Can Closeness Established Experimentally Impact Friendship Development and Homesickness? *

Christopher Russo, Robin Valeri
St. Bonaventure University, St. Bonaventure, NY, USA

Using A. Aron, E. N. Aron, Bator, Melinat, and Vallone's (1997) manipulation of interpersonal closeness, the present research examined the impact of experimentally induced closeness (high vs. low) between two unacquainted college classmates ($n = 32$) on feelings of closeness and homesickness both immediately following the manipulation and approximately one month later. Participants in the high (vs. low) closeness condition reported feeling significantly closer to their partner immediately following the manipulation. However, among high closeness participants, feelings of closeness declined significantly over the month so that, at the one month follow-up, the high and low closeness groups did not differ from one another. The two groups did not differ in homesickness initially or at the one month follow-up. Homesickness declined significantly over the month.

Keywords: interpersonal closeness, friendship, homesickness, college

The present research examines whether closeness established experimentally can serve as the basis for friendship between two relatively unacquainted full time college students, at least one of whom is starting their first year of college, and help to minimize feelings of homesickness.

According to the US Department of Education, National Center for Education Statistics (2014), approximately 80% of first time, full time students who enrolled in a bachelor's degree program at a four-year college in fall 2012 returned to college in 2013. As suggested by these statistics, while many students are able to successfully transition to college, approximately 20% have difficulty doing so. The National Center for Higher Education Management Systems (2010) reports that the drop-out rate for first year students is higher than that in any other year of college. There are myriad reasons students fail to complete their first year or fail to return to college for a second year. Students who leave college may do so because they are having difficulty transitioning socially to college or they may be experiencing academic difficulty, personal problems, or financial troubles (Budny & Paul, 2003).

The transition to college often entails leaving behind or separating from familiar and loved people, places, and routines. The resulting emotional stress and anxiety caused by this separation, termed homesickness, can result (Archer, Ireland, Amos, Broad, & Currid, 1998; Brewin, Furnham, & Howes, 1989; Thurber & Walton, 2012). Homesickness is experienced by many people including new military recruits, children or adolescents attending sleep away camp, and individuals who are relocated due to employment (Eurelings-Bontekoe, Brouwers, & Verschuur, 2000; Eurelings-Bontekoe, Vingerhoets, & Fontijn, 1994; Thurber, 1999). Among

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Christopher Russo, BA, Department of Psychology, St. Bonaventure University.
Robin Valeri, Ph.D., Department of Psychology, St. Bonaventure University.

college students, homesickness has been shown to negatively impact academic performance (Fisher, Murray, & Frazer, 1985; Fisher & Hood, 1987). Establishing friendships at college can help ease the transition to this new environment and make it more likely a student will stay in college (Hirsch, 1980). Research by Paul and colleagues (Paul & Brier, 2001; Paul & Kelleher, 1998; Paul, Poole, & Jakubowyc, 1998; Paul & White, 1990) suggests that the establishment of new friendships is not only highly important to new students but provides them with both the emotional and social support to deal with the stress and anxiety of this transition and is critical to their identity, sense of self, and feelings of belongingness. Pittman and Richmond (2008), in a longitudinal study of first year college students, examined the relationship between changes in friendship quality to self-perceptions and both internalizing (anxiety, depression, somatic complaints, withdrawal from others) and externalizing (aggression, intrusiveness, rule breaking) problem behaviors. Their results reveal that positive changes in friendship quality over the course of the first semester, while not related to self-perceptions, were related to both decreased internalizing and decreased externalizing problem behaviors during that time. Taken together this research suggests that developing friendships at college may facilitate this transition.

Previous research by Aron and colleagues (Aron et al., 1997; A. Aron, E. N. Aron, & Smollan, 1992) suggests that feelings of closeness can be experimentally induced in a research situation. It should be noted that the purpose of Aron and colleagues (Aron et al., 1997; 1992) research was to determine whether feelings of temporary closeness could be experimentally induced. These researchers were not attempting to create closeness that would serve as the basis for an ongoing relationship.

