

INTERPERSONAL CLOSENESS, SELF-DISCLOSURE, AND ATTACHMENT STYLES OF UNIVERSITY STUDENTS IN THE PHILIPPINES

Louise S. Villanueva

ABSTRACT

This paper examined the relationship of interpersonal closeness, self-disclosure, and attachment styles among undergraduate students in a state university in the Philippines. A sample of ten randomly selected heterosexual dyads of men and women who were newly acquainted to each other were tasked to do Aron et al.'s (1997) closeness-generating procedure for forty-five minutes. Results showed that after the activity, the perceived interpersonal closeness measured using Aron et al.'s (1992) Inclusion of Other in the Self scale and Berscheid's et al.'s (1989) Subjective Closeness Index yielded a composite closeness mean of 4.32 (Scale 1 = not at all close to 7 = extremely close). The study also validated previous research findings pertaining to self-disclosure as a skill needed to develop relationships. This was indicated in the inverse relationship between the desire for closeness and the degree of self-disclosure reciprocity. The study also found that self-disclosure could lead to further self-disclosure especially if there is a match in the degree of self-disclosure reciprocity between the dyad. This was evident in the direct correlation between depth and degree of self-disclosure reciprocity in the last two sets of the closeness-generating procedure. In terms of attachment styles of participants, these were found to have no correlation with interpersonal closeness and self-disclosure. Implications and future directions for researching the key variables in the context of higher education were discussed.

Keywords: interpersonal closeness; attachment styles; self-disclosure; social psychology; higher education

Introduction

In Hofstede's (1980) cultural dimensions theory, the Philippines is described as a collectivist society that is characterised by tight-knit connections between one's self and the others. This also means that for Filipinos, interpersonal relationships are important as they see the need to fit in and engage with others in varying contexts. This entails the need to have a constant and interchangeable awareness of other people's needs, desires, and goals ("Collectivism: Effects on Relationships," 2011).

As collectivists, Filipinos put premium on close family ties; they also value their interactions with peers or "*barkada*" (de Torres, 2002). In Philippine universities, it was found that the quality of student's interpersonal relationship and closeness with peers could influence them to commit academic misconducts (Resurreccion, 2012). It is also a significant factor that could determine the levels of depressive symptoms (Lee, Sta. Maria, Estanislao, & Rodriguez, 2013). The data from these Filipino research studies resonated with those conducted outside the Philippines. In the United States, university students' interpersonal relationship with peers serves as one of the determinants of success and retention (Furrer, Skinner & Pitzer, 2014). Close relationships with old and new college friends are both beneficial and contributory to one's adjustment outcomes (Swenson, Nordstrom & Hiester, 2008). Despite these, Makara, Fishman, Karabenick, and Teasley (2015) argued that while there is abundance of literature on the importance of university students' interpersonal relationships, the nature of these relationships are still hardly understood and explored.

The current study aims to contribute to the area of research on university students' interactions and relationships with peers by dissecting and understanding these empirically using the lens of social psychology. Key variables measured in this study included the following: interpersonal closeness, self-disclosure, and attachment styles of newly acquainted dyads in one of the state universities in the Philippines.

This paper is divided into the following sections: (1) the background containing an explanation about the key variables of interpersonal closeness, self-disclosure, and attachment styles and the previous research done in these areas; (2) the research questions that the current study aims to answer; (3) the method including the participants, procedure, and measurements used in gathering and analyzing the data; (4) results of the correlations done with the variables; and (5) discussion and conclusion based on the results.

BACKGROUND

Interpersonal Closeness

One of the prominent areas of study in social psychology is interpersonal closeness. Scholars varied in terms of their definition of the said construct. Berscheid, Snyder, and Omoto (1989) looked at interpersonal closeness as behavior measured in terms of strength, diversity and frequency of interactions. For Aron et al. (1991), interpersonal closeness occurs cognitively whenever one perceives an overlap between himself or herself and another person; it is "including others in the self." This is the definition of interpersonal closeness adopted in the current study.

