Early Adolescents' Social Networks and Social Support: Implications for Self-Esteem

Raeesah Cassiem & Sizakele Ndhlovu

Department of Psychology, University of Cape Town

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Supervisor: Lauren Wild

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Abstract

Social networks evolve throughout development and provide social support. In addition, research has shown that self-esteem is linked to both the quantity and quality of social support received. Self-esteem and social support influence each other in a reciprocal manner, and both are related to adolescent mental health and wellbeing. This cross-sectional and correlational study aimed to investigate associations between social networks, social support and self-esteem in early adolescence. Data was obtained from online surveys completed by a sample of 48 participants in grade 8 (between the ages of 13 and 14) from Cape Town. The survey included an adaptation of the Children's Convoy Mapping Procedure, a social support questionnaire and the Rosenberg Self-Esteem Scale. Findings from multiple regression analysis found that there were no significant associations between social network diversity, total social support, support from close family members and friends, and self-esteem. Weak associations, approaching statistical significance, were found between both total social support and support from close family with self-esteem. However various limitations may have resulted in this studies non-significant findings. In particular, there is a need for an adapted online version of the convoy model to be constructed as the pandemic continues. Finally, this study underscores a further need for more research on the association between early adolescent's social networks and their levels of self-esteem.

Keywords: early adolescence, network diversity, social support, self-esteem, convoy model of relations

The present study will investigate early adolescents' social networks and total social support, and their associations with adolescents' self-esteem. Early adolescence – the ages between 11 and 14 years – marks a salient period, when self-esteem and social networks evolve (Vieno et al., 2007). Levels of self-esteem have been shown to drop during this period, in congruence with developmental changes (DuBois et al., 2002; Wild et al., 2004). Social support reinforces the development of self-esteem in adolescents, by preventing feelings of inadequacy (Bos et al., 2006). Therefore, our research will interrogate whether the nature of young adolescents' social networks is associated with their self-esteem levels. Given current research, our main hypothesis states that adolescents who perceive more total social support from their social networks will report higher self-esteem.

Early Adolescence

During early adolescence, emotional and social changes are navigated amongst hormonal ones (Vieno et al., 2007). Young adolescents face a shift toward seeking social support from peers, and adjust to less reliance on family members (DuBois et al., 2002). The transition to adolescence is a challenging one, because multiple risk factors are faced in this period of development (Camara et al., 2017; Vieno et al., 2007; Wild et al., 2004). Social support and self-esteem moderate life stresses that adolescents come across during this period and act as important protective factors (Lee, 2020). Adolescents that receive social support and that have high self-esteem have healthier and normal development, than adolescents who do not receive social support and have low self-esteem (Kumar et al., 2014). Early adolescence is an important area of development to focus on, as the choices adolescents make during this period impact their social network make up and their well-being.

Adolescents' Social Networks

Social networks refer to relationships that are important and close in an adolescent's life (Levitt, 2005). Social networks serve as agents of socialization and provide adolescents with guidance on becoming competent members of society (Levitt, 2005). For example, social networks provide individuals with a sense of belonging, which plays a large role in influencing the formation of identity (Kana'Iaupuni et al., 2005). Social networks differ in terms of structure, such as the number, age, and gender of the members. Social networks also vary in the quantity and quality of support provided (Antonucci et al., 2014). The convoy model is one of the theoretical perspectives that focuses on the development of social networks across the life span.

The Convoy Model of Social Relations

The theoretical framework guiding this study is the convoy model of social relations. It describes both the protective and dynamic nature of social networks throughout the lifespan (Antonucci et al., 2011; Levitt, 2005). Social convoys consist of relationships that are most important in individuals' lives and can be assessed using three concentric circles (Levitt, 2005). Relationships within the concentric circles vary in terms of significance and decrease in closeness from the inner circle to the outer circle (Antonucci et al., 2014). The individual chooses who is close to them in the convoy circles (Fuller et al., 2020; Levitt, 2005). Therefore, the adolescent's convoy can go beyond immediate family members and friends and extend to pets or deceased relatives (Antonucci et al., 2011). One of the main functions of members in the social convoy is to provide social support (Levitt, 2005). Social support refers the amount of help an individual can rely on from family and friends (Lara et al., 1997).The second main feature of the social convoy is its structure (Levitt, 2005). Therefore, it is important to explore both the structure and function of the social convoy.

Structure of Social Convoys

Members of the social convoy are key role players in the promotion of well-being (Kawachi & Berkman, 2001). Research suggests that children initially consider family members as the main sources of social support in their convoy (Chu et al., 2010). As they age, this changes, and adolescents start to identify friends as the main source of social support (Chu et al., 2010). Lesch and de Jager (2014) found that adolescents perceive best friends as more valuable sources of social support than family members. Additionally, adolescents without friends are more at risk of developing mental health issues (Lesch & de Jager, 2014). However, overall support from parents remains more valuable than that from peers when predicting adolescents' ability to adapt to stress and adjust to life (Camara et al., 2017).

Levitt (2005) proposed that having diverse sources of support is associated with better child adjustment than any specific source of support. Their study revealed that adolescents who have support from several different relationship categories (e.g., close and extended family members as well as friends) are likely to be better adjusted than those who derive support from fewer sources (e.g., only from friends, or only from their immediate family) (Levitt et al., 1993). In support of this hypothesis, Chu et al. (2010) found that diversity in the sources of social support has a positive impact on the well-being of adolescents. However, other studies have shown that the quality of the social support received is more important than the size and make-up of the social convoy (Rueger et al., 2016).

Function and Quality of Social Convoys

Social support serves as a buffer to stress in social convoys. In early adolescence, major life changes are accompanied by an increase in stressful events, which may increase depressive symptoms and maladaptive behaviour (Camara et al., 2017). However, social support has been proposed to be one of the protective factors against these stressful events (Camara et al., 2017).

Social support also provides positive adaptive and emotional resources that are essential for well-being (Chu et al., 2010). Positive emotions are necessary because they result in improving self-worth (Rueger et al., 2016). Improving self-worth is important during early adolescence and motivates the individual to look after themselves (Kawachi & Berkman, 2001). A study by Rueger et al. (2016) found that improvements in self-worth promote positive psychological states and protect adolescents from mental health issues such as depression (Rueger et al., 2016). Therefore, it is crucial to consider the ways social support contributes to self-worth.

Social support and Self-Esteem

The terms "self-worth" and "self-esteem" are often used interchangeably within research (Harter, 2012). Self-esteem refers to the positive or negative evaluations that one holds toward him or herself (Marshall et al., 2014). Many studies have found that self-esteem serves as a critical factor for development in adolescence. Adolescents with high self-esteem experience greater happiness and life satisfaction, whereas those with low self-esteem experience more problematic behaviour and emotional difficulties (Marshall et al., 2014; Poudel et al., 2020). A study by Wild et al. (2004) found that there was a significant association between low global self-esteem and increased suicidality across genders in adolescents. Similarly, Harrison (2014) found that adolescents with higher self-esteem reported significantly lower levels of depression. The development of self-esteem can therefore be influenced by a variety of factors.

Social support plays an important role in the development of self-esteem. For example, Levitt et al. (1993) found that the total amount of support provided by children's social networks was positively associated with their self-concepts. A study by Kinnunen et al. (2008) supported this and found that the quality of social support from members in the social network were associated with self-esteem levels. This has been confirmed by previous research that found high

quality family support, which are positively associated with pre-adolescents' self-esteem levels, were one of the main protective factors against low quality friendships (Franco & Levitt, 1998). In addition a study by Ikiz and Cakar (2010), found that the positive association between self-esteem and the quality of social support was independent of gender. Overall, high self-esteem has been linked to higher levels of life happiness and more emotional stability (Bum & Jeon, 2016). Higher levels of self-esteem, due to higher levels of social support, also contributes to improved academic and social adjustment in adolescence (Ikiz & Cakar, 2010). Social support therefore enhances the development of self-esteem in adolescence and the quality of the relationships they have with others.

