reliability of findings as children often underestimate the levels of support offered by grandparents (Attar-Schwartz et al., 2009). Moreover, many children are unaware of the levels of support grandparents provide to families, particularly with regard to financial support (Monserud & Elder, 2011). However, self-report measures were used as there is evidence that children's perceptions of grandparental support are more likely to influence well-being than the actual support received from grandparents (Griggs et al., 2010). Nevertheless, to obtain a more comprehensive understanding of the grandparent-grandchild, future studies should supplement preadolescent reports with accounts from grandparents.

The present study failed to differentiate between paternal and maternal grandparents as well as grandmothers and grandfathers. Grandparents were grouped together as one category as previous studies suggest that the closest social network member has more influential effects on child well-being than multiple social network members (Levitt, 2005) However, previous studies have suggested that maternal grandparents may have a different influence on children's lives than paternal grandparents. Maternal grandparents were reported as more supportive and affectionate to grandchildren than paternal grandparents (DeLeire & Kalil, 2002). Furthermore, maternal grandparental support has been negatively associated with children's internalising and externalising problems independently from other relationship categories (Lussier, Deater-Deckard, Dunn, & Davies, 2002). Children also perceive grandmothers as closer and more important than grandfathers (Wild & Gaibie, 2014). Thus, although this study accounted for the synergistic interplay between social network members, it did not assess the differential influence of grandmothers and grandfathers as well as maternal and paternal grandparents on children's well-being. Future studies should probe the findings by exploring the extent to which the gender and lineage of grandparents have differential implications for children's mental and behavioural health.

Finally, the study only evaluated certain facets of mental and behavioural health as stipulated by the SDQ subscales. Thus, although findings indicated no association between grandparental support and children's internalising and externalising behaviours, these findings do not suggest that grandparental support is not protective for any problem behaviours. Associations may be found with other problem behaviours such as drug abuse (McArdle et al., 2002) and aggression (Sheridan et al., 2011). Furthermore, the SDQ's peer relations subscale

possesses low internal consistency. Thus, the socio-emotional facet of child well-being was not adequately assessed. Therefore, future studies should use measures that are more comprehensive or should address other facets of mental and behavioural health to encourage a holistic understanding of the grandparent-grandchild relationship.

Conclusion

With South African families diversifying in structure due to the HIV/AIDS epidemic and marital breakdown, grandparents are becoming increasingly valuable members of children's social networks. Nevertheless, a paucity of South African literature has addressed the grandparent-grandchild relationship, particularly in middle childhood. The present study assessed the influence of grandparental support in middle childhood in a sample of grade 4 and 5 learners from four schools in Cape Town. Findings indicated that grandparents were perceived as the second closest relationship category and provided the second highest levels of support subsequent to parents. Moreover, although grandparental support was not associated with internalising and externalising behaviours in children, grandparental support was positively associated with children's prosocial behaviour independently from the parent-child relationship and children's demographic characteristics. This study has thus provided additional support for international research on the unique association between grandparental support and prosocial behaviour in adolescence. Moreover, it provided insight into the importance of grandparents to preadolescents in South Africa. Findings highlight the need for practitioners to consider not only the influence of the nuclear family but to also work across generations to enhance child well-being. However, longitudinal research is required to determine the direction of effects between grandparental support and preadolescents' prosocial behaviour. Future studies should explore the contextual factors underlying grandparent support and preadolescent prosocial behaviour to gain a holistic understanding of the grandparent-grandchild relationship.

References

Achenbach, T. M., Becker, A., Döpfner, M., Heiervang, E., Roessner, V., Steinhausen, H. C., … & Rothenberger, A. (2008). Multicultural assessment of child and adolescent psychopathology with ASEBA and SDQ instruments: Research findings, applications, and future directions. *Journal of Child Psychology and Psychiatry*, *49*, 251–275. doi: 10.1111/j.1469-7610.2007.01867.

Antonucci, T. C., Ajrouch, K. J., & Birditt, K. S. (2013). The convoy model: Explaining social relations from a multidisciplinary perspective. *The Gerontologist, 118*, 1-11. doi: 10.1080/1461673042000303136.

Antonucci, T. C., & Akiyama, H. (1987). Social networks in adult life and a preliminary examination of the convoy model. *Journal of Gerontology, 42(5)*, 519-527. doi: 10.1093/geronj/42.5.519.

Antonucci, T. C., Akiyama, H., & Takahashi, K. (2004). Attachment and close relationships across the life span. *Attachment & Human Development, 6(4),* 353-370. doi: 10.1080/1461673042000303136.

Attar-Schwartz, S., Tan, J-P., Buchanan, A., Flouri, E., & Griggs, J. (2009). Grandparenting and adolescent adjustment in two-parent biological, lone-parent, and step-families. *Journal of Family Psychology, 23,* 67-75. doi: 10.1037/a0014383.

Barnett, M. A., Neppl, T. K., Scaramella, L. V., Ontai, L. L., & Conger, R. D. (2010). Grandmother involvement as a protective factor for early childhood social adjustment. *Journal of Family Psychology, 24,* 635-645. doi:10.1037/a0020829.

Battistelli, P., & Farneti, A. (1991). Grandchildren's images of their grandparents: A psychodynamic perspective. In P. K. Smith (Ed.), *The psychology of grandparenthood: An international perspective* (pp. 143–156). London, UK: Routledge.

Bowlby, J. (1974). *Attachment and loss: Attachment*. London, England: Hogarth Press.

Bryant, B. K. (1985). The neighborhood walk: Sources of support in middle childhood. *Monographs of the Society for Research in Child Development, 50(3),* 1-122. doi: 10.2307/3333847.