While Berscheid et al.'s (1989) and Aron et al.'s (1991) definitions served as hallmarks in research studies on interpersonal closeness, these did not stop other scholars from redefining the construct and exploring its dimensions. For Parks and Floyd (1996), interpersonal closeness remains to be ambiguous, and it is often interchanged with intimacy. These scholars also found that among university students, majority defined interpersonal closeness as self-disclosure. For others, it is defined in relation to help and support, shared interests, relational expression, comfort and ease, trust, acceptance, frequent interaction, global affect, understanding, length of relationship, advice and perspective, and respect. Despite its contested definitions and role in varying contexts, interpersonal closeness has been deemed as a key variable that determines the quality and outcome of social and personal relationships among individuals and groups (Levine & McCornack, 1992 as cited in Dibble, Levine, & Park, 2012).

Several scholars have studied interpersonal closeness in universities (Parks & Floyd, 1996; Aron, Melinat, Aron, Vallone, & Bator, 1997; Dibble, Levine, & Park, 2011). Aron et al. (1997) conducted three experimental research studies on interpersonal closeness among university students. Each study had key variables manipulated and tested in relation to interpersonal closeness. In the first study, attachment styles were used as basis for pairing students who would either conduct any of the following tasks: closeness-generating procedure or small-talk condition. These tasks yielded closeness composite means of 4.06 and 3.25 respectively. Meanwhile, new variables were manipulated in the second and third studies. The second study matched participants based on their nondisagreement on certain attitudes and were led to expect mutual liking from their partners. This study yielded a closeness composite mean of 4.02, a figure that was closed to the composite mean of the first study. Accordingly, this showed that nondisagreement and an expectation of liking did not affect the closeness produced by the procedure. For the last study, Aron et al. (1997) used introversion or extroversion as determinant for pairing. The participants were also told explicitly that the procedure should result in a feeling of closeness towards their partners. Among the three studies, this yielded the lowest closeness composite mean of 3.76. However, the said figure was still considered within the range of composite means in the first and second studies. This meant that the closeness produced by the procedure might not be due to the explicit goal of fostering closeness between partners. Aron et al. (1997) concluded that perhaps self-disclosure is enough to create interpersonal closeness.

The association between interpersonal closeness and self-disclosure was further studied by Weidler and Clark (2011). It was found that while closeness and self-disclosure had a significant and direct correlation to relationship satisfaction and commitment, there was no significant relationship between the two constructs. Meanwhile, Sprecher, Treger, Wondra, Hilaire, and Wallpe (2013) reported that the condition of self-disclosure could significantly determine interpersonal closeness. Accordingly, those who took turns in asking and answering questions perceived greater interpersonal closeness than those who were tasked to take the role of listener or discloser in the initial interaction then switched roles in the second interaction. Sprecher (2014) also explored the modality of self-disclosure and found that in the initial interaction between strangers, those who did computer-mediated-interaction (CMC) via text had significantly lower level of interpersonal closeness compared to those who did face-to-face, CMC-audio, and CMC-video.

Self-disclosure

As a construct that cuts across several disciplines, many scholars have studied and provided definitions of self-disclosure. It is often characterized as a process wherein personal information, thoughts, and feelings get communicated to another person (Altman & Taylor, 1973; Derlega & Grzelak, 1979 as cited in Mikulincer & Nachson, 1991; Adler & Procter, 2007 as cited in Durand, 2010). It is considered a basic skill that is essential in building and maintaining relationships (Schouten, Valkenburg & Peter, 2009).

Like interpersonal closeness, self-disclosure is also multifaceted; it is also characterized by several dimensions: intent, amount, valence, honesty, and intimacy (Wheless & Gross, 1977 as cited in Cayanus, Martin, & Goodboy, 2009). Derlega, Winstead, and Greene (1997) also reiterated that within the concept of self-disclosure or the lack thereof are various elements that may or may not influence close relationships. These are the following: privacy regulation (control and ownership of the information being disclosed and received), informativeness (the amount of information being disclosed and received), and effectiveness (goal attained through behavior by the information disclosed and received).