Different levels of self-esteem have been associated with the quality of relationships. High self-esteem enhances the ability to maintain positive supportive relationships with others (Marshall et al., 2014). Adolescents with high self-esteem engage in behaviours that build their social support network, which has beneficial impacts on wellbeing. In contrast, adolescents with low self-esteem avoid socializing and fail to build or maintain a social support network (Marshall et al., 2014). Self-esteem also stays consistent into adulthood when the quality of social support from members remains consistent over time (Kinnunen et al., 2008). However, the types of members providing social support, within an adolescents' social network, may also be associated with self-esteem levels.

Network Structure and Self-esteem

The nature and diversity of members in the social convoy may also be associated with different levels of self-esteem (Franco & Levitt, 1998). Franco and Levitt (1998) found that social support from family members was associated with high self-esteem in adolescents, compared to social support from friends and other network members. However, recent findings

by Poudel et al. (2020) suggest that social support from friends also promotes the development of self-esteem during early adolescence. Little is known about whether other convoy members, who are neither family nor friends, contribute to the self-esteem of the adolescent. The number of members in a social network does not contribute to the quality of social support or to an individual's level of self-esteem (Kinnunen et al., 2008). However, Poudel et al. (2020) suggested that the diversity of members in a network has a more beneficial impacts on self-esteem than the overall size of the network. Therefore, more research is needed to determine how different members of the social convoy contribute to adolescents' self-esteem.

Limitations of Previous Studies

In addition, most of the research on adolescents' social support and self-esteem has been conducted in American or European contexts. This limits the generalizability of the findings, because conceptualizations of support and social networks are not consistent across socio-cultural and economic groups (Attar-Schwartz et al., 2009). Although South African research in this area is sparse, there are studies which give good insight into the structure and functions of adolescents' social networks (Ndima, 2017; Wild et al., 2004). However, there is a lack of South African research on the association of self-esteem with early adolescents' social convoys and social support.

Research Aim and Hypotheses

Given the significance of self-esteem in adolescents' lives, this study aimed to contribute to the literature on early adolescence and self-esteem from a social network perspective within a South African context. This study described the nature of early adolescents' social networks in terms of how diverse members are and the total social support received. In

addition, it examined whether the amount of support received from the social network as a whole and from specific relationship categories are associated with adolescents' self-esteem.

Guided by previous research findings, this study hypothesized that:

1. Adolescents with more diverse social networks will report higher self-esteem.

1.2. Adolescents who perceive more total social support from their social networks will report higher self-esteem.

2.3. Adolescents with greater total social support from close family and friends will report higher self- esteem.

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Method

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Design and setting

This study used a correlational and cross-sectional design to assess the structure and function of a participant's social convoy and its association with self-esteem. The independent variables assessed were the diversity of members in the social convoy, total social support and support from close family and friends. The dependent variable was total self-esteem. Participant data was gathered online using Google Forms.

Time and financial constraints were accounted for by sampling a cross section of the population for the study (Wilson & MacLean, 2011). A correlational design was used since manipulation of naturally occurring variables (such as social support) was not possible and not ethically sound (Wilson & MacLean, 2011). In addition, the use of Google forms was cost effective and its online nature made it possible to reach a wide range of participants (Cozby, 2009).

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Participants

  Sample characteristics. The study sample consisted of 48 grade 8 learners (aged 13 – 14 years) from Cape Town. The sample included students from a variety of schools in the Metropolitan Central, South and North Education Districts. The sample consisted of 37 female learners (77%) and 11 male learners (23%).

  Sample size calculation. The sample size for the study was determined by using G*Power (Version 3.1.7) before multiple regression analyses was conducted. Assuming $\alpha = .05$, non-directional hypotheses, 3 predictors, a target power of .80 and a medium effect size (Cohen's f2 = .15), a minimum of 77 participants were required for the regression.

  Sampling procedure. Simple random sampling was used to select 10 schools from the list of high school in Western Cape Province obtained from the Western Cape Education Department (WCED) website. After gaining ethical approval (see Appendix A) and permission to conduct research in schools (see Appendix B), letters were sent to the principles of these schools to ask if they were willing to participate (see Appendix C). Only three schools agreed to participate. The schools were then requested to send emails advertising the study to the parents of Grade 8 learners (see Appendix D). However, this sampling method failed because all three schools discontinued their participation in the study. Due to delays in obtaining the approval letter from the WCED, schools were in the process of preparing for exams and learners were no longer allowed to participate in the study. Therefore, convenience and snowballing sampling techniques were alternatively employed to obtain participants.

  The advertisement of the study was posted on different social media platforms, such as WhatsApp and Facebook, inviting parents with children in grade 8 to join the study (see Appendix D). Parents who were interested, were then sent consent forms (see Appendix E) and

links to the survey (see Appendix G) to forward to their child. Participants who completed the survey were asked to share the link with their friends and classmates in grade 8. Overall, 58 participants completed the survey. However, the final sample size was reduced to 48 participants once participants who provided incomplete answers and unusable data were excluded.

Measures

  Demographics. Learners were only asked to state their gender.

  Social Network Diversity. A modified version of the hierarchical mapping procedure was used to assess the diversity of members within the adolescent's social network. This procedure allowed adolescents to map their own social network by determining which individuals are close to them and important in their life (Levitt et al., 1993; Van Heerden & Wild, 2018). The hierarchical mapping procedure was adapted from the Social Convoy Model (Levitt et al., 1993). The hierarchical mapping procedure has been found to have a good test-retest reliability at all ages, ranging from .40 to .90 (Levitt et al., 1993). For this study, Google forms was used to create a modified version of the hierarchical mapping procedure. Instead of using circles to identify the members that are important and close to the adolescent, participants were instructed to list the names of people who are close and important to them in order of importance and closeness. For example, the people whom the adolescent loves the most were placed at the top of the list. The people who are not as close as the others, but who are still important, were included at the bottom of the list. Participants were also asked to state the relationship category that each member belonged to (for example, a friend or parent). The following relationship categories were created: close family, extended family, friends and other which consist of non-relative members. To calculate the diversity of the social network we created more categories. The close family category was broken down into mother, father and

sibling(s) and grandparents, while the extended family category was broken down into aunts, uncles, and cousins. Lastly the friends and other category were not broken down. Therefore, the possible scores ranged from 0 (no relationship category listed) to 9 (all relationship category listed).

      Social Support. The six support questions developed by Levitt et al. (1993) were used to assess the amount of support that the adolescent received from their network. Adolescents were asked to identify the person or people from their network who provided them with each of six support functions (Levitt et al., 1993). The items included important support domains such as affective support, practical support and self-affirmation (Levitt et al., 1993). It asks whom the adolescent confides in, who reassures them, who takes care of them when ill, who helps them with schoolwork, who likes to be with the adolescent and who makes the adolescent feel special (Levitt , 1995). Total support was calculated by adding the number of support functions provided by all network members (Levitt, 1995, 2005). The total support from each relationship category was determined by adding the number of support functions provided by individuals belonging to the same relationship category (Levitt, 2005). Scores ranged from 0 (no support provided) to 6 (all six support functions provided). Support functions was added together within relationship categories because, according to Levitt et al. (1993), factor analyses of the network support measures yielded a single general support factor within provider categories.

