



Articles

Function of Attachment Hierarchies in Young Adults Experiencing the Transition From University

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Abstract

An important cornerstone of Bowlby's attachment theory (1969/1997) is the proposal that moving away from parents and toward peers is an indication of healthy development. In this study, we explored the benefit of the shift, not the shift itself, in a sample of emerging adults experiencing a stressful life event (i.e., the transition from university). Although the shift from parents to peers is an important cornerstone of Bowlby's theory, this study is one of the first to test the differential effects of parent and peer networks on adjustment. In this longitudinal study, 73 participants completed surveys to assess attachment, social networks, and distress one month before completing their undergraduate degree and 6 months later. We found that participants experiencing the transition from university, who chose a peer as the first person in their network, tended to report stable scores over time whereas participants who chose a family member reported more variable scores. Interestingly, the direction of change was not different for the groups, just the magnitude of change. Furthermore, the difference in adjustment was not found when we compared the groups using the percent hierarchy method highlighting that there is a benefit of exploring primary attachment relationships when examining the influence of networks on adjustment.

Keywords: attachment, depression, family relationships, peer relationships, self-esteem

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Function of Social Networks

The concept of hierarchies is a cornerstone of Bowlby's theory (1969/1997) of attachment. Although most attachment research in infancy and childhood has focused on Bowlby and Ainsworth's observation that the primary caregiver fulfills the most salient and influential attachment relationship (Ainsworth, 1989; Bowlby, 1969/1997), attachment research in young adulthood has, more recently, begun to explore the development of attachment hierarchies over adolescence and emerging adulthood (e.g., Hazan & Zeifman, 1994; Rosenthal & Kobak, 2010; Rowe & Carnelley, 2005; Trinke & Bartholomew, 1997). Conclusions from these studies confirm that, similar to childhood, attachment networks in adulthood are comprised of individuals who are perceived as fulfilling one's attachment needs (i.e., comfort and security) ordered from the most to least accessible attachment figures. Furthermore, Bowlby (1969/1997) proposed that changing one's attachment network from parents to peers was an indication of healthy adult development. Several researchers have explored networks, however, with one exception (Mayselless, 2004), the research examining adult attachment networks has

focused on describing the qualities of attachment networks and has yet to address whether the shift from parents to peers is an indication of healthy development. This study assessed adjustment during the transition from university and tested the influence of peer versus family networks on adjustment.

Bowlby's theory was originally based on his observations of parent-infant relationships, and he proposed that attachments are initially formed in infancy and that infants typically have one primary attachment figure (i.e., mother). He was clear, however, from the beginning that he viewed the attachment process as a lifespan issue influencing relationships "from the cradle to the grave" (Bowlby, 1969/1997, p. 208). Healthy adult development over the life-span included development of multiple attachments, shift from parent to peer, and the organization of relationships into a hierarchy.

Hazan and Zeifman (1994) were the first researchers to examine the shift from parents to peers and, subsequently, several researchers have examined the shift in samples with a wide range of ages and ethnicities (e.g., Friedlmeier & Granqvist, 2006; Mayseless, 2004; Nickerson & Nagle, 2005). Each have reported results that support Hazan and Zeifman's original findings – when asked to report the top person in their attachment hierarchy, individuals begin to shift their attachment functions (i.e., proximity seeking, separation protest, safe haven, and secure base) from parent to peers in early adolescence and by late adolescence/early adulthood, individuals in romantic relationships were likely to report that their attachment functions were fulfilled by their romantic partner. When allowing participants to list multiple attachment figures in their network, several researchers have extended the previous findings of Hazan and Zeifman (1994) and found that in diverse samples of participants (single, dating, pre-parental, child rearing, single parents, or empty nesters), romantic partners tend to be listed at or near the top of hierarchies and used to fill all attachment needs, while family members, in particular mothers, continue to be used for fulfillment of secure base needs, and friends were used predominately for safe haven and proximity seeking functions (e.g., Doherty & Feeney, 2004; Rowe & Carnelley 2005; Trinke & Bartholomew, 1997). Together these findings suggest that although parents may move down in the hierarchy, they are not jettisoned from the network, but their use in fulfillment of attachment functions for some becomes secondary to the primary fulfillment of those needs by one's peer. Although, there is considerable research on the organization of attachment hierarchies, to date, Mayseless (2004) has been the only researcher to examine the differential effects of parent versus peer networks on adjustment. In a sample of new army recruits, Mayseless found that the more Israeli adolescent males avoided their parents, the higher the contact with their peers and this increased contact was associated with better adjustment but only for proximity seeking functions. The current study sought to extend the results of Mayseless and examined the influence of parent and peer networks on young adult's adjustment to a more common life transition.