Chase-Lansdale, P. L., Brooks-Gunn, J., & Zamsky, E. S. (1994). Young African-American multigenerational families in poverty: Quality of mothering and grandmothering. *Child Development, 65(2),* 373-393. doi: 10.1111/j.1467-8624.1994.tb00757.

Cluver, L., Gardner, F., & Operario, D. (2007). Psychological distress amongst AIDS orphaned children in urban South Africa. *Journal of Child Psychology and Psychiatry, 48*, 755–763. doi: 10.1111/j.1469-7610.2007.01757.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155–159. doi: 10.1037/0033-2909.112.1.155.

Cook, R. D., & Weisberg, S. (1983). Diagnostics for heteroscedasticity in regression. *Biometrika, 70(1),* 1-10. doi: 10.2307/2335938

Cozby, P. C. (2009). *Methods in behavioural research* (10th ed.). New York, NY: McGrawHill.

De Guzman, M. R. T., Do, K. A., & Kok, C. M. (2014). The cultural contexts of children's prosocial behaviours. *Child, Youth, and Family, 103*, 221-241. doi: 10.1093/acprof:oso/9780199964772.003.0011.

DeLeire, T., & Kalil, A. (2002). Good things come in threes: Single-parent multigenerational family structure and adolescent adjustment. *Demography, 39(2),* 393-413. doi: 10.1353/dem.2002.0016.

Domitrovich, C. E., & Bierman, K. L. (2001). Parenting practices and child social adjustment: Multiple pathways of influence. *Merrill-Palmer Quarterly, 47*(2), 235-263. doi:10.1353/mpq.2001.0010.

Dunifon, R. (2013). The influence of grandparents in the lives of children and adolescents. *Child Development Perspectives, 7,* 55-60. doi: 10.1111/cdep.12016.

Dunifon, R., & Bajracharya, A. (2012). The role of grandparents in the lives of youth. *Journal of Family Issues, 33*, 1168-1194. doi:10.1177/0192513X12444271.

Dunn, J., Deater-Deckard, K., Pickering, K., O'Connor, T. G., Golding, J., & ALSPAC Study Team. (1998). Children's adjustment and prosocial behaviour in step-, single-parent, and non-stepfamily settings: Findings from a community study. *Journal of Child Psychology and Psychiatry, 39(8),* 1083-1095. doi: 10.1111/1469-7610.00413.

Elder, G. H., & Conger, R. D. (2000). *Children of the land: Adversity and success in rural America.* Chicago, IL: University of Chicago Press.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behaviour Research Methods, 41(4),* 1149-1160. doi:10.3758/BRM.41.4.1149.

Feiring, G., & Lewis, M. (1991). The development of social networks from early to middle childhood: Gender differences and the relation to school competence. *Sex Roles, 25,* 237-253. doi: 10.1007/BF00289857.

Field, A. P. (2013). *Discovering statistics using IBM SPSS Statistics: And sex and drugs and rock 'n' roll*. Washington, DC: Sage Publications.

Fingerman, K. L., & Birditt, K. S. (2003). Does variation in close and problematic family ties reflect the pool of living relatives? *Journals of Gerontology: Psychological Sciences*, *58*, 80-87. doi: 10.1093/geronb/58.2.P80.

Franco, N., & Levitt, M. J. (1998). The social ecology of middle childhood: Family support, friendship quality, and self-esteem. *Family relations*, *47(4),* 315-321. doi: 10.2307/585262.

Fruhauf, C. A., & Orel, N. A. (2008). Developmental issues of grandchildren who provide care to grandparents. *The International Journal of Aging and Human Development, 67*(3), 209-230. doi: 10.2190/ag.67.3.b.

Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology, 21(6),* 1016.

Girden, E. R. (1992). *ANOVA: Repeated measures*. Newbury Park, CA: Sage Publications.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38*(5),* 581-586. doi: 10.1111/j.1469-7610.1997.tb01545.

Goodman, R. (2001). Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*(11), 1337-1345. doi: 10.1037/e500122015-073.

Goodman, A., Lamping, D. L., & Ploubidis, G. B. (2010). When to use broader internalising and externalising subscales instead of the hypothesised five subscales on the Strengths and Difficulties Questionnaire (SDQ): Data from British parents, teachers and children. *Journal of Abnormal Child Psychology, 38,* 1171–1191. doi: 10.1007/s10802-010-9434.

Goodman, R., & Scott, S. (1999). Comparing the Strengths and Difficulties Questionnaire and the Child Behaviour Checklist: Is small beautiful? *Journal of Abnormal Child Psychology, 27,* 17–24. doi: 10.1023/A:1022658222914.

Griggs, J., Tan, J-P., Buchanan, A., Attar-Schwartz, S., & Flouri, E. (2010). They've always been there for me: Grandparental involvement and child well-being. *Children and Society, 24,* 200-214. doi: 0.1111/j.1099-0860.2009.00215.

Gustafson, K. L. B. (2014). *Emotional involvement with grandparents as a key component of prosocial development: Testing empathic concern as a mediator* (Unpublished masters dissertation). Brigham Young University, Provo, UT.

Hall, K., & Wright, G. (2011). *In brief: A profile of children living in South Africa using the National Income Dynamics Study*. Cape Town, SA: Child's Institute.

Hamilton, H. A. (2005). Extended families and adolescent well-being. *Journal of Adolescent Health*, *36*, 260-266. doi:10.1016/j.jadohealth.2004.02.022.

Harper, S., & Seekings, J. (2010). *Claims on and obligations to kin in Cape Town, South Africa*. Cape Town, SA: Centre for Social Science Research.

Henderson, C. E., Hayslip, B., Sanders, L. M., & Louden, L. (2009). Grandmother-grandchild relationship quality predicts psychological adjustment among youth from divorced families. *Journal of Family Issues, 30*, 1245-1264. doi: 10.1177/0192513X09334913.