      Levitt et al. (1993) found high internal consistency ranging from $\alpha = .79$ for the close family category to $\alpha = .85$ for total support in the network in a study with American children and adolescents. They also found satisfactory to excellent test- retest reliability for the support questions, whereby the intraclass correlation coefficients ranged from .40 to .75 and over. Van

Heerden and Wild (2018) replicated these findings with South African children and found an internal consistency of α = .78 for total support.

Self-esteem. Self-esteem was measured using Rosenberg Self-Esteem Scale (RSES). The RSES is a widely used unidimensional self-report measure of global self-esteem (Makhubela & Mashegoane, 2017). The RSES was initially developed for high school students and is now also used with university students and older people (Martín-Albo et al., 2007). It is short and easy to administer, and the items are simple to understand (Ndima, 2017). The RSES consists of 10 items that are rated on a 4-point Likert type scale, ranging from 1 (strongly disagree) to 4 (strongly agree) (Kong & You, 2013; Makhubela & Mashegoane, 2017). Half of the items on this scale are positively worded, while the other half are negatively worded (Makhubela & Mashegoane, 2017). The scale is scored by summing all the items after reverse-scoring the items that are negatively worded (Kong & You, 2013). Scores range from 10 (a low level of self-esteem) to 40 (a high level of self-esteem) (Kong & You, 2013).

A study conducted with South African university students found that the internal consistency reliability of this scale ranged between 0.78 and 0.92 (Ndima, 2017). This study found that the RSES also demonstrated a good convergent validity, meaning it correlates with other scales that measures self-esteem (Ndima, 2017).

Procedure

Participants received the link to survey (see Appendix F), once parental consent was obtained (see Appendix E). The survey was completed online on google forms and took approximately 10 to 15 minutes to complete. Participants were welcomed with a standardized message, an assent form and a set of instructions before completing the survey (see Appendix F). Demographic information was collected in this stage of the assessment. Following this,

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participants were asked to do a self-reported mapping of their social convoy and perceived social support. Next, participants were asked to complete the self-esteem questionnaire (see Appendix G).

Participants were asked to complete the survey within 5 days of the link being sent. A reminder to complete the survey was sent to the participants after 5 to 6 days via email. Participants were asked to complete the survey independently at a time and place that suited them best. After completing the survey, the participant were sent a standardized debriefing form by email (Appendix E).

Ethical considerations

Ethical approval was obtained from an Ethics Review Committee of the University Of Cape Town Faculty Of Humanities (see Appendix A) and the Western Cape Education department prior to commencing the study (see Appendix B).

Since participants were below the age of 18, informed consent was required from a parent or legal guardian (see Appendix E) and an assent form was completed by the adolescent participants (see Appendix F). This was sent to parents responding to the advertisement posted on social media (see Appendix D). Participants were informed that completing the survey was voluntary and that they had the right to withdraw from the study at any stage. Participants were given identity (ID) numbers to ensure that the confidentiality of data and privacy of the participant was protected. ID numbers were generated from date and time stamps created by Google forms. The data was stored online, in a password protected file on google cloud storage, which only the researchers had access to.

This study imposed no serious risks and participants were not subjected to any harm. One possible risk was that adolescents may have found answering questions, about their self-esteem

and the amount of social support they receive, uncomfortable. In this case, they were encouraged to seek help afterwards from contacts provided on the debriefing form (see Appendix H). Finally, answering the series of questions may have been tiring or boring for the participants. However, a chance to win a R250 Takealot voucher was offered as a compensation for their time. Above all, the dignity of the adolescent was respected at all times.

Debriefing forms were sent to the participants after data was collected (see Appendix H). This provided further information about the study. In this form, the contact details of the researchers and the supervisor of this study, as well as the research ethics committee was included. Additional contact details for ChildLine was included in case adolescents needed counselling after their participation.

Data Analysis

R-studio was used to analyse the data for this study. R studio is a programming language for statistics and graphics. Descriptive statistics were assessed to describe the demographic characteristics of the participants and categorical variables. In addition, we calculated the mean, standard deviation, median and minimum and maximum value of the measures of social support, social network diversity and self-esteem. In addition, the frequency of support providers nominated within each relationship category was counted.

Inferential statistics, such as multiple linear regression analysis and Pearson's correlation coefficients, were used to examine the relationships between the study variables and to test the hypotheses. All statistical analyses were conducted while gender was kept as a control variable because gender differences have been found in both self-esteem and social support (Levitt et al., 1993). Only p-values which were less than 0.05 were considered to be statistically significant.

Lastly, diagnostics analyses was conducted to check for outliers and assumptions of normality, linearity, and equal variance.

Hypotheses 1, 2 and 3. Multiple linear regressions were conducted to investigate these associations between our study variables, whilst controlling for adolescents' gender. Multiple regression analysis is a statistical technique that used to investigate the relationship between a single dependent variable and several independent variables (Moore et al., 2006). It also allows assessment of the contribution each independent variable has to the relationship analysed (Moore et al., 2006).

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Results

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Descriptive Statistics

The sample sizes (*ns*) means (*M*s), standard deviations (*SD*s), medians (*Mdn*s), minimum values (Min) and maximum values (Max) were assessed for key predictor and outcome variables. These are presented in Table 1. The data for this study appeared to be skewed to the left because all the variables' means were less than the variables' medians.
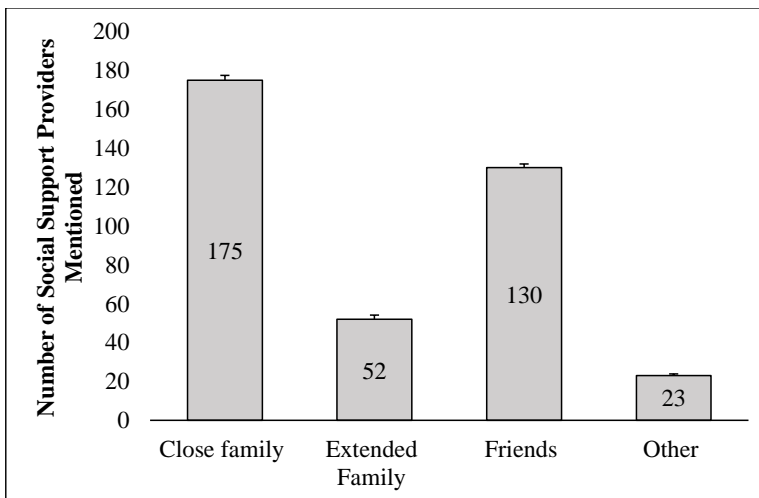
Table 1

Descriptive Statistics for Study Variables

Variable	*n*	*M*	*SD*	*Mdn*	Min	Max
Self-esteem	48	29.67	5.31	30.0	15	39
Social network diversity	48	4.42	1.98	4.5	1	9
Total social support	48	5.56	0.42	6.0	3	6
Social support from friends	48	3.65	2.42	4.0	0	8
Social support from close family	48	2.71	1.86	3.0	0	10

Social Support Providers

      Figure 1 shows the number of support providers in different relationship categories found in the adolescents' social networks. The most identified support providers came from close family members such as parents, siblings and grandparents. Each adolescent listed a mean number of 3.64 close family members as support providers. Friends were the second largest number of support providers. Each adolescent listed a mean of 2.70 friends as support providers. After friends, each adolescent listed a mean of 1.08 extended family members (such as cousins, aunts and uncles) as support providers. Finally, each adolescent listed a mean of 0.48 non-relatives (such as teachers, mentors and church leaders) as their support providers.