According to Sprecher et al. (2013), past research studies found that self-disclosure also resulted in more self-disclosure. However, there may still be variation in the degree of self-disclosure reciprocity. Despite this, Sprecher et al. (2013) asserted that self-disclosure remains beneficial. The experiment done by these scholars also found that among university students, those who had engaged in self-disclosure via turn-taking reported more positive outcomes such as liking, closeness, perceived similarity and enjoyment than those who had non-reciprocal disclosure. In terms of topics and modalities of communication, Makara et al. (2015) reported that university students disclosed personal issues more to peers and rarely to instructors and staff. These disclosures were also done more during face-to-face interactions and less in CMC.

Aside from Makara et al. (2015), other scholars have also delved into the different modalities available for self-disclosure. Schouten et al. (2009) found that the face-to-face modality generated lower self-disclosure than CMC-text and CMC-video. Accordingly, this could be attributed to the participants' capacity for direct questioning in CMC conditions. These findings were found to be applicable to dyads but not to groups. Knop, Oncu, Penzel, Abele, Bruner, Vorderer, and Wessler (2016) reported that for within-group self-disclosure, there was more amount, depth, and breadth during offline or face-to-face interaction. However, it had less positive valence than in CMC within-group self-disclosure. In the current study, the researcher opted to limit the modality to face-to-face interaction since the aim was to measure the variables in a residential university where classes and interactions are largely offline.

The conduct of the current study was also guided by two key theories on self-disclosure cited in Derlega et al. (1997). These are Altman and Taylor's (1973) social penetration theory and Berg and Clark's (1986) clicking model. The former assumes that social penetration is a behavior that influences relationship development; it may be interpersonal (verbal or non-verbal) or environmental. It also emphasizes on several dimensions of self-disclosure: breadth (the number of topics being disclosed and received), breadth frequency (the number of information being disclosed and received about a certain topic), time (the length of time spent talking about a topic), and depth (the level of intimacy of the information disclosed and received about a topic). Altman and Taylor (1973) predicted that the breadth and depth of intimacy also increase over time as the relationship progresses. This assumption is countered by Berg and Clark's (1986) clicking model that asserts the possibility of rapid development of relationships depending on one's perception of the other. Self-disclosure, its topic breadth and depth, will be high for those people with whom the discloser associates positive outcomes.

Attachment Styles

Self-disclosure as a determinant of interpersonal closeness may also be associated with attachment styles (Mikulincer & Nachson, 1991). Attachment styles evolved from the seminal work of Bowlby (1977, as cited in Bartholomew & Horowitz, 1991) who derived the attachment theory from the observation of the enduring connectedness between mothers and infants (McLeod, 2009). According to Bowlby (1969, as cited in Feeney & Collins, 2003), attachment has four key features: proximity maintenance or the desire to remain physically close to one's attachment figure; separation distress or the anxiety associated whenever one is distanced from the attachment figure; safe haven or the attachment figure's role as a source of comfort and safety; and secure base or the attachment figure's role as an anchor of security as one learns and explores his or her surroundings. Bowlby (1977, as cited in Bartholomew & Horowitz, 1991) also asserted that attachment could determine the well-being of the children and could serve as their guides in establishing and maintaining relationships with other people over time.

Shortly after Bowlby's seminal work, Ainsworth, Blehar, Waters, & Wall (1978, as cited in Bartholomew & Horowitz, 1991) conducted a laboratory experiment to observe the said psychological bond between infants and their mothers. This research led to the attachment styles which were then classified as either secure (those who were confident and trustful of their attachment figures' presence and support), anxious/ambivalent (those who were inconsistent and unpredictable), and avoidant (those who would refrain from making emotional connections). In 1987, Hazan and Shaver applied these attachment styles in conceptualizing romantic relationships. Similarly, Mikulincer & Nachson (1991) also applied this on their work that sought to understand the attachment styles of university students. Accordingly, university students who identified themselves as secure or ambivalent disclosed more than their avoidant counterparts.