Kahn, R. L., & Antonucci, T. C. (1980). Convoys over the life course: Attachment, roles and social support. In P. Bakes & O. Brim (Eds.), *Life-span development and behaviour.* San Diego, CA: Academic Press.

Lavers, C. A., & Sonuga-Barke, E. J. (1997). Annotation: On the grandmothers' role in the adjustment and maladjustment of grandchildren. *Child Psychology and Psychiatry and Allied Disciplines, 38(7),* 747-753. doi: 10.1111/j.1469-7610.1997.tb01593.

Levetan, J. L., & Wild, L. G. (2015). The implications of maternal grandmother coresidence and involvement for adolescent adjustment in South Africa. *International Journal of Psychology, 50*(5), 1-10. doi:10.1002/ijop.12178.

Levitt, M. J. (2005). Social relations in childhood and adolescence: The convoy model perspective. *Human Development, 48(2)*, 28-47. doi: 10.1159/000083214.

Levitt, M. J., Guacci-Franco, N., & Levitt, J. L. (1993). Convoys of social support in childhood and early adolescence: Structure and function. *Developmental Psychology, 29(5),* 811. doi: 10.1037/0012-1649.29.5.811.

Lumley, T., Diehr, P., Emerson, S., & Chen, L. (2002). The importance of the normality assumption in large public health data sets. *Annual Review of Public Health, 23(1),* 151-169. doi: 10.1146/annurev.publhealth.23.100901.140546.

Lussier, G., Deater-Deckard, K., Dunn, J., & Davies, L. (2002). Support across two generations: Children's closeness to grandparents following parental divorce and remarriage. *Journal of Family Psychology, 16(3),* 363. doi: 10.1037/0893-3200.16.3.363.

McArdle, P., Wiegersma, A., Gilvarry, E., Kolte, B., McCarthy, S., Fitzgerald, M., ... & Quensel, S. (2002). European adolescent substance use: The roles of family structure, function and gender. *Addiction, 97(3),* 329-336. doi:10.1046/j.1360-0443.2002.00066.

Meltzer, H., Gatward, R., Goodman, R., & Ford, F. (2000). *Mental health of children and adolescents in Great Britain*. London: The Stationery Office.

Monserud, M. A., & Elder, G. H. (2011). Household structure and children's educational attainment: A perspective on coresidence with grandparents. *Journal of Marriage and Family, 73(5),* 981-1000. doi: 10.1111/j.1741-3737.2011.00858.

Mueller, M. M., & Elder Jr., G. H. (2003). Family contingencies across the generations: Grandparent-grandchild relationships in holistic perspective. *Journal of Marriage and Family, 65,* 404-417. doi: 10.1111/j.1741-3737.2003.00404.

Muris, P., Meesters, C., & van den Bergh, F. (2003). The Strength and Difficulties Questionnaire (SDQ): Further evidence for its reliability and validity in a community sample of Dutch children and adolescents. *European Child and Adolescent Psychiatry, 12*(1), 1-8. doi: 10.1016/j.paid.2010.05.005.

Nunnally, J. (1978). *Psychometric methods*. New York: McGraw Hill.

Pittman, L. D. (2007). Grandmothers' involvement among young adolescents growing up in poverty. *Journal of Research on Adolescence*, *17(1),* 89-116. doi: 10.1111/j.1532-7795.2007.00513.

Profe, W., & Wild, L. G. (2015). Mother, father, and grandparent involvement: Associations with adolescent mental health and substance use. *Journal of Family Issues, 31,* 1-22. doi: 10.1177/0192513X15583069.

Ruiz, S.A., & Silverstein, M. (2007). Relationships with grandparents and the emotional wellbeing of late adolescent and young adult grandchildren. *Journal of Social Issues, 63*, 793-808. doi: 10.1111/j.1540-4560.2007.00537.

Sheridan, K., Haight, W.L., & Cleeland, L. (2011). The role of grandparents in preventing aggressive and other externalising behaviour problems in children from rural, methamphetamine-involved families. *Children and Youth Services Review, 33,* 1583-1591. doi:10.1016/j.childyouth.2011.03.023.

Sibanda, A. (2011). Ethnic differences in the living arrangements of children in South Africa. *Journal of Comparative Family Studies, 42*, 479-508.

Statistics South Africa. (2013). *Social profile of vulnerable groups in South Africa, 2002-2012*. Pretoria, South Africa: Statistics South Africa.

Statistics South Africa. (2014). *Mid-year population estimates 2014*. Pretoria, South Africa: Statistics South Africa.

Takahashi, K. (1990). Affective relationships and their lifelong development. In P. B. Baltes, D. L. Featherman, & R. M. Lerner (Eds.), *Life-span development and behaviour* (pp. 1–27). Hillsdale, NJ: Erlbaum.

Tan, J. P., Buchanan, A., Flouri, E., Attar-Schwartz, S., & Griggs, J. (2010). Filling the parenting gap? Grandparent involvement with U.K. adolescents. *Journal of Family Issues, 31*, 992–1015. doi: 10.1177/0192513X09360499.

Wild, L. G., & Gaibie, F. (2014). Grandparental involvement and South African adolescents' psychological well-being. *Journal of Intergenerational Relationships, 12*, 425-441. doi: 10.1080/15350770.2014.961871.

Wilson, S., & MacLean, R. (2011). *Research methods and data analysis for psychology*. Berkshire, England: McGraw-Hill Education.

World Health Organization. (2005). *Child and adolescence mental health policies and plans*. Geneva, Switzerland: World Health Organization.

Yorgason, J. B., & Gustafson, K. B. (2014). Linking grandparental involvement with the development of prosocial behaviour in adolescents. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial Development: A multidimensional approach* (pp. 201-217). New York, NY: Oxford University Press.