Overview and Hypothesis

This study tested the effect of reporting a parent or a peer network in a sample of young adults experiencing the transition from university. Although previous research has explored the process of making the shift from parent to peer, we choose to focus on individuals who had already made the shift to a peer or had maintained their primary family network. To date, only one other study has explored the function of networks on adjustment (Mayseless, 2004), and the current study will be the first to explore the function of networks during a life transition. Bowlby (1969/1997) suggested that moving away from parents and toward peers for fulfillment of attachment needs was an indication of healthy development. If Bowlby's proposal is correct, one would expect

that network membership (i.e., family versus peer networks) would moderate the association between adjustment scores over time. Our outcome variables depression, anxiety, and self-esteem were chosen because considerable research has supported that these variables are important indicators of adjustment during transitions (Feeney, Alexander, Noller, & Hohaus, 2003; Scharfe, 2007; Simpson, Rholes, Campbell, Tran, & Wilson, 2003) including transitions for emerging adults (Besser & Zeigler-Hill, 2014; Li, Albert, & Dwelle, 2014; Pritchard, Wilson, & Yamnitz, 2007; Scharfe & Cole, 2006). Our hypothesis were that there would be a difference between the association between T1 and T2 adjustment scores for individuals with a parent or peer network. To test this hypothesis, we assessed social networks at T1 and the adjustment of the participants over time (T1 and T2) using a moderator analysis (see Cohen & Cohen, 1983).

Method

Participants

As reported in Scharfe and Cole (2006), participants were 109 undergraduate seniors with a mean age of 21.89 ($SD = 1.22$; median age 22) from two liberal arts post-secondary institutions: one in Ontario, Canada ($n = 53$) and one in Western New York State ($n = 56$). Sixty-two percent of the participants were female, 94% were Caucasian, and 57% were in an exclusive romantic relationship. Complete T1 and T2 data was obtained from 73 participants (21 males, 52 females). There were no significant differences between students at different schools (d 's ranging from 0.04 to 0.20) and no differences on T1 variables between participants who returned and those who did not return T2 questionnaires (d 's ranging from 0.02 to 0.30) on any of the measured variables (see Scharfe & Cole, 2006). Effect sizes for both analyses indicated that differences between the groups were quite small.

Procedure

Participants completed two sets of questionnaires. T1 questionnaires were completed in the research lab during the spring semester approximately one month before graduation and T2 questionnaires were mailed to participants and completed approximately seven months later (i.e., six months after graduation from their postsecondary institution). Participants were paid a modest amount for their participation at T1 (\$10 at the Canadian campus and \$5 at the American campus). At T2 students were given one chance to win one of two \$100 prizes at the Canadian campus and \$10 at the American campus.

Questionnaires

Demographics. At T1, students were asked to complete a demographics sheet on which they reported demographics such as gender, age, and relationship status.

Social Networks Questionnaire (SNQ). The SNQ was used to assess social networks and was completed at T1 for each sample (Trinke & Bartholomew, 1997). Participants were asked to list up to 10 individuals who they felt were significant in their lives regardless if that relationship was positive, negative, or mixed. For each individual listed, participants were asked to provide the individual's gender, frequency of contact, type of contact (e.g., email, telephone) and type of support provided (e.g., listened to me). Participants were asked to rate the quality of interactions (i.e., 1 "mostly positive" to 7 "mostly negative") and support with each individual (i.e., 1 "not very

supportive” to 7 “very supportive”). Next, participants were asked to name the top two people in their network that they felt were most supportive out of all the significant others listed and asked to report their agreement on seven questions measuring constructs such as feelings of companionship, whether they can be counted on when needed, and the closeness of the relationship, for these two individuals on a 5-point scale. Participants reported high endorsement on their top two people in their network (averages ranged from 4.45 to 4.88 for the first person and from 4.29 to 4.67 for the second person) and, therefore, we concluded that the relationships were important for the participant. The means for the person ranked highest on the hierarchy were consistently higher than the second person and significantly higher on two scales specifically assessing attachment bonds: I can count on the person and I would be unhappy if separated from this person.