Figure 1

Total Number of Support Providers Identified in each Relationship Category

Correlation

Table 2 summarises the results of the correlational analyses. There was a significant positive correlation between the support received from close family members and network diversity and this correlation was moderate ($r = .40$). However, neither social network diversity nor any of the social support variables was significantly correlated with self-esteem.

Table 2

Correlations for the Study Variables

Variables	Self-esteem	Social network diversity	Total social support	Close family	Friends
Self-esteem	1				
Social network diversity	-0.06	1			
Total social support	.25	.26	1		
Support from close family	.20	.40*	.26	1	
Support from friends	.08	.02	.09	-.19	1

Hypothesis tests

Hypothesis 1. Multiple regression analysis was conducted to assess the relationship between social network diversity and adolescents' self-esteem while controlling for gender. Table 4 provides the summary of the regression analysis. The results obtained from the regression model indicated that there was no significant association between the diversity of the social network and adolescents' self-esteem, ($R^2 = 0.045$, $F (1, 46) = 1.08$, $p = .34$), meaning that hypothesis 2 was not supported. Diagnostic plots were created to see whether the regression assumptions were met in this model (see *Figures F2, F3* and *F4* respectively in Appendix I). There were few outliers in this regression model and heteroscedasticity was detected, since the

residuals were not spread equally along the predictors. Also, linearity was detected, meaning the relationship between social network diversity and adolescents' self-esteem is linear. Lastly, the residuals were normally distributed.

Table 3

Multiple Regression Analysis Summary for Social Network Diversity predicting Self-esteem.

Variables	Estimate	SE	t-value	P
Intercept	29.181	2.076	14.053	.000
Social Network Diversity	-.027	.403	-.065	-.946
Gender	2.642	1.876	1876	.166

Hypothesis 2: To test the association between the total social support that adolescents receive from their social network and their self-esteem, a regression model was created while controlling for gender as presented in Table 3. There was no significant relationship found between these two variables, ($R^2 = 0.111$, $F(1, 46) = 2.83$, $p = .07$). Thus, we accepted the null hypothesis and concluded that no association was found between the total support that adolescents receive and how they feel about themselves. Diagnostic criteria was examined to test whether the regression model met the residual assumptions. The residuals were normally distributed (see Figure 5 in Appendix I); however, residuals were not spread equally along the predictors. Thus meaning they did not have a constant variance (see Figure 6 in Appendix I). There were some extreme values which may have influenced the regression results. Lastly, non-linearity was detected in this model, meaning that relationship between adolescents' self-esteem and the total social support they receive is not linear (see Figure 7 in Appendix I).

Table 4

Multiple Regression Analysis Summary for Social Support predicting Self-esteem.

Variables	B	SE	t value	P
Intercept	18.807	5.667	3.319	.001
Total social support	1.841	1.007	1.829	.074
Gender	2.714	1.756	1.545	. 127

Hypothesis 3. To assess whether there was an association between adolescent's self-esteem and total social support from family and friends while controlling for gender, a multiple regression analysis was conducted. Table 5 presents the summary of the regression analysis. The regression equation as a whole was not significant, (R^2 = 0.118, F (1, 46) = 1.97, p = .13). In addition, neither support from close family (p = .07) nor support from friends (p = .45) was significantly independently associated with self-esteem. Therefore, the null hypothesis was accepted, and it was concluded that there was no association between total support from close family and friends and adolescents' self-esteem. However, the support from close family came close to having a significant association with self-esteem. Diagnostic plots were created to see whether the regression assumptions were met in this model (see *Figures F8, F9* and *F10* respectively in Appendix I). The residuals indicated homogeneity of variance because they were spread equally along the predictors. Also, the relationship between close family and friends and adolescent's self-esteem was linear. Lastly, the residuals were normally distributed, and the regression model had few outliers with most values centred around the regression line.

Table 5

Multiple Regression Analysis Summary for Social Support from close family members and friends predicting Self-esteem.

Variable	Estimate	SE	t-value	P
Intercept	25.909	1.982	13.069	.000
Close family support	.597	.321	1.858	.069
Friend support	.315	.414	.762	.450
Gender	3.158	1.807	1.748	.087

Discussion

This study investigated the implications of social network diversity and social support for the self-esteem of early adolescents in South Africa. Three hypotheses were tested. The first hypothesis examined the linkage between the quantity of social support that adolescents receive from their social network members and their self-esteem. It was expected that adolescents with more social support would have higher levels of self-esteem. The second hypothesis investigated the relationship between the diversity of the members of the adolescent's social network and the adolescent's self-esteem. It was anticipated that adolescents with more diverse social networks would report higher self-esteem. The third hypothesis looked at whether the social support that adolescents receive from their close family members and friends contributes to their self-esteem. It was predicted that adolescents who receive more support from their close family members and friends would report higher self-esteem. The general purpose of this study was to assess whether functional and structural characteristics of adolescent's social networks are associated with how they feel about themselves.

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The majority of adolescents in this study had diverse social networks. In consistency with previous studies, friends and close family members like parents, siblings and grandparents were the main members of the adolescent's network (Franco & Levitt, 1998). However in this study, adolescents also mentioned their extended family members such as cousins, aunts and non-related members such as teachers, church leaders, neighbours and mentors. These findings are consistent with those of Levitt et al. (1993).

Contrary to our expectations, this study found that social network diversity was not significantly related to adolescent's self-esteem. These results were inconsistent with the study conducted by Marshall et al. (2014), who proposed that self-esteem may be a product of being more socially connected with different individuals. Other studies have found that individuals with more diverse social networks had greater life satisfaction, high self-esteem, and positive well-being (Kinnunen et al., 2008; Nguyen et al., 2016). One possible reason for this inconsistency is that most previous studies have relied on samples of adult participants and not early adolescents (Kinnunen et al., 2008), and the benefits of network diversity may differ depending on the developmental stage of the individual. As adolescents progress through different stages of development, their needs and the needs provided by various members changes over time (Antonucci et al., 2011). Different social network members, such as parents, friends or grandparents serve different roles in the adolescent's life.

Furthermore, there were also no statistically significant associations found between total social support and adolescent self-esteem scores, despite a weak positive correlation being detected. The correlation found, may have been reduced by the fact that there were limited variations in total social support scores, with most participants obtaining the highest possible score. However other studies have found that the quality of social support is more closely

associated with self-esteem, than the quantity of social support adolescents receive (Camara et al., 2017; Kinnunen et al., 2008; Rueger et al., 2016). Adolescents who receive high quality social support, such as warm and responsive emotional support, are more likely to have positive self-perceptions (Chu et al., 2010; Rueger et al., 2016). Higher quality social support is also a protective mechanism against mental health issues and risk behaviours associated with low self-esteem (Camara et al., 2017; Marshall et al., 2014). Future research focusing on the quality of social support and its association with adolescent's self-esteem, rather than on the quantity of social support received, may therefore provide more insight. This is due to the fact that the way social support is perceived varies between individuals and has a subjective nature (Kawachi & Berkman, 2001; Orth & Robins, 2014). Therefore, the total amount of social support alone may not be sufficient to explain self-esteem levels.

In contrast, close family members were the most frequently reported source of social support, followed by friends. This is consistent with literature that suggests that friendships become more significant sources of social support during adolescence, after close family (Lesch & de Jager, 2014). Existing studies have highlighted that close family support is one of the main sources of social support associated with higher self-esteem (Franco & Levitt, 1998). Support from close family and friends, may therefore act as important buffers against stress and poor mental health during adolescence (Camara et al., 2017). In the present study, there were no associations found between social support from close family and friends and self-esteem levels. Although the association between support from close family and adolescents' self-esteem just fell short of significance. The discrepancies between our study and previous research highlight that other factors, such as personality differences in introversion or extraversion, may contribute to the development of self-esteem during adolescence (Kawachi & Berkman, 2001).