Yorgason, J. B., Padilla-Walker, L., & Jackson, J. (2011). Nonresidential grandparents' emotional and financial involvement in relation to early adolescent grandchild outcomes. *Journal of Research on Adolescence, 21,* 552-558. doi: 10.1111/j.1532-7795.2010.00735.

Appendix A: *The Children's* S*ocial Convoy Model* (Levitt et al., 1993)
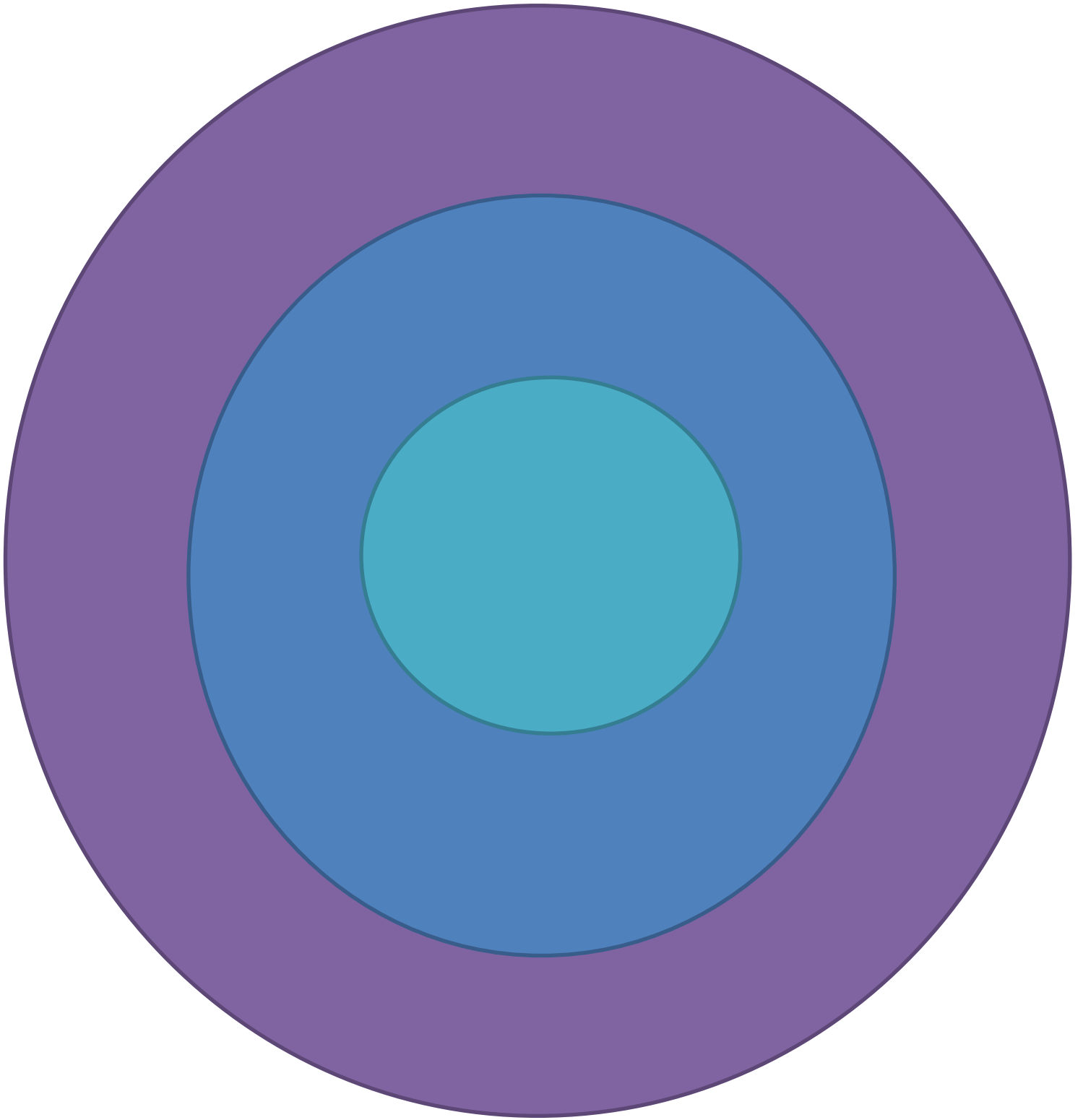
Appendix B: Six Support Questions (Levitt et al., 1993)

1. Are there people you talk to about things that are really important to you? If so, who?
2. Are there people who make you feel better when something bothers you or you are not sure about something? If so, who?
3. Are there people who would take care of you if you were sick? If so, who?
4. Are there people who help you with homework or other work that you do for school? If so, who?
5. Are there people who like to be with you and do fun things with you? If so, who?
6. Are there people who make you feel special or good about yourself? If so, who?

Appendix C: Passive Consent Form for Parents

UNIVERSITY OF CAPE TOWN

Department of Psychology

University of Cape Town, Rondebosch, 7701, South Africa
Telephone: (021) 650-4605
Fax: (021) 650-4104

Date:

Dear Parent

My grandparents and me: Research study at your child's school

Researchers from the Department of Psychology at the University of Cape Town have arranged to conduct a study of grandparental support and child well-being at your child's school.

Many grandparents play an important role in South African families. International research suggests that support from grandparents can help to protect adolescent children from many stresses that occur in their lives, and contribute to their well-being. To date, however, children's relationships with their grandparents have received little research attention in South Africa.

We would like to invite your child to fill in a measure assessing social relations and be briefly asked six support questions. This is a voluntary exercise and your child will be able to choose whether or not to participate. If they do participate, they will be free to withdraw from the study at any time, or to leave out certain questions. If they choose not to participate, this will have no effect on how your child will be treated at school.

All information provided by your child will be anonymous and confidential. Their names will not be placed on the questionnaire and the information from all learners who participate will be combined in the presentation of the results. As a result, no child who participates in the research will be personally identifiable.