Moreover, certain attachment styles were also found to have an association with university students' career decision-making. Agheli, Abedi, Nilforooshan, and Baghban (2013) reported that the ambivalent attachment style was also associated with intuitive and dependent decision making. Meanwhile, the analysis of data on avoidant attachment style yielded an inverse relationship with rational decision-making. Apart from career decision-making, the importance of attachment styles to university students' future professional work particularly in the field of education had also been explored. Prozen and Vitulic (2012) reported that primary education and social pedagogy students had a high level of secure attachment while those who were studying preschool education identified less with the said attachment style and were predominantly fearful or preoccupied.

In terms of attachment styles and its relationship with interpersonal closeness, a recent longitudinal study found that avoidance was associated with lower levels of perceived closeness (Lee & Gillath, 2016). Aron et al.'s (1997) landmark research also studied these two constructs along with self-disclosure. In the first and second parts of the said research, Aron et al. (1997) utilized Hazan and Shaver's (1987) attachment style scale, modified and extended by Bartholomew and Horowitz (1991) for the four-category model of adult attachment. This model included the following attachment style classifications depending on one's model of self and model of others: secure, preoccupied, dismissing-avoidant, and fearful-avoidant.

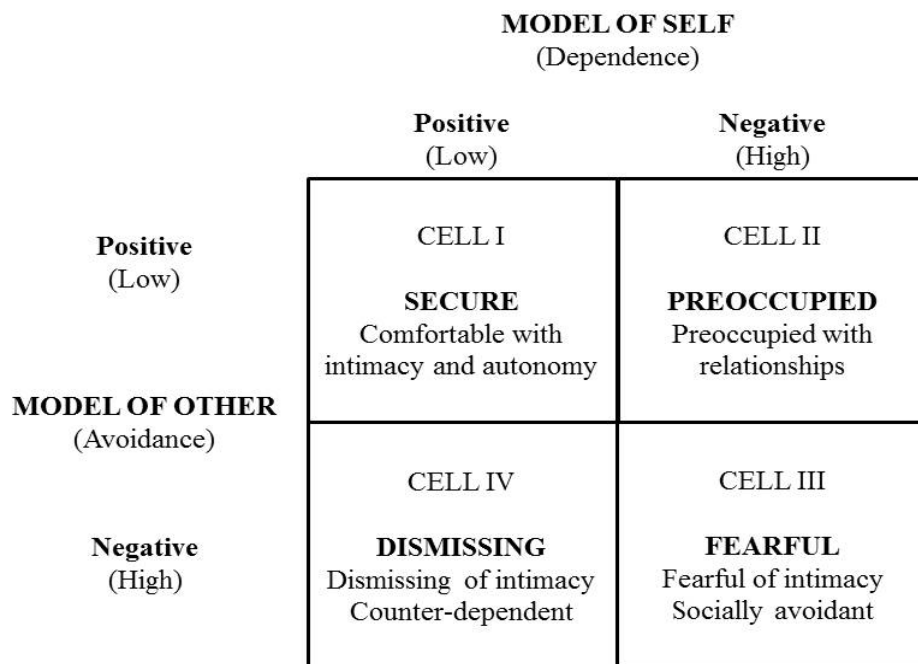


Figure 1. Model of adult attachment by Bartholomew and Horowitz (1991)

The combined result of Aron et al.'s (1997) first and second studies found that university students who identified themselves as dismissing-avoidant disclosed less than students with other attachment styles. Those with preoccupied attachment styles also reported less satisfaction with regard to the level of closeness generated during the procedure. Aron et al. (1997) also found little or no change in the model of the self and a significant positive change in the model of the other. The said landmark study concluded that there was a causal but non-significant relationship between interpersonal closeness and attachment style.

CURRENT STUDY

While Aron et al. (1997) concluded that self-disclosure was enough to create interpersonal closeness, the dimensions of self-disclosure given and taken by the participants were not measured. Aside from replicating the testing of self-disclosure and attachment styles in relation to interpersonal closeness, this study modified Aron et al.'s (1997) landmark research by measuring the depth of disclosure and its reciprocity as guided by Altman and Taylor's (1973) social penetration theory. The measurement was specifically applied to the answers of participants and their level of disclosure in each of the set included in the closeness-generating procedure.