Aron et al.'s (1997; 1992) procedure for generating interpersonal closeness through self-disclosure and relationship building tasks (SD/RB task) is quite complex. For specific details of this procedure please see the Appendix provided in Aron et al. (1997). Of relevance to the current research is that the experimental procedures, which take 45 minutes, are set up in three steps, in which student pairs are interacting with their partners. At the end of these three steps, the two individuals making up the pair separate and each partner completes the IOS (the Inclusion in Other Scale) as a measure of interpersonal closeness. In the High SD/RB condition, at each of the three steps, pairs of participants engage in self-disclosure or other intimacy associated behaviors. As participants progress within each step as well as move from Step 1, to Step 2, to Step 3, the amount of self disclosure and intimacy gradually increases. In the low SD/RB condition, pairs of participants also progress through three steps. However, the pairs of participants engage in small talk with the amount of self-disclosure and intimacy remaining minimal throughout. The results of Aron et al. (1997) suggest that immediately following these procedures, individuals in the high SD/RB condition report significantly greater feelings of closeness to their partners than do participants in the low SD/RB condition.

The purpose of the present research is to examine whether, with the help of proximity, experimentally induced closeness can serve as the basis for a long term friendship and to reduce homesickness. Previous research suggests a positive association between physical proximity and friendship development (Byrne, 1961; Festinger, Schacter, & Back, 1950; Priest & Sawyer, 1967; Schutte & Light, 1978). The results of this research suggest that individuals are more likely to develop friendships with someone who is more, versus less, physically proximate to them because it is easier and less effortful to talk with someone nearby. Physical proximity also allows greater opportunity for contact between two individuals and for familiarity to develop. Provided that the initial contact is not extremely negative (Larson & Bell, 1988; Zajonc, 1968), familiarity tends to increase liking (Bornstein, 1989; Moreland & Beach, 1992; Zajonc, 1968). Because we wanted to maximize the opportunity for friendships to develop, pairs were composed of two people who were enrolled in

the same class. In the present research, two relatively unacquainted students enrolled in the same class, and at least one of whom was in their first year of college, were paired together. During the third week of the semester, student pairs completed either the high SD/RB task or the low SD/RB task. To examine whether this task served as the basis for friendship development and to alleviate homesickness, immediately following this procedure and then approximately one month later, students completed the IOS scale as a measure of closeness and a measure of homesickness (Archer, Ireland, Amos, Broad, & Currid, 1988). It was hypothesized that both immediately following the SD/RB task and one month later, participants in the high SD/RB task would report feeling significantly closer to their partners than those in the low SD/RB task. It was also hypothesized that at the one month follow-up, participants in the high SD/RB task would report significantly less homesickness than those in the low SD/RB task.

Method

Participants

Thirty two undergraduates (24 females of whom 15 were freshmen, 4 were sophomores, and 5 were juniors and 8 males, of whom 6 were freshmen, 1 was a sophomore, and 1 was a junior) volunteered to participate in a study to examine the impact of self disclosure (high SD/RB vs. low SD/RB) on measures of closeness and homesickness.

Procedure

During the first week of the semester, students were recruited from classes with enrollments of 30 or fewer. Similar to the procedures of Aron et al. (1997), at the time of recruitment, potential participants were informed that the researchers were studying friendship development and that participation would require the participant to meet and talk with a classmate with whom they were relatively unacquainted. Students who volunteered were given a one page sign-up sheet, asked for their contact information, and asked to respond to the directions "Please list the names of the classmates with whom you are already acquainted. Please circle the names of those students you consider to be your friends". Based on information obtained during recruitment, participants were paired with a classmate with whom they were unacquainted.

Note that in Aron et al.'s research (1997), the number of females in the classes from which participants were recruited was greater than the number of males. For this reason those researchers created either male-female pairs or female-female pairs. The results of Aron et al. (1997) suggest that there were no significant or near significant main effects for type of pairing (male-female vs. female-female) on closeness ratings nor was there a significant or near significant interaction between SD/RB condition (High vs. Low) and type of pairing (Aron et al., 1997). Given the number of male and female participants in the present study, we followed the pairing procedures of Aron and colleagues and created student pairs composed of either a male and a female or two females. Also, because the number of first year college students was greater than the number of students returning to college, some first year students were paired with returning students while other first year students were paired together.

Pairs of students were then randomly assigned to either the high SD/RB or low SD/RB self-disclosure task and data was collected during the third week of the semester. Upon arrival to the study, the procedures were explained and consent was obtained. Participants were informed that they would engage in a SD/RB task with their partner for approximately 45 minutes. The instructions and materials used were the same as those used by

Aron et al. (1997). At the end of the discussion period, partners were separated and asked to complete the IOS scale and Archer et al.'s (1998) measure of homesickness.

Approximately 1 month later participants were contacted and asked to complete these measures a second time. Five participants (3 women in their first year and 2 in their third year) did not complete the follow-up measures.