If you **do not** consent to your child's participation in this study, please fill in the reply slip below and return it to school by

If you do not respond we will take that as permission for your child to participate.

Thank you for your cooperation.

Yours sincerely

Dr Lauren Wild
Principal Investigator

If you have any questions or about this study, please contact:

Ashley van Heerden   Dr. Lauren Wild
Psychology Honours Student   Principal Investigator
Tel: 0723644063   Tel: (021) 650 4607
Email: ashley.vh@live.co.za   Email: Lauren.Wild@uct.ac.za

Any complaints can be directed to:

Rosalind Adams
Postgraduate Admin Assistant
        Tel: +27-21-650 3417
        Email: rosalind.adams@uct.ac.za

I **do not** wish for my son / daughter to participate in the research study being conducted by the UCT Psychology Department at my child's school.

Child's Name: _____

Class: _____

Parent's / Guardian's Name: _____

Signature: _____   Date: _____

Appendix D: Assent form for Children

Information Sheet and Assent Form for Children

My grandparents and me:

Please take time to read this sheet carefully and decide whether you do or don't want to take part. Ask the researcher if there is anything that is not clear, or if you have questions. Thank you for reading this.

What is the study about?
We would like to know more about young people and their relationships.

What would I have to do?
If you decide to take part, you will first sign a form (on the next page), and then spend about 45 minutes doing an activity. The study will ask about your relationships and experiences.

What are the risks?
The study should not harm you in any way. But, if any of the questions upset you, or if you would like to talk to someone about the feelings you experienced, please let your school counsellor know, or call Childline on 080 005 5555.

What are the benefits?
You will not benefit directly from participating in this study. However, we may learn something that will help other children at some point in the future. Your thoughts and opinions are very valuable.

Do I have to take part?
Not at all. It is up to you to decide whether or not to take part. You will not get in any trouble if you do not want to take part. If you decide to take part, you are still free to stop at any time. You don't have to give a reason.

Will what I say be kept secret?
Anything you tell us about yourself will be kept strictly confidential (secret). This means it will be private between you and the research team, and will not be told to anyone else.

Who is conducting the research? The research is being conducted by the Department of Psychology at the University of Cape Town.

Contact for further information
If you have any questions about this study, you can contact
Dr Lauren Wild,
Department of Psychology,
University of Cape Town, Rondebosch 7701, South Africa.
Tel. (021) 650-4607.
Email: Lauren.Wild@uct.ac.za

If you have any complaints you can contact:
Rosalind Adams,

Department of Psychology,
University of Cape Town, 7701, South Africa.
Tel: +27-21-650 3417. Email: rosalind.adams@uct.ac.za

Thank you for reading this sheet. If you have any questions, please raise your hand now. If you feel comfortable with everything, you can fill in the box below:
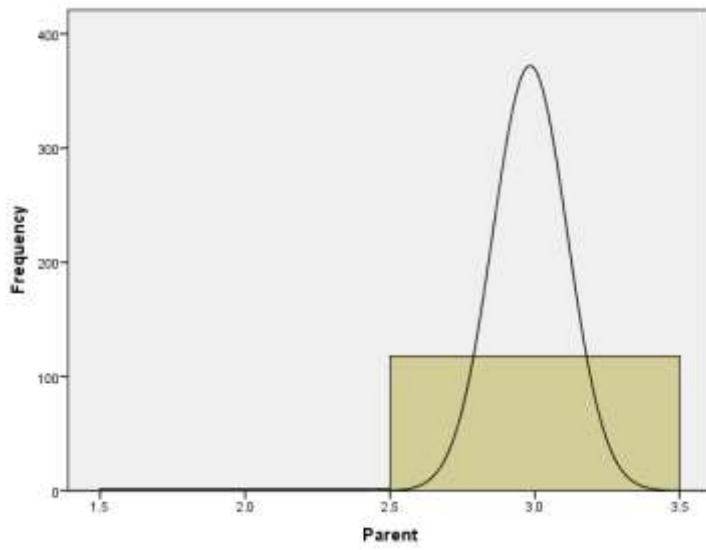
	Tick
1. I have read and understand the information sheet for this study and have had the chance to ask questions.	☐
2. I understand that I have chosen to take part and that I am free to stop at any time, without giving any reason.	☐
3. I agree to take part in the study	☐

Your Name…………….

Sign Here ....   Date...................