Two methods were used to organize the social networks data based on methods utilized by attachment researchers (cf. Doherty & Feeney, 2004; Hazan & Zeifman, 1994; Pitman & Scharfe, 2010; Trinke & Bartholomew, 1997). First, we focused on the first person in the hierarchy. If the individual chose a parent or family member as their most supportive network member, the first person hierarchy was classified as a family network. If the individual chosen was a romantic partner, friend, or roommate, the first person hierarchy was classified as a peer network. However, this method may provide limitations to the results as the number one person (e.g., a family member) may not be consistent with the majority of the relationships listed (e.g., 1 family member listed at the top followed by 9 peers). The second method was a percentage method where the total number of individuals listed on the SNQ was divided into the number of family members and peers listed. The family and peer totals were then divided by the total number of significant others listed to create a percentage. In the event of a 50/50 combination, the person selected as the top person using the first method was used to break the tie. The tie breaker method was used for 14 participants and when compared to individuals who did not have ties, no significant differences were found on any of the variables.

Anxiety and Depression Symptoms. We used the 23 items from the anxiety (11 items, e.g., feeling so restless you can't sit still, trembling) and depression (12 items, e.g., feeling low in energy or slowed down, feeling blue) scales from the SCL-90 (Derogatis & Cleary, 1977) to assess the degree of feelings, symptoms, and complaints related to anxiety and depression at T1 and T2. Participants were presented with a list of symptoms and asked to rate each symptom on a 5-point scale ranging from 0 “not bothered” by the symptom over the past year to 4 the symptom is an “extreme bother” over the past year. Reliability was high for both samples at both times for anxiety and depression (alphas ranging from .83 to .92).

The Rosenberg Self-Esteem Scale (RSE). The RSE was used to assess the participants' overall sense of self worth and value (Rosenberg, 1965). The RSE contains 10 items—5 positive (e.g., I am able to do things as well as most other people) and 5 negative (e.g., At times I think I am no good at all) statements—regarding one's sense of self worth. Participants are asked to rate each item on a 4-point scale ranging from 1 “strongly agree” to 4 “strongly disagree”. Higher scores indicate higher feelings of self worth and value. Reliability was high for both samples at both times (alphas were .90 and .94).

The Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994). This attachment questionnaire consists of four short paragraphs describing four attachment patterns (i.e., secure, fearful, preoccupied, and dismissing). Respondents were asked to read each description of the four prototypes and rate the degree to which each description corresponded to their relationships with close friends and romantic partners (peer version), relationship with their mother, and relationship with their father on a 7-point

scale for each of the four prototypes (i.e., participant receive a score for secure, fearful, preoccupied, and dismissing for each relationship). Scores on the secure scales were consistently higher (ranging from 4.54 to 5.62) than the three insecure scales (fearful 1.87 to 3.04; preoccupied 2.07 to 2.85; dismissing 2.33 to 3.03), thereby demonstrating that overall the sample reported to be predominantly secure.

Results

Demographic data confirmed that the participants had experienced a significant life transition (78% had moved to a new city, 44% had a new job, 47% began graduate studies). Interestingly, only 26% of participants changed their relationship status (8% newly single and 18% in a new relationship). There were no differences between these demographic data and the choice of networks (family or peer – first person or percentage) supporting that the transition characteristics were not associated with social networks (moved to a new city, first person, $\chi^2(1) = 3.10, p > .05$; percentage, $\chi^2(1) = 0.00, p > .05$; new job or graduate school, first person, $\chi^2(2) = 1.39, p > .05$; percentage, $\chi^2(2) = 1.84, p > .05$; change of relationship: first person, $\chi^2(3) = 5.00, p > .05$; percentage, $\chi^2(3) = 5.08, p > .05$). Furthermore, participants who reported that they were in the same relationship at both times, reported slightly longer relationships than those who ended their T1 relationship (27 versus 10.25 months, $t(36) = 1.56, p > .05$) and they were not more likely to list their partner as first or second on their social network, $\chi^2(1) = 1.56, p > .05$).