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Commented [LW10]: Remember that when you have more than one reference in the same set of brackets, they must be in alphabetical order.

Commented [LW11]: You could perhaps add something like the following: "although the association between close family support and self-esteem fell just short of (or approached) significance."

Adolescents' individual differences may also influence the amount of social support sought out and accessed (Marshall et al., 2014). Further empirical work is therefore needed to assess the relationships between adolescent's individual differences, perceptions of support and self-esteem.

Limitations

There are a few limitations of this study that need to be addressed by future research. The first limitation comes from our small sample size. Due to high dropout rates from schools, our study had low statistical power. Thus, the chances of detecting a true effect were greatly reduced. The convenience sample was also not representative of all early adolescents in South Africa, making it difficult to generalize the findings of the study to the general population. Since this study was conducted online, there were limitations to its accessibility. Adolescents needed internet connections and mobile phones to complete the study. However, not all adolescents have access to the internet or own mobile phones. Therefore, future studies should aim to make participation in the study more accessible and put measures in place to address those who do not have Wi-Fi or data. This is imperative if such research is to continue online given the ongoing COVID-19 pandemic. Furthermore, future studies could improve the reliability and generalizability of the results by increasing the size and diversity of the sample.

Secondly, the use of self-reports as our main form of data collection had its limitations. Adolescents completing the surveys provided their responses online and in their own time. No supervision of the survey was possible, under the circumstances the COVID-19 pandemic created. As a result, participants were not able to clarify questions they did not understand and could easily record answers that were biased. Another limitation of conducting this study online, was that the children's convoy mapping procedure had to be modified. Because the three

Commented [LW12]: Provide a reference for this statement.

Commented [LW13]: You're waffling again!

Commented [LW14]: I've suggested incorporating this point (albeit much more concisely) in the second paragraph of the Discussion section.

Commented [LW15]: I've suggested moving this here, as it is related to the issue of generalizability.

Commented [LW16]: Although one could argue that as both perceived social support and self-esteem are subjective, self-reports are the best way of assessing these constructs.

Commented [LW17]: Self-report biases are not the same as confounding variables. I'd suggest that you replace with a statement noting that you aimed to reduce these limitations by piloting your questionnaire.

Commented [LW18]: I've suggested moving this here, as these two points are related.

concentric circles associated with this test were not used, it was difficult to determine which members adolescents considered as most close and important in their social network. Modifying this test might have affected its reliability and validity and so, in turn, have affected the study's findings. Therefore, there is a need for an online version of the convoy mapping procedure that has the same properties as the manual one.

  Thirdly, our study used a cross sectional and correlational design. This makes it difficult to determine the direction of relationships between our variables and to make conclusions about causality. For example, self-esteem has been shown to change over time (Orth & Robins, 2014). Given the subjective nature of the variables we were measuring, a longitudinal design may therefore be more appropriate for future research. The use of self-reports continue to be the best way of assessing these constructs, since self-esteem and perceived social support are both subjective. This would enable the effects as well as long term implications of social networks on self-esteem to be studied.

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Conclusion

This study assessed the nature of early adolescent's social networks and their association with self-esteem. The diversity of social network members, total social support and support from close family and friends were assessed in a sample of Grade 8 learners from Cape Town. The findings revealed that no significant associations existed between network diversity and self-esteem. Similarly, no significant associations were found between total social support or support from close family and friends and self-esteem. These non-significant findings may have resulted from a variety of limitations that further research may be able to improve on. However, it is important to note that both total social support and support from close family had weak associations with self-esteem that approached statistical significance. In addition to highlighting a need for the convoy model to be adapted for online use as the current pandemic continues, this study underscores a need for more research to be conducted on the association between social networks and self-esteem during early adolescence.

Commented [LW20]: If you wish, you could note that both total support and support from close family had (weak) associations with self-esteem that approached statistical significance.

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Appendix A

UNIVERSITY OF CAPE TOWN

Department of Psychology

University of Cape Town Rondebosch 7701 South Africa
Telephone (021) 650 3417
Fax No. (021) 650 4104

04 August 2021

Raeesah Cassiem and Sizakele Ndhlovu
Department of Psychology
University of Cape Town
Rondebosch 7701

Dear Raeesah and Sizakele

I am pleased to inform you that ethical clearance has been given by an Ethics Review Committee of the Faculty of Humanities for your study, *Early Adolescents' Social Networks and Social Support: Implications for Self-Esteem.* The reference number is PSY2021-039.

I wish you all the best for your study.

Yours sincerely

Floretta Boonzaier
Professor
Ethics Review Committee

Appendix B

REFERENCE: 20210922-6131
ENQUIRIES: Mr M Kanzi

Ms Sizakele Ndhlovu
Department of Psychology
University of Cape Town
Rondebosch
7701

Dear Ms Sizakele Ndhlovu,

RESEARCH PROPOSAL: EARLY ADOLESCENTS' SOCIAL NETWORKS AND SOCIAL SUPPORT: IMPLICATIONS FOR SELF-ESTEEM.

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. **The Study is to be conducted from 22 September 2021 till 30 September 2021.**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Mr M Kanzi at the contact numbers above quoting the reference number.
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. The approval of your research request does not imply a promise of any data from the WCED. Should you require data, you will have to request it from the participating schools where it will be possible to secure parental consent.
11. Please note that POPIA prohibits the sharing of personal information without parental consent.
12. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
13. The Department receives a copy of the completed report/dissertation/thesis addressed to:
    The Director: Research Services
    Western Cape Education Department
    Private Bag X9114
    CAPE TOWN
    8000

We wish you success in your research.

Kind regards.

Meshack Kanzi
Directorate: Research
DATE: 22 September 2021

1 North Wharf Square, 2 Lower Loop Street,
Foreshore, Cape Town 8001
tel: +27 21 467 2531

Private Bag X 9114, Cape Town, 8000
Safe Schools: 0800 45 46 47
wcedonline.westerncape.gov.za

Appendix C

Letter to request participation in an Honours Study

Adolescent's Social Networks and Social Support: Implications for Self-Esteem

To whom it may concern,

We are writing to request permission to advertise participation in our study at your school.

The general purpose of this research is to learn more about adolescents' close and important relationships, and whether these relationships are associated with adolescents' self-esteem.

Therefore we would like to distribute questionnaires to Grade 8 students to complete, with the consent from their parents as well.

In this study, participants will be provided with questionnaires that ask them to identify members in their social network and to list how close and important that person is to themselves.

Afterwards they will also be asked questions concerning the social support they receive from members in their networks. Lastly, they will be asked questions of about their self-esteem.

There should be no consequences from participating in the study. However, if support is needed, the participants will be provided with contact numbers for counselling after they have completed the questionnaire.

Participation in this study should not interfere with school hours, since students will be asked to complete it at a time that is convenient to themselves.

The results will be anonymous and if need be a copy of the results of the study may be sent to you upon request.

If you have any further questions please contact:

Raeesah Cassiem   072 667 4972

 Sizakele Ndhlovu   079 484 6228

Or you may contact the researchers' supervisor: Lauren Wild- lauren.wild@uct.ac.za

Looking forward to hearing from you.

Kind regards,

Raeesah Cassiem & Sizakele Ndhlovu.

Appendix D

Department of Psychology

University of Cape Town,

Rondebosch, 7701

Dear Parent

Social Support Networks and Self-esteem: Research study for Grade 8 learners.