Appendix E: Log Transformations of Variables

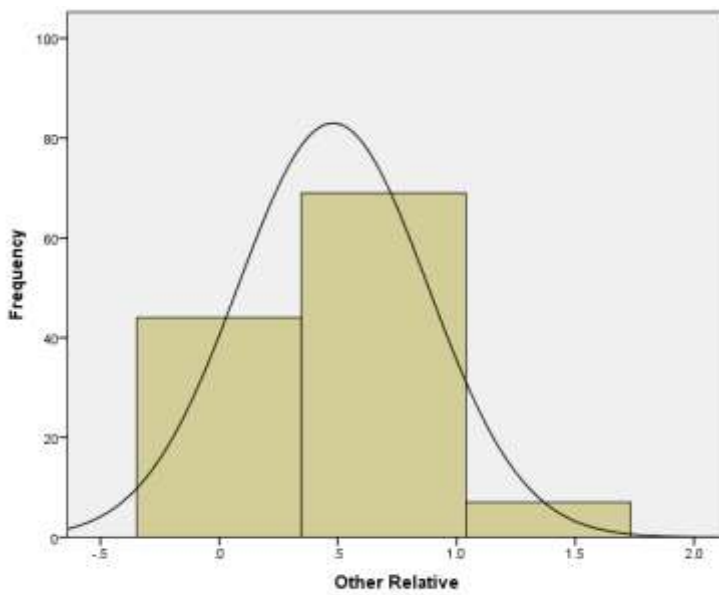*Figure E1:* Histogram displaying normality of untransformed parent placement variable
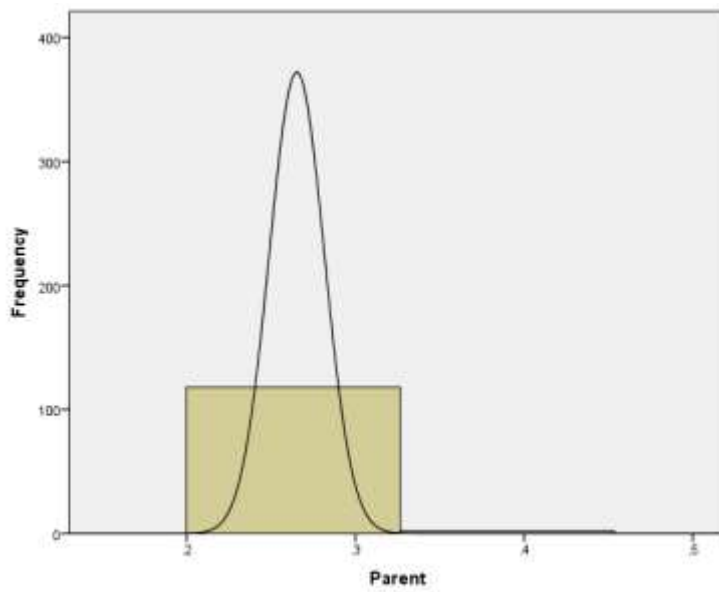
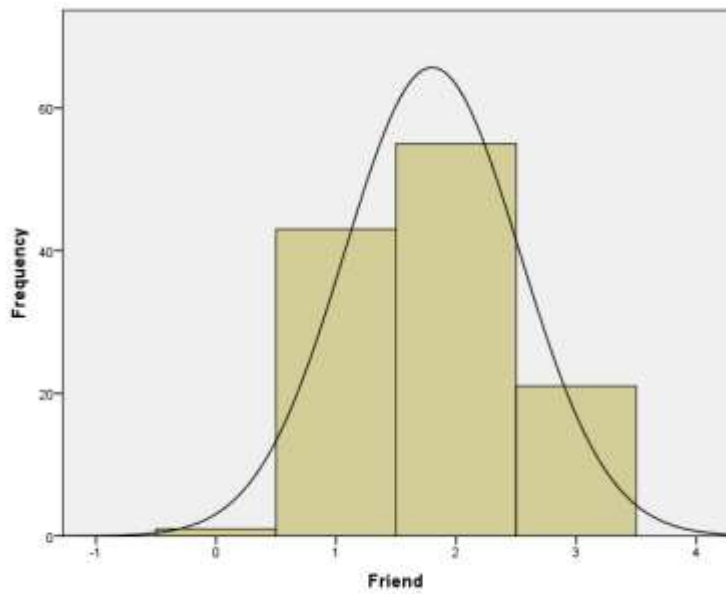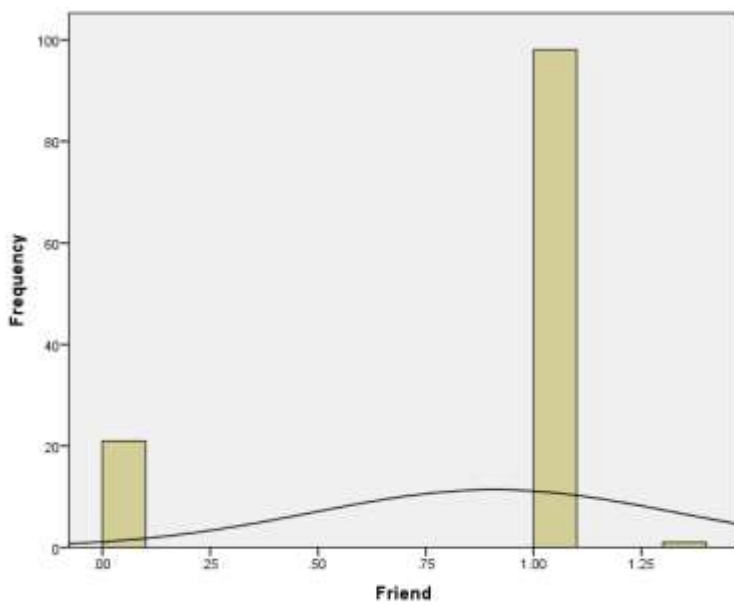*Figure E2*: Histogram displaying normality of transformed parent placement variable
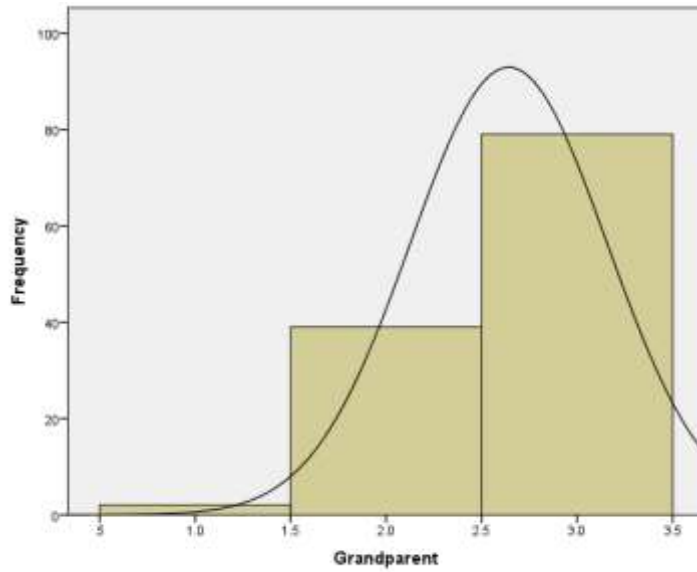
Figure E3: Histogram displaying normality of untransformed grandparent placement variable
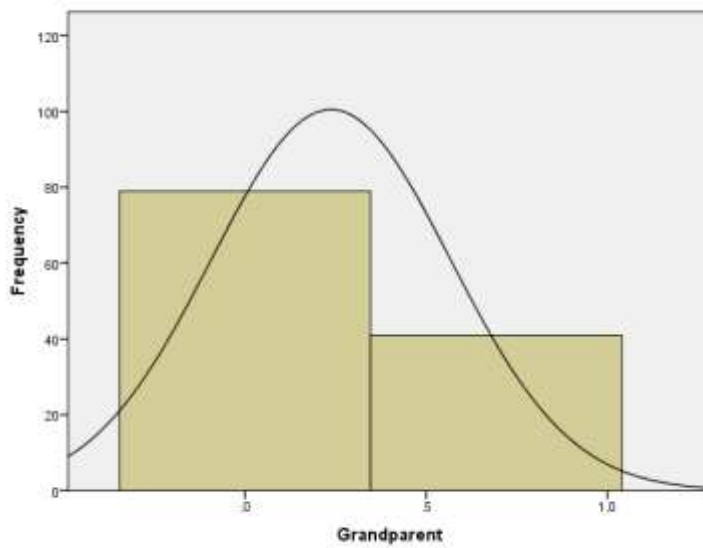