Given all of these, the study was guided by the following research questions:

RQ1: What is the correlational relationship of attachment styles, depth of self-disclosure, and degree of self-disclosure reciprocity to interpersonal closeness of university students?

RQ2: What is the correlational relationship of overall depth of self-disclosure and degree of self-disclosure reciprocity to the depth of self-disclosure and self-disclosure reciprocity in each of the set in Aron et al.'s (1997) closeness-generating procedure?

The researcher deemed these questions as essential in understanding the attitude and behavior of Filipino university students who were found to score high in terms of their willingness and competence to communicate in varying contexts (Del Villar, 2010 as cited in Del Villar, 2012). This characteristic had not been known to translate into self-disclosure in terms of depth and reciprocity. Also, it had not been tested in relation to attachment styles and interpersonal closeness especially with strangers. These were aspects that would be measured empirically in the current study.

METHOD

Participants

Participants were selected randomly from four different classes in one of the biggest state universities in the Philippines. They were sent a letter or contacted via mobile or through their instructors. The researcher did away with the matching done by Aron

et al. (1997) and decided to just ensure that the participants did not know each other. This was done by pairing two individuals of the opposite sex from two different classes. Ten heterosexual dyads participated. Their mean age at the time was 18.25 years.

Procedure

This study was done over the course of two weeks every afternoon at one of the key buildings in the state university. Each dyad was requested to do the experiment during their common free schedule. Once the dyad was present at the experiment venue, the researcher explained and read the process informed consent with emphasis on the permission to have an audio-recording of the activity and the participants' right to bail out of the experiment whenever they felt any discomfort in the process.

After explaining the process informed consent, the researcher administered the pre-experiment questionnaires. Once these questionnaires were filled out, the researcher provided the dyad with an envelope containing the three sets of self-disclosure tasks or 36 questions (see Appendix 1). These were the same questions used by Aron et al. (1997). Each set was given an allotted time of 15 minutes. The researcher would knock on the door to inform the pair that the time was up, and they should move on to the next set.

Once all three sets were done, the researcher administered the post-experiment questionnaires. After this, the researcher debriefed the dyad by reiterating on the purpose of the experiment and reminding them of the parties' obligation and compliance to research ethics.

Measurement

The researcher adopted the pre- and post-experiment questionnaires used by Aron et al (1997). Hazan and Shaver's (1987) attachment style questionnaire, modified by Bartholomew and Horowitz (1991) were administered pre- and post-experiment to measure their ratings of each style using a 7-point scale.

Meanwhile, interpersonal closeness was measured using Aron et al.'s (1992) Inclusion of Other in the Self (IOS) scale and Berscheid et al.'s (1989) Subjective Closeness Index (SCI). In the IOS, the participants were instructed to select which among the seven pairs of overlapping circles best describes their relationship with their partners in the experiment. In the SCI, each participant answered two items with a 7-point scale that measured their relationship with their partners in relation to their relationship with other people and their perception of other people's relationships.

This study modified Aron et al.'s (1997) experiment by incorporating new measures for self-disclosure. Aron et al. (1997) controlled the topic breadth and frequency through the 36 questions in the closeness-generating procedure. However, the topic depth and the degree of self-disclosure reciprocity were not measured in the experiment. This was where the researcher devised a modified measure based on the topic depth presented in Altman and Taylor's (1973) social penetration theory.

The onion metaphor of the social penetration theory showed six layers pertaining to the depth of disclosure—ranging from biographical data to concept of the self. The researcher divided the concept of the self into two: the self in relation to peers and the self in relation to family. Interests were also considered as part of preferences while political convictions were added in the same category as religious convictions. Beliefs and practices were also included in the deeply held fears and fantasies. Table 1 shows the measure for depth of self-disclosure.