Family Versus Peer Social Network Hierarchies

Using the first person method, 49% of participants reported that a family member was highest in the hierarchy (approximately 80% listed their mother) and 51% reported a peer (26% friend, 25% romantic partner). We also asked participants to report the second person in their network: 41% reported a family member and 59% reported a peer (51% friend, 8% romantic partner). For the top two in the hierarchy, 25% reported two family members, 34% reported two peers (19% both friends and 15% friend and a romantic partner), and 41% reported a family member and a peer (23% friend and 18% romantic partner). Using the percentage hierarchy method, participants were more likely to report predominantly peer networks: 32% family, 68% peer. It is important to note that although participants in romantic relationships ($n = 42$) listed their partners in their network, only 43% reported their partner as the top person and 14% reported their partner as the second person. Gender was not associated with which group participants were categorized into for first person ($\chi^2 = 0.72, p > .05$) or percentage hierarchy method ($\chi^2 = 0.81, p > .05$).

To determine if participants maintained these relationships over the transition from university, a subset ($n = 40$) were asked to report on their top two relationships at T2 and we found that participants continued to report a relationship with the first and second person listed at T1 and all were listed on their T2 network. Participants were also asked to complete the seven questions measuring constructs such as feelings of companionship and whether they can be counted on when needed for the two individuals listed as first and second person at T1. Participants continued to highly endorse the seven questions for each relationship (averages ranged from 4.60 to 4.88 for the first person and 4.35 to 4.73 for the second person) and, therefore, we concluded that the relationships continued to be important throughout the transition.

Next, we tested whether there were differences in attachment for individuals who reported a predominantly family or peer network. Consistent with previous research, individuals who reported the first person in their

network was a family member reported significantly lower fearful scores with mother (1.0 versus 2.42, $t(37) = 2.93$, $p < .01$), lower preoccupied scores with mother (1.27 versus 2.58, $t(37) = 2.58$, $p < .05$), and lower dismissing scores with father (1.56 versus 3.20, $t(38) = 3.24$, $p < .01$) compared to individuals who reported the first person in their network was a peer. Effect sizes for each of these differences ranged from 0.41 to 0.48 suggesting a medium effect. There were similar findings with the percentage method. Individuals who reported a predominantly family network reported lower preoccupied scores with mother (1.38 versus 2.42, $t(37) = 1.90$, $p < .10$), lower preoccupied scores with father (1.46 versus 2.56, $t(38) = 2.29$, $p < .05$), and lower dismissing scores with father (1.54 versus 3.04, $t(38) = 2.73$, $p < .01$) compared to individuals who reported the first person in their network was a peer. Effect sizes for each of these differences ranged from 0.33 to 0.45 suggesting a small to medium effect. There were no differences in first person or percentage hierarchy family and peer networks with respect to reported attachment with peers. In summary, these results suggest that individuals who reported a predominantly family network were secure in their relationships with their father and mother while individuals who reported a predominately peer network tended to report higher insecurity in their relationships with their mother and father.

Effect of Family Versus Peer Social Networks on Adjustment

To test the influence of family versus peer networks (cf. Bowlby, 1969/1997; Hazan & Zeifman, 1994), we tested whether network status acted as a moderator when predicting adjustment. We analyzed the data using three hierarchical regression analyses (Cohen & Cohen, 1983) using T2 scores as the dependent variable (i.e., one for anxiety, one for depression, and one for self-esteem). The means and standard deviations for T1 and T2 variables are presented in Table 1. There were no differences between the groups on T1 and T2 variables (i.e., means of individuals in the family and peer groups were similar) for the depression and self-esteem scores over time; there were, however, significant decreases in anxiety scores from T1 to T2 for individuals in both family and peer groups. All continuous variables were centered before analysis using the procedure set in Aiken and West (1991). Status groups were entered on the first step of the regression (see detailed explanation below), T1 scores were entered on the second step, followed by the interactions on the third step. Note that step one and step two could be switched or entered in one step. We decided on this method as we believe that it is important to test the effects of the network group on T2 scores before the powerful effects of the corresponding T1 scores are considered. This decision would allow for the most powerful test of whether network groups had an effect on T2 scores. Of course, the interaction terms are identical regardless of the order of step one and two. Interaction effects are statistically independent of main effects. As Cohen and Cohen (1983) clarify a significant interaction demonstrates that T1-T2 correlation coefficients between the groups are significantly different indicating that network membership influenced level of adjustment over time. T1-T2 correlation coefficients are presented in Table 1.