At the end of both research sessions, participants were thanked for their participation. At the end of the second research session participants were also debriefed.

Dependent Measures

Closeness. Closeness was measured using Aron et al.'s IOS scale. The IOS Scale is composed of seven pairs of circles labeled Self and Other. The pairs of circles vary in the extent to which they overlap, ranging from 1—"Not at all overlapping", to 7—"Almost completely overlapping". Participants were asked to indicate which pair of circles best described their relationship with their partner.

Homesickness. Archer et al.'s (1998) Homesickness scale was used to measure homesickness and is composed of 33 statements. For each statement participants are asked to indicate how much they agreed with each statement, where 1 indicated strongly disagree and 5 indicated strongly agree. Homesickness was calculated by reverse scoring the appropriate items and then calculating a sum.

Results

To compare the effects of high and low self disclosure on measures of closeness and homesickness, data was collected on each of these dimensions both immediately following the manipulation and approximately one month later.

Analyses for First, Second, and Third Year Students

Immediately following the experimental manipulation of closeness, participants in the high SD/RB condition reported significantly higher levels of closeness ($M = 5.19$, $SD = 1.64$) than those in the low SD/RB condition ($M = 3.38$, $SD = 1.26$); $t(30) = 3.50$, $p = 0.001$, $d = 1.24$. Consistent with predictions the two groups did not differ in ratings of homesickness (High: $M = 69.88$, $SD = 16.46$, Low: $M = 68.88$, $SD = 14.63$), $t(30) = 0.18$, $p = ns$.

To analyze the data at the one month follow-up, a repeated measures ANOVA with SD/RB condition (high vs. low) as the between subjects variable and Time (immediate vs. 1 month) as the within subject variable was calculated for each dependent variable. These analyses, with IOS score as the dependent variable, revealed a significant effect for time $F(1, 25) = 21.26$, $p < 0.000$, $\eta = 0.460$, such that Closeness ratings decreased from immediately following the manipulation ($M = 4.15$, $SD = 1.68$) to the one month follow-up ($M = 2.59$, $SD = 1.42$). There was also a significant interaction $F(1, 25) = 8.75$, $p = 0.007$, $\eta = 0.259$. As stated previously, immediately following the interaction, high SD/RB participants reported significantly higher feelings of closeness than those in the low SD/RB condition. As shown in Table 1, this comparison remains significant even when analyzing the data for only those 27 participants who completed both the immediate and one month follow-up IOS scale $t(25) = 2.87$, $p = 0.008$, $d = 1.00$. At the one month follow-up, the scores of the high SD/RB participants did not differ from those of the low SD/RB participants $t(25) = 0.73$, $p = ns$. Over the month, participants in the high SD/RB condition demonstrated a significant decline in closeness from the immediate measure to the one month follow-up $F(1, 12) = 20.89$, $p = 0.001$, $d = 1.64$. While IOS scores for

those in the low SD/RB condition did not decrease significantly from immediately following the manipulation to the one month follow-up $F(1, 12) = 2.02, p = ns$.

Table 1

Closeness Ratings as Measured by IOS Scores Immediately Following SD/RB Manipulation and One Month Later

Time	Condition	1st-3rd Yr students		1st Yr students only	
		<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>
Immediate	High SD/RB	13	5.00 ^{ab} (1.73)	9	5.00 ^{de} (1.94)
	Low SD/RB	14	3.36 ^a (1.22)	9	3.11 ^d (1.17)
	Total	27	4.15 ^c (1.68)	18	4.06 ^f (1.83)
One month	High SD/RB	13	2.39 ^b (1.45)	9	2.44 ^e (1.59)
	Low SD/RB	14	2.79 (1.42)	9	2.33 (1.22)
	Total	27	2.59 ^c (1.42)	18	2.39 ^f (1.38)

Note. SD/RB = self disclosure/relationship building. Means that share a superscript differ significantly from each other at the $p < 0.05$ level.

With regard to homesickness scores, over the course of the month, there was a significant decrease in homesickness from immediately following the manipulation ($M = 67.52, SD = 12.52$) to the one month follow-up ($M = 62.63, SD = 12.87$), $F(1, 25) = 5.85, p = 0.023, \eta = 0.19$. Contrary to predictions the interaction between SD/RB condition and homesickness was not significant $F(1, 25) = 0.78, p = ns$. Nor were there any other significant effects for homesickness.