Table 1. Measure for depth of self-disclosure

Score	Modified Depth (Adapted from Altman and Taylor's Social Penetration Theory, 1973)
1	Biographical data (physical attributes)
2	Preferences in clothes, food, music, sports
3	Goals and aspirations (maybe done or not, including especially those aspects in relation to academics)
4	Political or religious convictions
5	Deeply held beliefs, practices, fears and fantasies
6	Concept of self in relation to peers
7	Concept of self in relation to family

In order to measure the degree of self-disclosure reciprocity, the assigned score for one's self-disclosure in every question was subtracted from the score of their partners. The difference between the dyad's self-disclosure would then be subtracted from the highest score in the scale which was 7. The absolute value obtained from this subtraction served as the final degree of self-disclosure reciprocity score of the dyad. Table 2 shows how the depth of self-disclosure and the degree of self-disclosure reciprocity were measured by citing an example translated from Filipino. Based on the measure for self-disclosure adapted from Altman and Taylor (1973), the answers of the pair fell into the category of goals and aspirations. Hence, the answers were given a score of 3. In terms of self-disclosure reciprocity, the pair got a score of 7.

Table 2. Example of depth and degree of self-disclosure reciprocity score assignment

Question: "Would you like to be famous? In what way?"	Depth of Self Disclosure Score
Answer:	

Male: "Yes, when I make an important discovery"	3
Female: "Yes, I want to be known as a Nobel Prize awardee"	3
Difference between participant's self-disclosure	0
Self-disclosure reciprocity score of the dyad	7

In cases where participants' answers fell into two or more categories in the depth of self-disclosure scale, the deeper category with the higher score was considered. In terms of statistical analysis, the researcher opted to use the Spearman's Rank-order Correlation. The non-parametric test was selected due to the following considerations: level of measurement of the variables (ordinal), small sample size, and non-normality (Garbin, n.d.).

RESULTS

Correlational Relationship between Composite Closeness Mean and Self-Disclosure

To examine the relationship between interpersonal closeness and self-disclosure, the researcher first correlated the closeness composite mean (the average of IOS Scale and RCI; $\bar{x} = 4.32$; $SD = 0.97$) with the depth of self-disclosure in sets 1 ($\bar{x} = 4.33$; $SD = 0.57$), 2 ($\bar{x} = 5.07$; $SD = 0.58$), and 3 ($\bar{x} = 4.95$; $SD = 0.67$) and overall depth of self-disclosure based on the three sets ($\bar{x} = 4.78$; $SD = 0.43$). The overall depth of self-disclosure was found to have a moderate positive relationship to interpersonal closeness. However, it was deemed as non-significant. The depth of self-disclosure in each set varied in terms of direction, but all had weak correlation with interpersonal closeness. Similar findings were found in the correlation between the degree of self-disclosure reciprocity in sets 1 ($\bar{x} = 5.86$; $SD = 0.61$), 2 ($\bar{x} = 5.87$; $SD = 0.32$), and 3 ($\bar{x} = 5.29$; $SD = 0.84$) and overall reciprocity of self-disclosure based on the three sets ($\bar{x} = 5.67$; $SD = 0.33$).

Table 3. Correlation between self-disclosure and closeness composite mean

	Closeness composite mean
Depth of self-disclosure per set	
Set 1	.059
Set 2	-.110
Set 3	-.092
Overall depth of self-disclosure	.784
Degree of self-disclosure reciprocity per set	
Set 1	-.117
Set 2	-.034
Set 3	-.085
Overall degree of self-disclosure reciprocity	-.273

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Correlational Relationship between Attachment Styles Pre- and Post- Experiment, Closeness Composite Mean, and Self-Disclosure

Table 4 reports the correlations of the average of the ratings given by the participants for each attachment style before and after the experiment with the closeness composite mean, the overall depth of self-disclosure, and the overall degree of self-disclosure reciprocity. These results are presented separately for pre- and post-experiment ratings.