Figure E4: Histogram displaying normality of transformed grandparent placement variable
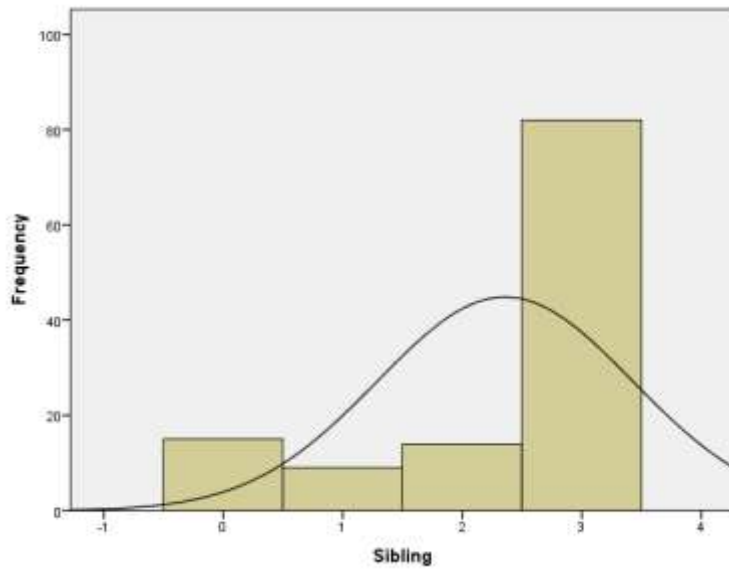
Figure E5: Histogram displaying normality of untransformed sibling placement variable
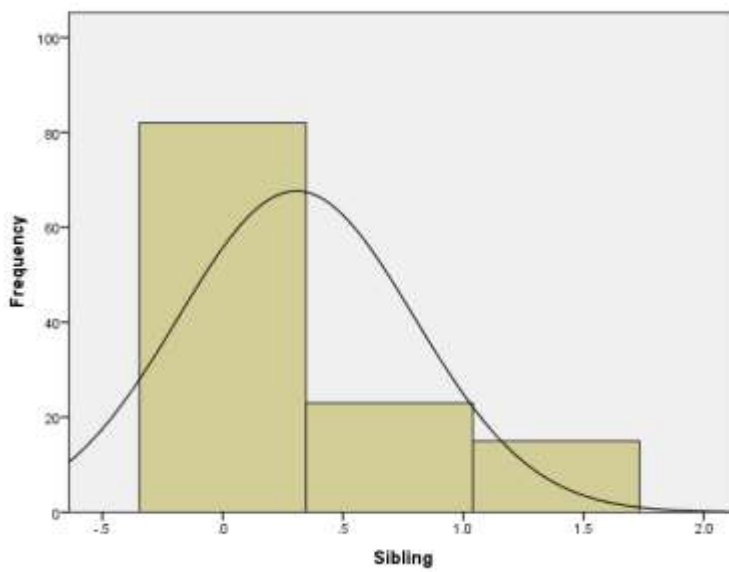
Figure E6: Histogram displaying normality of transformed sibling placement variable
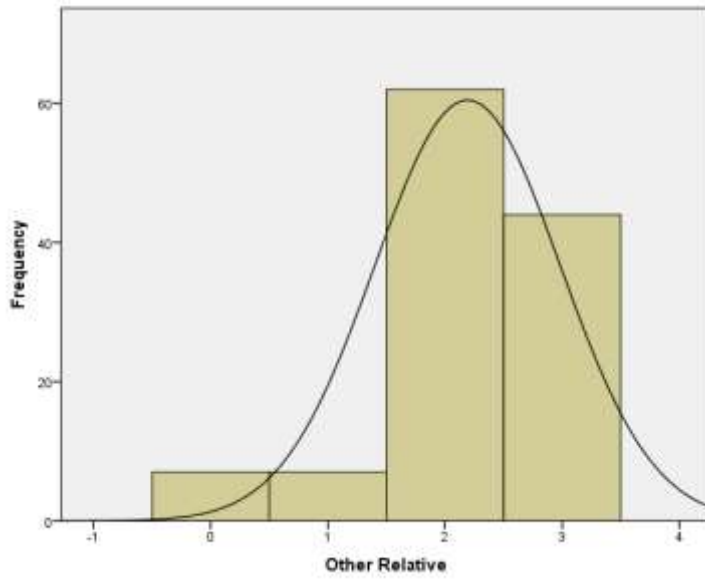
Figure E7: Histogram displaying normality of untransformed
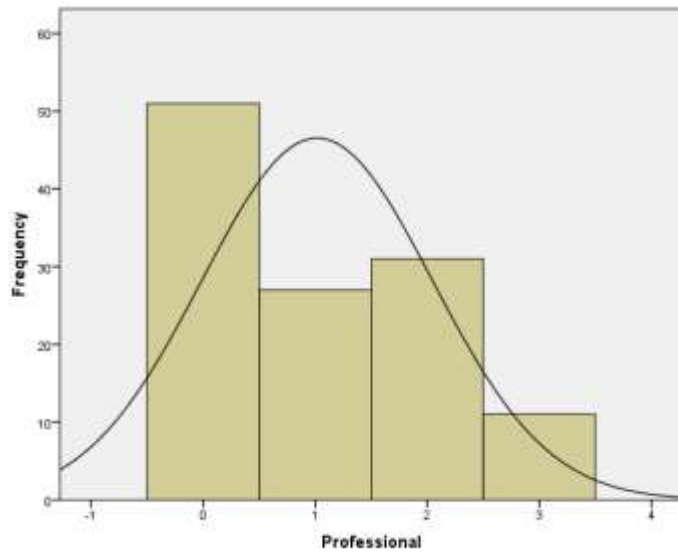other relative placement variable