Psychology Honours students from the Department of Psychology at the University of Cape Town are conducting a study on the implications of young adolescents' social networks and social support for their self-esteem. We are inviting Grade 8 learners, age 13 to 14 years, to participate in this research.

Adolescents who choose to participate in the study will be asked to complete an online questionnaire. First, they will be asked to provide the first names of individuals who are close and important to them. Then, they will be asked six questions related to the support they receive from these people. After this, they will fill in a questionnaire to assess their self-esteem. All together the survey will take adolescents 10 to 15 minutes to complete it and they will stand a chance to win a R250 voucher from Takealot.

If you would like more information about the study, please contact the following researchers via WhatsApp, phone call or email.

Raeesah Cassiem   0726674972 – email: CSSRAE005@myuct.ac.za

Sizakele Ndlovu   0794846228 – email: NDHSIZ001@myuct.ac.za

If you agree that we may contact your child to invite them to participate in the research, please contact

us.

Yours sincerely,

Raeesah Cassiem & Sizakele Ndhlovu.

Appendix E

![University of Cape Town logo]
UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA · UNIVERSITEIT VAN KAAPSTAD

Consent for your child to participate in a research study

Dear Parent/Guardian

Early Adolescents' Social Networks and Social Support: Implications for Self –Esteem

Study Purpose

We would like your permission to invite your child to participate in a research study being conducted by Honours students from the Department of Psychology at the University of Cape Town. The purpose of this study is to find out more about the nature of adolescents' social networks (the people who are close and important to them) and the support they receive. In addition, the study will assess whether adolescents' social networks and social support are associated with their self-esteem.

Study Procedures

If you decide to allow your child to participate in this study, we will send him or her a link to a survey to complete online. The survey will include questions about the people in your child's social circle. It will also include questions about whether they like themselves and are happy with the way they are. Your child will be asked to complete the survey on their own, without help.

Possible Risks

Participating in this study poses no real risk of harm to your child.

Possible Benefits

There are no direct benefits to you or your child from participating in this study, but we hope that information gained from this study will help us answer important questions about adolescents' social networks and self-esteem. Your child will be offered the opportunity to participate in a raffle for a R250 Takealot voucher as compensation for their time.

Voluntary Participation

Participation in this study is completely voluntary. Your child is free to choose not to participate in the study. If your child chooses not to participate, it will not affect the relationship you or your child has with the school. If your child decides to participate, they will be free to change their mind and withdraw at any time without any consequences.

Confidentiality

Information about your child obtained for this study will be kept confidential. Your child's name and other identifying information will not be kept with their answers to the survey. The survey and this consent form will be kept in separate, password-protected folders online, and there will be no link between the consent form and the survey. The information obtained from the survey will not become a part of your adolescent's school records in any way, nor will it be made available to anyone other than the researchers. Any reports or publications about the study will not identify your child or any other study participant.

Questions

Any study-related questions, problems or emergencies should be directed to the following researchers:

Raeesah Cassiem   0726674972   CSSRAE005@myuct.ac.za

Sizakele Ndlovu   0794846228   NDHSIZ001@myuct.ac.za

Lauren Wild (supervisor) 0216504607   lauren.wild@uct.ac.za

Questions about your rights as a study participant, comments or complaints about the study also may be

presented to the Department of Psychology Research Ethics Committee, at Rosalind.Adams@uct.ac.za

I have read the above and am satisfied with my understanding of the study and its possible risks and

benefits. My questions about the study have been answered. I hereby voluntarily consent to my child's

participation in the research study as described.

* * *

Email address to which the survey link should be sent: _____

_____   _____

Signature of participant   Date

_____   _____

Name of participant (printed)   Signature of researcher

* * *

Appendix F

Assent Form

Early Adolescents' Social Networks and Social Support: Implications for Self –Esteem

Hi!

We want to tell you about a research study we are doing. A research study is a way to learn more about something.

Why is this study being done?

We would like to find out more your social network. We want to find out about who is close to you and who you love. We also want to find out about how they help you. We are also interested in how you feel about yourself.

What will I be asked to do if I decide to join the study?

If you agree to join this study, you will be asked to fill in a questionnaire. You may complete it at your own pace. You will be asked not to write down your name, and so nobody will know which answers belong to which person. It is not for marks and is only to help us in our research. If you join the study, you can ask questions at any time. Just tell the researcher that you have a question.

Will it make me feel bad or good?

The questionnaire asks about all sorts of things, including who is closest to you and how you feel about yourself. If some of the questions make you feel uncomfortable you can decide to stop at any time. We will provide numbers you can phone if you want to talk to someone afterwards. Being in this study will not help you, but this study will help us learn more about who is important to you and makes you feel good. We may learn something that may help other children someday.

Commented [24]: Title of the study?

Commented [25]: If you send them the assent form together with the link, you don't need to send them another email.

Commented [26]: How can they tell you that they have a question if they are completing the questionnaire online?

Commented [27]: Mention the raffle.

Do I have to be in this study?

You do not have to join this study. It is up to you. You can say yes now and change your mind later. All you have to do is tell us you want to stop. No one will be angry at you if you don't want to be in the study or if you join the study and change your mind later and stop.

What if I have any questions?

If you have any questions about this study, please feel free to contact:

Raeesah Cassiem 0726674972 or Sizakele Ndhlovu 0794846228

If you agree take part in this research study tick the box below and then on the link to the survey.

☐ **I agree to take part in this study**

 Date: _____

Link:

 https://forms.gle/yKiikJ7uQioeLqr76

Commented [28]: Again – they cannot tell you they want to stop if they are completing the questionnaire online.

Commented [29]: You could incorporate this in the survey. E.g., you could say something like: "If you agree to take part in this research study, please click on the link provided." At the start of the survey, you could then say something like "I have read the information I was given about this research. I agree to take part in this study." Alternatively, you could include a brief description of the study in the email, and begin the survey with the full assent form.

Remember that you also need to ask them if they would like to participate in the raffle (in which case they will need to provide an email address or phone number so that you can contact the winner).

Appendix G

-My Social Network-

First let us know more about yourself (circle you answer):

I am   :   Male   Female

Social Circle

We are interested in finding out more about the people that are closest to you.

Please list the people you really love or like, in order of how important they are to you:

   10. Place yourself at the top of the list.

2. Then, add the people who are closest and most important to you – people you love the most and who love you the most after your name.

3. Name one person per box. You do not need to fill in all the boxes.

4. Next to each person's name, write their relationship to you (for example: Father, Grandmother, Sister, Friend, Boyfriend/Friend/ Best friend/ Teacher)

Example:
1.
Lilly – Me

2.
Brandon- Brother

3.

Julia – Best friend

You may use as many boxes as needed. If you need more boxes, add additional numbers to the last box (e.g., 16. John – Cousin, 17. Lisa – Friend 18. Abby – Teacher …etc.)

First Name	Relationship
E.g., John	**E.g., Father**
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	

Social support

Answer the questions below using the people you mentioned on the list above. You can fill in as many names as you want for each question. You can also use the same person as many times as you want.

- Are there people you talk to about things that are really important to you? If so who?

  _____

- Are there people who make you feel better when something bothers you or you are not sure about something? If so who?

  _____

- Are there people who would take care of you if you were sick? If so who?

- Are there people who help you with homework or other work that you do for school? If so who?

  _____

- Are there people who like to be with you and do fun things with you? If so who?

  _____

- Are there people who make you feel special or good about yourself? If so who?