Analyses for First Year Students Only

Because students who are returning to the same college after successfully completing one or more years of education at that school have already established friendships, they may have felt less of a need to establish closeness than first year students. Additionally, because being away from home and the campus itself has become familiar to returning students, they may have been less impacted by homesickness. For these reason analyses were conducted examining the responses of only the first year students.

Immediately following the experimental manipulation of closeness, Freshmen in the high SD/RB condition reported significantly higher levels of closeness ($M = 5.09, SD = 1.76$) than those in the low SD/RB condition ($M = 3.00, SD = 1.15$), $t(19) = 3.18, p = 0.005, d = 1.40$. Consistent with predictions the two groups did not differ in ratings of homesickness (High: $M = 67.09, SD = 13.40$, Low: $M = 66.90, SD = 14.18$), $t(19) = 0.03, p = ns$.

Using only the data from the first year college students who completed both the immediate and one month follow-up measures, a repeated measures ANOVA with SD/RB condition (high vs. low) as the between subjects variable and Time (immediate vs. one month) as the within subject variable was calculate for each of the dependent variables.

Results for these analyses with the dependent variable IOS score revealed a significant effect for time, $F(1, 16) = 12.54, p = 0.003, \eta = 0.439$. The interaction approached significance $F(1, 16) = 3.57, p = 0.077, \eta = 0.182$. Immediately following the interaction, high SD/RB participants reported significantly higher feelings of closeness than those in the low SD/RB condition $t(16) = 2.51, p = 0.023, d = 1.18$. At the one month follow-up the IOS scores of the high SD/RB participants did not differ from those of the low SD/RB participants $t(16) = 0.17, p = ns$. Over the month, participants in the high SD/RB condition demonstrated a significant decline in

closeness from the immediate measure to the one month follow-up, $F(1, 8) = 10.63, p = 0.012, d = 1.44$. While IOS scores for those in the low SD/RB condition did not significantly decrease from immediately following the manipulation to the one month follow-up $F(1, 8) = 2.27, p = ns$.

With regard to homesickness scores, over the course of the month, there was a significant decrease in homesickness from immediately following the manipulation ($M = 67.39, SD = 12.72$) to the one month follow-up ($M = 60.50, SD = 11.60$); $F(1, 16) = 5.93, p = 0.027, \eta = 0.27$. Contrary to predictions the interaction between SD/RB condition and homesickness was not significant $F(1, 16) = 0.36, p = ns$. There were no other significant effects for homesickness.

Discussion

Consistent with previous research, Aron et al.'s (1992; 1997) self-disclosure paradigm was an effective means for establishing closeness immediately following the manipulation. However, these feelings of closeness did not facilitate the establishment of a friendship between partners and feelings of closeness did not persist over the course of one month. As noted in the introduction, people in the present study were paired with a classmate because this would bring partners into proximity on a regular basis and provide the opportunity for a friendship to develop. While class does provide some opportunity for regular interaction between partners, both before and after class, perhaps more frequent and/or less formal interactions were necessary for friendships to form. Rather than selecting classmates, it may have been better to pair participants with a floormate from their dorm. Although the potential for interactions between the partners would not have been as predictable as those of a classroom, they may have been more frequent and less formal. Future researchers exploring the impact of high self disclosure and relationship building on friendship development should try pairing participants whose living arrangements (floormates or suitemates) are proximate.

Additionally, we attempted to pair freshmen with returning students, assuming that students returning to the college, because of their general knowledge of college and their specific knowledge of this particular campus, would be better suited to help their first year college classmates adjust. From the first year student's perspective, interacting with a student who has successfully completed a year of college offers the opportunity to obtain information from someone who knows the ropes. Research suggests that in some instances, such as a pre-surgical hospital situation, people prefer to be with others who have successfully endured a similar experience (Kulik & Mahler, 1989).

However, students new to college may have felt more comfortable exploring the campus and sharing their concerns with someone in a similar situation. The results of other studies suggest that individuals, when anxious, prefer to be with and affiliate more with others who are in similar circumstances (Kulik, Moore, & Mahler, 1993; Morris et al., 1976; Schachter, 1959). Therefore, it may have been better to exclude returning students from the sample and pair first year college students together. Unfortunately, our sample size does not permit analyses of only freshmen-freshmen pairs.

As noted, in the introduction, not all students who go to college are successful in this endeavor. The highest rate of drop out occurs in the first year when students are making the transition from high school to college. While universities have developed a variety of programs to help facilitate this transition more work is still needed. Establishing friendships with college classmates often helps ease this transition and finding ways to maximize the potential for friendships to develop during college orientations, in dorms, and in first year seminars would be beneficial.

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