Table 1

Unstandardized Means, Standard Deviations, and T1-T2 Correlation Coefficients

Network and time	Anxiety	Depression	Self esteem
Family Network			
T1	1.66 _a (0.60)	1.26 _a (0.62)	5.83 _a (0.84)
T2	0.98 _b (0.57)	1.26 _a (0.58)	5.84 _a (0.94)
T1-T2 correlation	.26	.38	.29
Peer Network			
T1	1.64 _a (0.65)	1.47 _a (0.81)	5.71 _a (1.04)
T2	1.17 _b (0.71)	1.55 _a (0.81)	5.56 _a (0.97)
T1-T2 correlation	.70	.73	.80

Note. Presented are means for T1 and T2, standard deviations are in brackets. Means in columns with a different subscript are significantly different from each other at $p < .001$.

First Person Network Method Regressions

To test the hypothesis that network status would be associated with adjustment, we divided our sample into two groups: participants who chose a family member as their first person ($n = 36$) and participants who chose a peer as their first person ($n = 37$). There were two differences on SNQ scales with these two groups: Participants were more likely to agree that peers had common interests, $t(71) = 3.58$, $p < .001$, and that they spent more time with peers, $t(71) = 3.49$, $p < .001$, compared to reports with first-person family members. There were no differences with the other SNQ variables, in particular, reports of feelings of closeness and support, separation distress, and proximity seeking did not differ between the two groups. We followed the steps to test the significance of the hierarchy on adjustment as outlined in Aiken and West (1991). See Table 2 for ΔR^2 and F -values for each step of the regressions predicting T2 anxiety (first column), depression (second column) and self-esteem (third column). In the first step, we entered a dummy code for hierarchy group (i.e., comparing family and peer groups); this step compares the mean T2 distress ratings of the two groups and is equivalent to a test of the difference between the two groups (see Aiken & West, 1991). We found no significant associations for Step 1 thereby indicating that first person choice alone did not predict T2 scores. In the second step, we entered T1 ratings to test for the differences among the groups independent of difference in T1 scores between the groups. As expected, for each of the T1 ratings, there was a significant main effect for corresponding T1 scores when predicting T2 scores (see Table 2, First-person method, Step 2). Finally, in the third step, we entered the T1 score by group interaction terms thereby testing the slope. A significant interaction provides support for the interpretation that the T1-T2 coefficients between the groups are significantly different. These findings are discussed in more detail below. See Table 2 (First-person method, Step 3) for ΔR^2 and F -values.

Table 2

Choice of Family or Peer Networks as Moderators of Anxiety, Depression, and Self Esteem

Regression steps	T2 anxiety		T2 depression		T2 self esteem	
	ΔR^2	<i>F</i>	ΔR^2	<i>F</i>	ΔR^2	<i>F</i>
Top person						
1. Hierarchy groups	0.02	1.51	0.04	3.19 ⁺	0.02	1.58
2. Corresponding T1 variable	0.26	24.98 ^{***}	0.36	41.48 ^{***}	0.33	34.89 ^{***}
3. Interactions	0.06	6.42 [*]	0.03	3.99 [*]	0.04	4.45 [*]
% Network						
1. Hierarchy groups	0.01	0.98	0.00	0.11	0.01	0.71
2. Corresponding T1 variable	0.25	23.34 ^{***}	0.39	44.19 ^{***}	0.33	34.56 ^{***}
3. Interactions	0.01	1.40	0.00	0.16	0.03	3.72 ⁺

Note. $n = 73$. ΔR^2 and *F* values correspond to results from each of the steps in the hierarchical regression. Values in the ΔR^2 column can be summed to obtain the total R^2 for the equation, β 's can be found in the text, and all regressions were significant at the final step.

⁺ $p < .10$. ^{*} $p < .05$. ^{***} $p < .001$.