  _____

Rosenberg Self-Esteem Scale, RSES

Below is a list of statements dealing with your general feelings about yourself.
Please indicate how strongly you agree or disagree with each statement.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. On the whole, I am satisfied with myself.				
2. At times I think I am no good at all.				
3. I feel that I have a number of good qualities.				
4. I am able to do things as well as most other people.				
5. I feel I do not have much to be proud of.				
6. I certainly feel useless at times.				
7. I feel that I'm a person of worth, at least on an equal plane with others.				
8. I wish I could have more respect for myself.				
9. All in all, I am inclined to feel that I am a failure.				
10. I take a positive attitude toward myself.				

Appendix H

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Debriefing Form

Adolescent's Social Networks and Social Support: Implications for Self-Esteem

Thank you participating in this study! The general purpose of this research is to learn more about adolescents' close and important relationships, and whether these relationships are associated with adolescents' self-esteem. In this study, you were provided with questionnaires that asked you to identify members of your social network and list those individuals based on how close and important that person is to you. Thereafter, you were asked questions concerning the social support that you receive from members of your networks. Lastly, you were asked questions about your self-esteem.

If you have further questions or any concerns about any aspect of the study, please contact one of the two researchers:

Raeesah Cassiem   072 667 4972

 Sizakele Ndhlovu   079 484 6228

Or you may contact the researchers' supervisor: Lauren Wild- lauren.wild@uct.ac.za

☐ Please tick this box if you would like a copy of the results of this study

If you would like to talk to somebody about the feelings that you experienced during this study, please contact:

 ChildLine at 080 005 5555

Or

South African Depression and Anxiety Group (SADAG) at 011 234 4837 to contact a counsellor between 8am-8pm Monday to Sunday

Appendix I

Figure 2

Examining the linear relationship between the adolescent self-esteem and their social network diversity
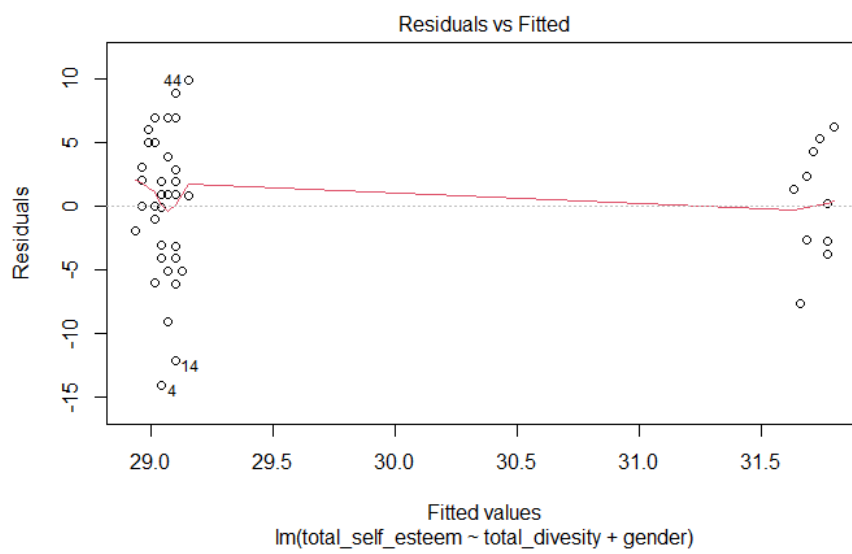

Residuals vs Fitted

lm(total_self_esteem ~ total_divesity + gender)

Figure 3

Examining whether the residuals in the self-esteem and social network diversity regression model are normally distributed
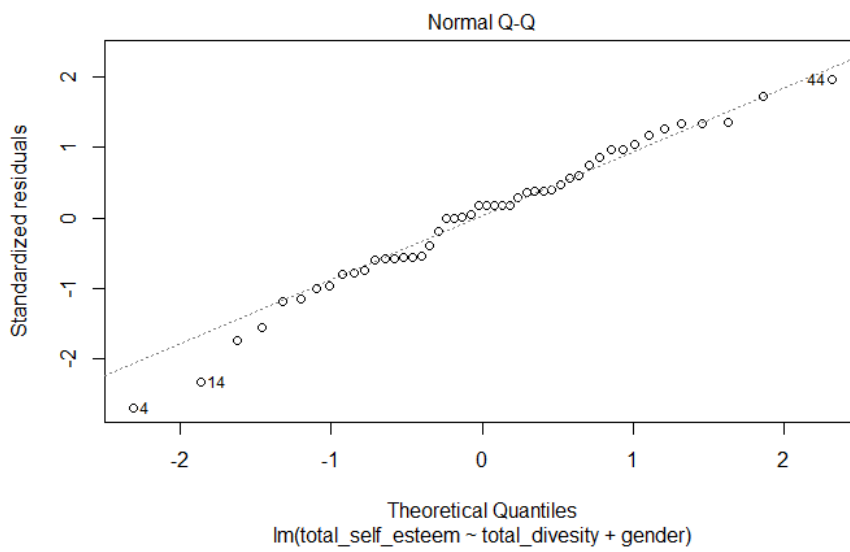

Normal Q-Q

lm(total_self_esteem ~ total_divesity + gender)

Figure 4

Assessing the homogeneity of variance of the residuals in the self-esteem and social network diversity regression model
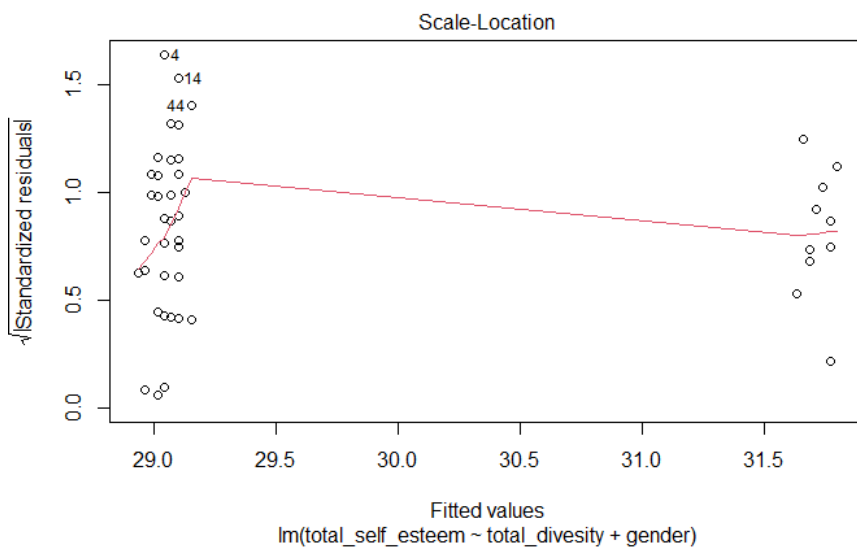
Figure 5