No significant relationship was established between attachment styles and the two other variables. Except for the ratings for secure and fearful attachment styles pre-experiment, the rest of the attachment style ratings had little and negative relationship with the closeness composite mean while the correlation to the overall depth of self-disclosure yielded weak and positive relationships with attachment styles. With regard to overall degree of self-disclosure reciprocity, directions of correlations varied, but all were also found to have weak and non-significant relationships.

Table 4. Correlation between attachment style, closeness composite mean, and self-disclosure

Pre-experiment ratings	attachment style	Closeness composite mean	Overall depth of self-disclosure	Overall degree of self-disclosure reciprocity
	Secure	-.316	.039	-.003

Fearful	-.304	.358	.183
Pre-occupied	-.037	.187	-.063
Dismissive	-.105	.114	.068
Post-experiment attachment style ratings			
Secure	-.189	.028	-.035
Fearful	-.243	.208	.394
Pre-occupied	-.124	.040	-.052
Dismissive	-.032	.151	-.024

Note: *p < .05; **p < .01; ***p < .001.

Correlational Relationship between Interpersonal Closeness Based on the IOS Scale and Self-Disclosure

Table 5 reports the correlation between the actual ($\bar{x} = 3.60$; $SD = 1.42$) and desired ($\bar{x} = 5.30$; $SD = 1.45$) interpersonal closeness and the depth and degree of self-disclosure reciprocity in each set as well as the overall depth and the overall degree of self-disclosure reciprocity. The test found a moderate, negative, and highly significant relationship between overall degree of self-disclosure reciprocity and the desired closeness based on the IOS scale.

Table 5. Correlation of self-disclosure and the actual and desired interpersonal closeness

	Closeness based on the IOS Scale	
	Actual	Desired
Depth of self-disclosure per set		
Set 1	-.087	-.037
Set 2	-.229	-.198
Set 3	-.150	-.175
Overall depth of self-disclosure	-.097	-.244
Degree of self-disclosure reciprocity per set		
Set 1	-.005	-.088
Set 2	-.064	-.349
Set 3	-.239	-.239
Overall degree of self-disclosure reciprocity	-.306	-.527**

Note: *p < .05; **p < .01; ***p < .001.

Correlational Relationship between Self-Disclosure and SCI

Table 6 shows the data correlating the depth and the degree of self-disclosure reciprocity with the SCI which pertains to the participants comparison of their relationship with their partner and their relationship with others ($\bar{x} = 4.30$; $SD = 1.12$) as well as what they know of other people's relationships ($\bar{x} = 4.10$; $SD = 1.21$). The directions varied, but all were found to have weak and non-significant relationships.

Table 6. Correlation between self-disclosure and SCI

	SCI	
	In relation to the closeness of participant's other relationships	In relations to participant's knowledge of closeness of other people's relationships
Depth of self-disclosure		
Set 1	.321	.185
Set 2	.115	.032
Set 3	-.086	-.012
Overall depth of self-disclosure	.071	.051
Degree of self-disclosure reciprocity		
Set 1	-.191	-.199

Set 2	.158	.067
Set 3	.101	.159
Overall degree of self-disclosure reciprocity	.027	-.090

Note: *p < .05; **p < .01; ***p < .001.

Correlational Relationship between Depth of Self-Disclosure per Set and Overall Depth of Self-Disclosure

Table 7 shows the correlation between the depth of self-disclosure in each set and the overall depth of self-disclosure. While there is no significant relationship found in the depth of self-disclosure in each set, all three posed a moderate, positive, and highly significant relationship to the overall depth of self-disclosure.

Table 7. Correlation between depth of self-disclosure per set and overall depth of self-disclosure

	Depth of self-disclosure per set			Overall depth of self-disclosure
	Set 1	Set 2	Set 3	
Depth of self-disclosure per set				
Set 1		.345	-.007	.579**
Set 2			.211	.695**
Set 3				.637**
Overall depth of self-disclosure				

Note: *p < .05; **p < .01; ***p < .001.