We found a significant T1 score by group interaction for anxiety, $\beta = .49$, $t(69) = 2.53$, $p < .05$, depression, $\beta = .39$, $t(69) = 2.00$, $p < .05$, and self-esteem, $\beta = 0.43$, $t(69) = 2.11$, $p < .05$. As described in Preacher, Curran, and Bauer (2006), we plotted the slopes to interpret this effect. See Figure 1. T1 scores for anxiety, depression, and self esteem were positively associated with the corresponding T2 scores for participants who chose a peer as the first person on their network but not for those participants who chose a family member, thereby suggesting strong stability of scores over time for individuals who chose a peer as their first person (See also Table 1 for T1-T2 correlations). Of course, these data do not indicate the direction of change. As reported above, T1 and T2 means between the two groups for both self esteem and depression were not significantly different from each other, suggesting that level of self esteem and depression did not change over time within the groups, however, the anxiety scores significantly decreased over time for both groups. Consideration of the means and the correlations indicates that there was a difference in the pattern of change with participants who chose a family member as the first person in their network and participants who chose a peer. To further explore these findings, we compared the T2-T1 difference scores and found that there were differences in the variances for self esteem and anxiety. Specifically, the variances for participants in the family group were significantly larger; These findings are consistent with the stability correlations. The participants were then divided into two groups. The first group included participants who reported scores over time which differed by 1 point or less and the second group included participants who reported scores over time which differed by more than 1 point (difference scores ranged from -3.4 to 3.1 for self esteem and -1.89 to 1.5 for anxiety). Consistent with the findings above, participants in the peer group were significantly less likely to change their self-esteem scores (only 8% changed), $\chi^2(1) = 2.84$, $p < .10$, by more than 1 point compared to the family group (22% changed by more than 1 point). Participants in the peer group were also less likely to report a change in anxiety scores (14% changed; $\chi^2(1) = 7.27$, $p < .01$) by more than 1 point compared to the family group (42% changed by more than 1 point). There were no differences between the groups with respect to the direction of change, just the magnitude of change. Furthermore, no other study variables were associated with the magnitude of change.

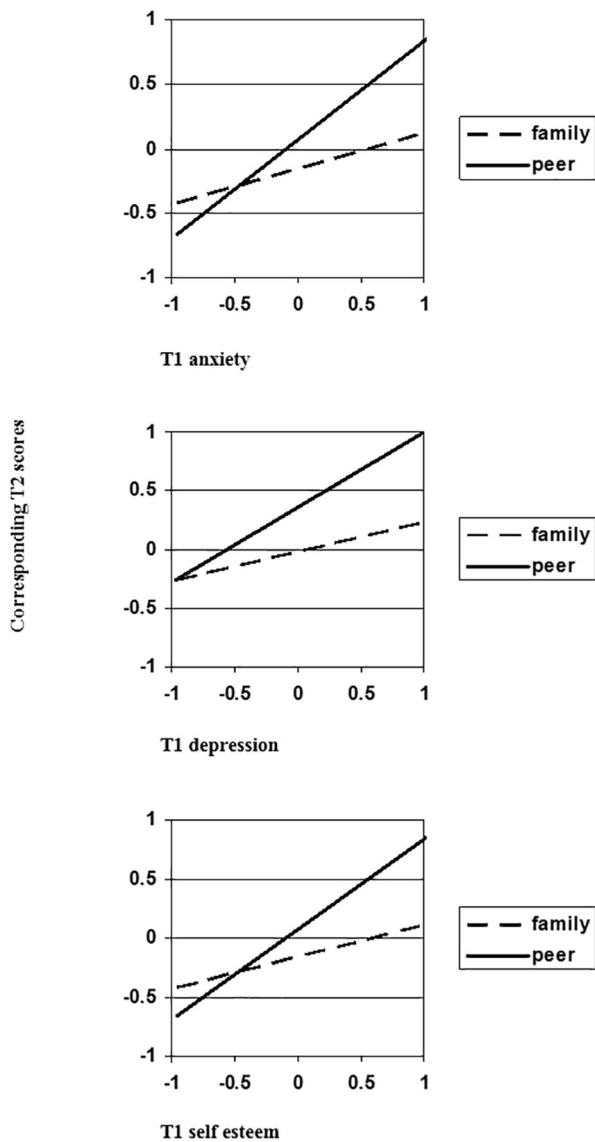


Figure 1. Association of corresponding T1-T2 anxiety, depression and self esteem scores for participants who chose a family member or a peer as their first person in their network.