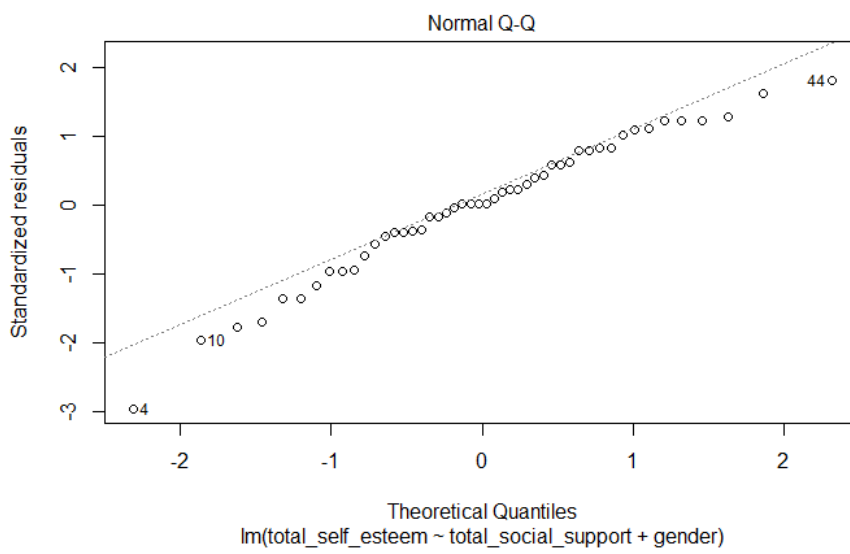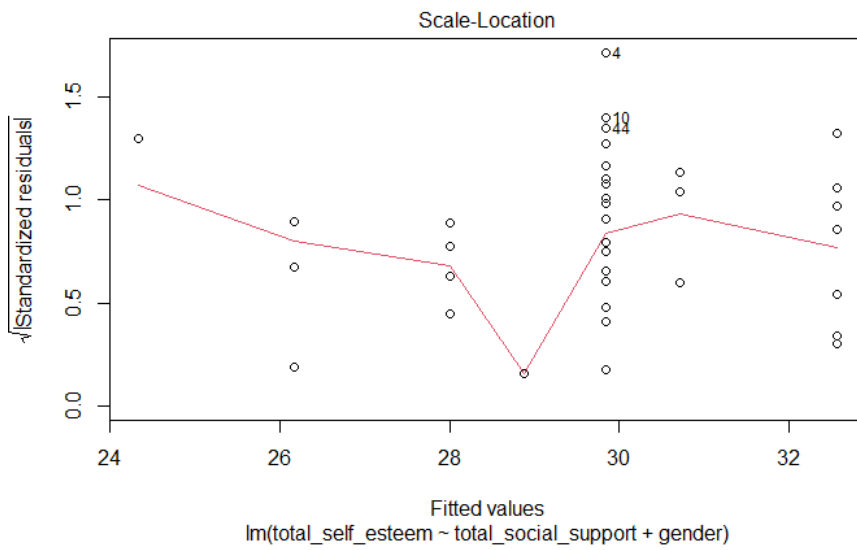*Examining whether the residuals in the self-esteem and social support regression model are normally distributed*

Normal Q-Q

lm(total_self_esteem ~ total_social_support + gender)

Figure 6

Assessing the homogeneity of variance of the residuals in the self-esteem and social support

regression model

Figure 7

Examining the linear relationship between the adolescent self-esteem and their social network diversity
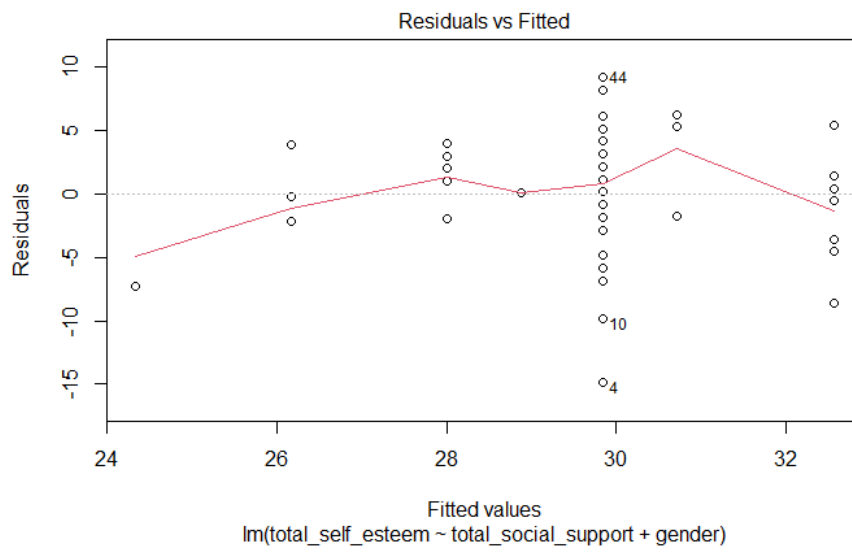
Figure 8

Examining the linear relationship between adolescent's self-esteem and the social support they receive from their close family members and friends.
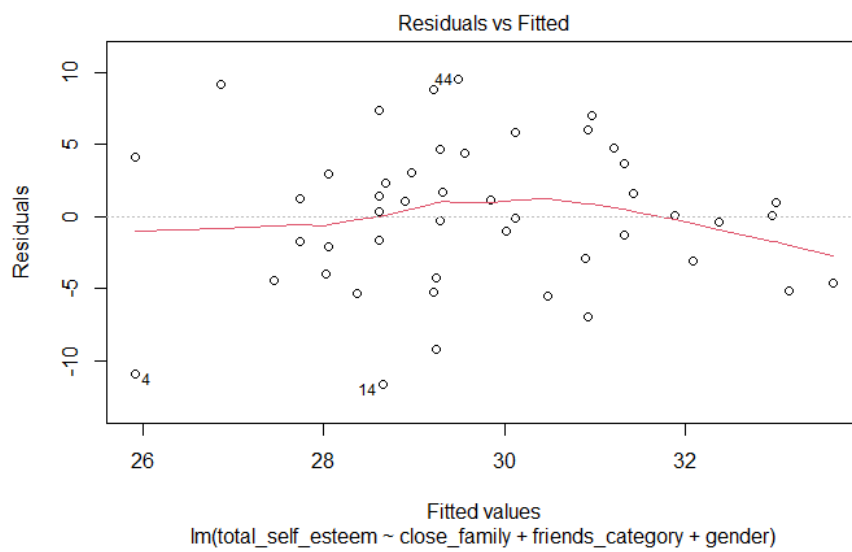

Residuals vs Fitted

lm(total_self_esteem ~ close_family + friends_category + gender)

Figure 9

Examining whether the residuals in the self-esteem and social support from close family and friends category regression model are normally distributed
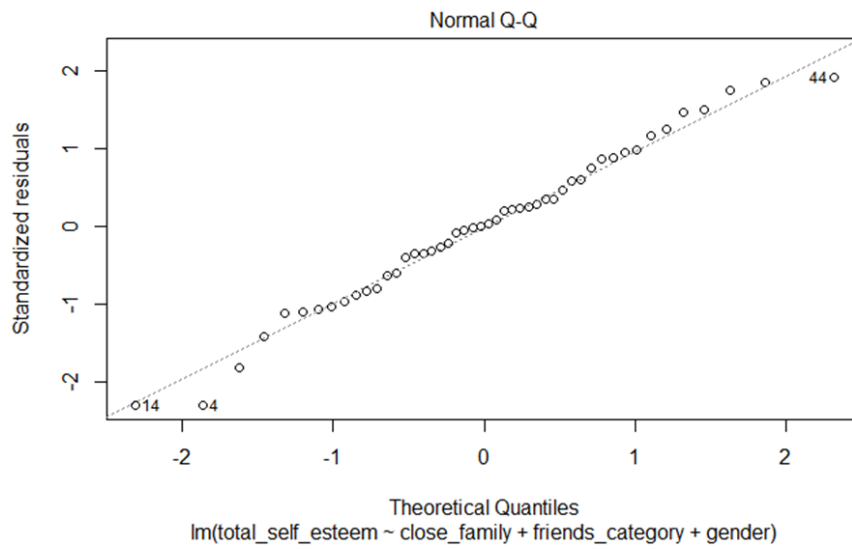

Normal Q-Q

lm(total_self_esteem ~ close_family + friends_category + gender)

Figure 10

Assessing the homogeneity of variance of the residuals in the self-esteem and social support from close family and friends category regression model