Figure E8: Histogram displaying normality of transformed
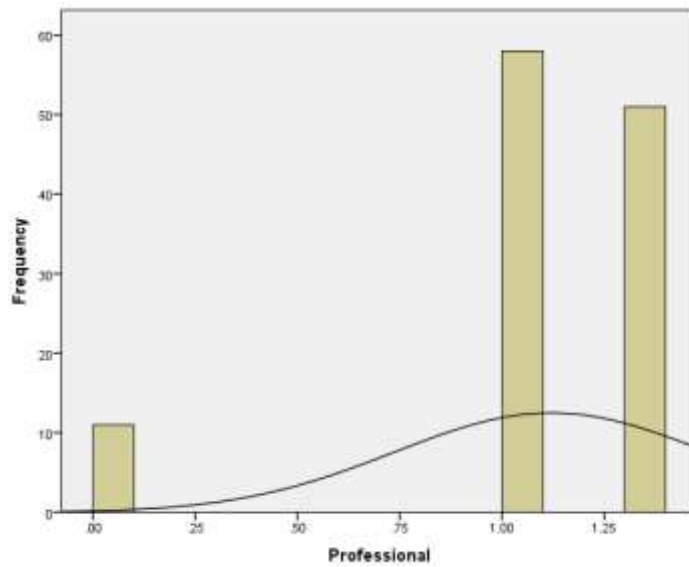other relative placement variable

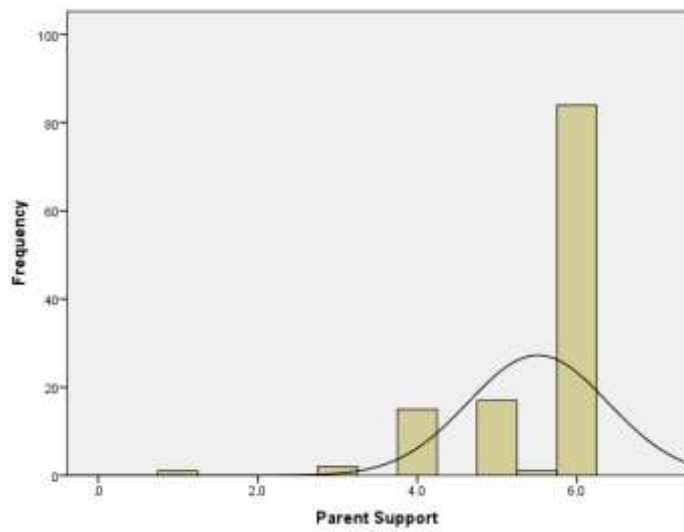*Figure E9*: Histogram displaying normality of untransformed friend placement variable

Figure E10: Histogram displaying normality of transformed friend placement variable
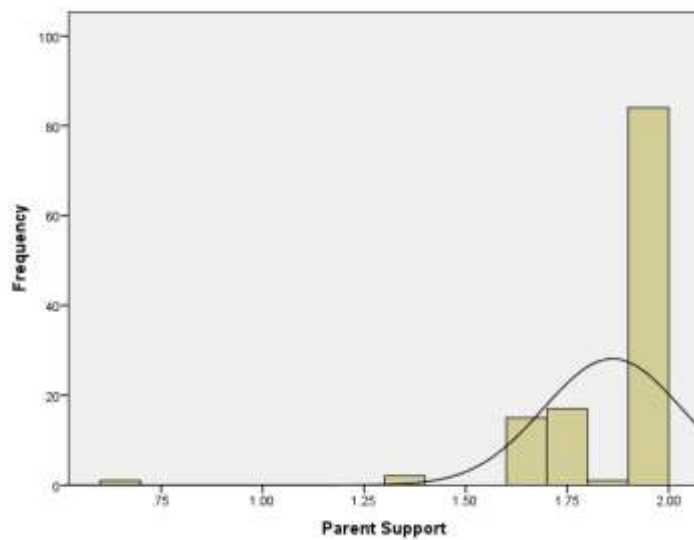
Figure E11: Histogram displaying normality of untransformed professional placement variable

Figure E12: Histogram displaying normality of transformed professional placement variable

Figure E12: Histogram displaying normality of untransformed parent support variable

Figure E13: Histogram displaying normality of transformed parent support variable