Percent Network Method Regressions

To further explore the differences, the sample was divided into two groups: individuals who listed a higher percentage of family members ($n = 23$) and individuals who listed a higher percentage of peers ($n = 50$). Consistent with the first person method, the percent network method had no significant associations for Step 1; thereby indicating that percent network alone did not predict distress at T2. As expected, there was a significant main effect for corresponding T1 scores when predicting T2 scores (see Table 2, % Network, Step 2), however, T2 scores were not significantly associated with the interactions (see Table 2, % Network, Step 3)

Discussion

Previous studies exploring attachment networks have focused mainly on descriptive information about the networks and this study is one of the first to test the differential effects of parent and peer networks on adjustment. We found that predominant network membership (i.e., family versus peer networks) did moderate the association between adjustment scores over time. Specifically, participants who chose a peer as the first person in their network tended to report stable scores over time whereas participants who chose a family member as the first person in their network tended to report more variable scores. The direction of change was not different for the groups, just the magnitude of change—individuals with a family network reported more change.

Although much of the work exploring social networks and attachment have focused on the first person in the network, recently researchers have called for an examination of the percentage of family and peers in the network. Interestingly, the difference in adjustment with individuals with family and peer networks was not found when we compared the groups using the percent hierarchy method highlighting the need to test the difference between the first person and percent hierarchy methods. Our findings may suggest that there is some benefit to exploring the primary or most accessible relationship when examining the influence of networks. This result is consistent with what would be expected according to attachment theory. Bowlby and others have proposed that the person highest in the network is expected to be available to meet all needs, especially affective and psychological needs (e.g., Bowlby, 1969/1997; Takahashi, 2005; Trinke & Bartholomew, 1997). Our findings suggest that the first person in the hierarchy holds an important position when support is needed.

Although, this study does not examine the shift from parent to peer, results provide some support that individuals with insecure parent-child attachment relationships are more likely to make the shift to peers. Alternatively, it could be that individuals who have made the shift experience attachment difficulties in their parental relationships. These findings are consistent with others: both Nickerson and Nagle (2005) and Mayseless (2004) found that individuals who reported insecure parental attachments were more likely to approach their peers for fulfillment of their attachment needs. The results of both studies seem to suggest that individuals who are insecure with their families are making a premature shift to their peers, and the results of the current study suggest that after an individual has made the shift, it may influence their ability to positively adjust to a normative life transition. Clearly, comparison of the findings suggests that researchers exploring the function of networks must pay attention to the identity of the primary attachment figure and give consideration to the social context of stressful experiences (i.e., mandatory military service versus university transitions). The call to consider social context when exploring function of networks is not new and this study provides additional evidence of the benefit of this line of research (see Lewis & Takahashi, 2005).

Strengths and Limitations

There were several strengths in this study. First, we have expanded the understanding of attachment hierarchies beyond purely descriptive information and have begun to explore the function of networks. Second, our findings suggest that the adjustment to transitions may be influenced by one's current primary attachment figure, as first suggested by Bowlby, and not the percentage of family or peers in the network. It is important to note that participants who chose a family member as the most accessible figure were overwhelmingly likely to list their mother as the top family member (approximately 80%). This finding is consistent with Trinke and

Bartholomew (1997) and more research is needed to explore the importance of the maternal relationship for emerging adults. For example, it may be important to explore the effects of the quality of the young adult-mother relationship on adjustment. Furthermore, it would be important to explore the effect of the young adult-mother relationship on coping within other life transition samples. For example, the benefit of maternal support (versus romantic partner support) during the transition to parenthood may provide some hints as to who is likely to be at risk for adjustment difficulties (e.g., Bost, Cox, Burchinal, & Payne, 2002). Finally, we have provided evidence that although romantic partners are listed on networks they are not necessarily listed at the top of networks and caution researchers not to expect such. We did not find evidence that romantic partners were more influential than other peers but, this could be due the fact that small groups (i.e., participants with partners or peers) were compared; future research could explore this association with a larger sample. More importantly, we found that participants who remained in the same relationship over time reported longer relationship length at T1 than participants who ended their relationship but these participants in stable long-term relationships were not more likely to list their partner at the top of their social network. We encourage researchers to expand the study of how and when partners make their way to the top of the attachment hierarchy as it is clear that more work is needed to understand this process.

In addition to the many strengths of this study, there are also several limitations. First, the study was primarily focused on a very specific transition in emergent adulthood and the results of this study cannot be generalized to other samples undergoing other life transitions (e.g., parenthood, retirement). We also explored adjustment over 6 months and would caution researchers from interpreting our findings too broadly. Clearly, adjustment over longer periods of time, in a diverse group of different transitions will help to elucidate the differences between parent and peer support. Furthermore, this is one of the first studies to assess adjustment over a specific transition in young adulthood. Although the findings indicated that the pattern of change in adjustment scores differed between participants with family or peer first person networks, it is important to note that ½ of the participants listed a family member as their most important network member. Further work is needed to determine whether peers become more important over time – thus increasing the power to test for expected benefits of the peer dominated hierarchy – or if participants continue to report both family or peer dominated hierarchies over their lifespan depending on their relationship status. Second, the majority of research on attachment networks has used self-report methods and often, as in the case with our data, self-reports from one respondent. We suggest that future work attempt to explore these associations using multiple informants such as family and friends in studies exploring work or school transitions and both partners in studies examining the transition to parenthood. Furthermore, we suggest that future work be situated in particular contexts where the differences in the use of each network member in the hierarchy can be explored. For example, young adults might approach their peers for relationship advice; however they may approach members of their family of origin for academic or financial advice. As suggested above, future work may wish to consider the social context of the stressor. Lastly, a longitudinal examination of change of networks would allow researchers to determine if the shift from parents to peers is a permanent shift as suggested by Bowlby or, as suggested above, a temporary shift depending on the nature of current stressors. We would further suggest that researchers include measures of satisfaction with the students' transition after graduation – we can only speculate from the depression findings that a good proportion of the graduates were not happy with some aspect of their life 6 months after graduation. Further research is needed to determine if attachment networks and supports are associated with adjustment during the transition to work or post-graduate education.

Implications for Theory and Future Research

These findings suggest the importance of assessing the membership of social networks during emerging adulthood, in particular the level of satisfaction and support provided by peer and family relationships for individuals transitioning out of the university/college environment. The findings are consistent with a few recent studies exploring the importance of family (Hiester, Nordstrom, & Swenson, 2009; Melendez & Melendez, 2010) and peer relationships (Swenson, Nordstrom, & Hiester, 2008) on adjustment during the transition to university. Our findings extend the effects to the transition from university; however, the advice to educational institutions on how to help their students cope with these transitions is quite similar and highlights the importance of relationships. Interestingly, our findings suggest that, in this sample of young adults, the first person in the attachment hierarchy holds an important position when support is needed. Attachment theory developed from Bowlby and Ainsworth's observations that the primary caregiver fulfilled the most salient and influential attachment relationship for infants (Ainsworth, 1989; Bowlby, 1969/1997) and these findings suggest that the primary attachment figure continues to play this role in young adulthood.

The findings also extend the research examining attachment hierarchies, first proposed by Bowlby and later studied by social psychologists such as Hazan and Zeifman (1994), Trinke and Bartholomew (1997) and Doherty and Feeney (2004). Consistent with Bowlby's views of attachment hierarchies in young adulthood, the young adults in this sample reported multiple attachments, including attachments to both their parent(s) and peer(s), as well as the organization of relationships into a hierarchy. The results of this and previous research also challenge Bowlby's view of hierarchies – contrary to Bowlby's proposal, young adults continue to use parents as attachment figures and for many this is a benefit to their psychological health – although researchers have been slow to accept this contradictory evidence. Clearly more work is needed; however, it may be that the trials of emerging adulthood delay the shift from parents to peers as emerging adults may need their parents to help navigate their social world. Further work is needed to understand the shift from parents to peers, in particular, who changes from parents to peers (e.g., are there variables that influence who shifts early?) and whether we can determine the source of variability for young adults with family or peer networks. We challenge researchers to go beyond questionnaires and test these hypothesis in lab-based studies, longitudinal work, or research with multiple informants.

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Competing Interests

The authors have declared that no competing interests exist.

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