Correlational Relationship between Degree of Self-Disclosure Reciprocity per Set and Overall Degree of Self-Disclosure Reciprocity

Table 9 shows the correlation between the degree of self-disclosure reciprocity in each set and the overall degree of self-disclosure reciprocity. The test yielded a moderate, positive, and highly significant correlation between the degree of self-disclosure reciprocity in set 3 and the overall degree of self-disclosure reciprocity. In the same way, there is a moderate, positive, and significant correlation between the degree of self-disclosure reciprocity in set 2 and the overall degree of self-disclosure reciprocity.

Table 9. Correlations of the degree of self-disclosure reciprocity per set and overall degree of self-disclosure reciprocity

	Degree of self-disclosure reciprocity of per set			Overall degree of self-disclosure reciprocity
	Set 1	Set 2	Set 3	
Degree of self-disclosure reciprocity per set				
Set 1		-.217	-.302	.267
Set 2			.266	.470*
Set 3				.657**
Overall degree of self-disclosure reciprocity				

Note: *p < .05; **p < .01; ***p < .001.

Correlational Relationship between Depth of Self-Disclosure and Degree of Self-Disclosure Reciprocity

Correlations were also done to determine the relationship between depth and the degree of self-disclosure reciprocity. The test yielded weak, positive, and significant relationship between the depth of self-disclosure in set 2 and the degree of self-disclosure reciprocity in set 3. Similarly, the same relationship was found between overall depth of self-disclosure and the overall degree of self-disclosure reciprocity. The test also yielded strong, positive, and highly significant relationship between the following variables: the depth and degree of self-disclosure reciprocity in set 3 as well as the depth of self-disclosure in set 3 and the overall degree of self-disclosure reciprocity.

Table 10. Correlations between depth of self-disclosure and degree of self-disclosure reciprocity

	Degree of self-disclosure reciprocity per set	Overall degree of
--	---	-------------------

	Set 1	Set 2	Set 3	self-disclosure reciprocity
Depth of self-disclosure per set				
Set 1	-.071	.385	.249	.219
Set 2	-.049	.168	.466*	.328
Set 3	-.365	.144	.746**	.442
Overall depth of self-disclosure	-.189	.359	.717**	.519*

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

DISCUSSION AND CONCLUSION

Through the correlational analysis of the data gathered from the pre- and post-experiment questionnaires and the self-disclosure made during the conduct of Aron et al.'s (1997) closeness-generating procedure, the researcher managed to study the relationship between interpersonal closeness, self-disclosure, and attachment styles of university students in the Philippines. It also led to the examination of the relationship between the components of self-disclosure particularly the depth and degree of self-disclosure reciprocity.

The findings of the study resonated many of those found by Aron et al. (1997). The closeness-generating procedure introduced to the participants yielded a closeness composite mean of 4.32 (close to the composite mean of 4.06 in the first study of Aron et al, 1997). The closeness generated could also be attributed to the face-to-face modality used in the procedure, similar to the findings of Sprecher (2014) wherein face-to-face along with CMC-audio, and CMC-video modalities yielded more closeness than CMC-text.

In analysing the relationship between interpersonal closeness and self-disclosure, the modification done in this study showed that while there was a relatively high overall depth ($\bar{x} = 5.31$; $SD = 0.43$) and degree of self-disclosure reciprocity ($\bar{x} = 4.78$; $SD = 0.43$) as a product of the intervention, especially since direct questioning was found to have a significant relationship to self-disclosure (Schouten et al, 2009), it was not directly proportional to the closeness composite mean. The lack of significant relationship between self-disclosure and interpersonal closeness supported the findings of Weidler and Clark (2011). Aside from the face-to-face modality, it could also be that the interpersonal closeness was a result of taking turns in asking and answering questions as found by Sprecher et al. (2013) in their study where undergraduate students who did the activity in a turn-taking condition perceived greater interpersonal closeness toward their partner than those who were tasked to either listen or disclose to their partners in the initial interaction then exchanged roles in the second interaction. It could also be that the interpersonal closeness was due to the breadth of self-disclosure required in the closeness-generating procedure and not by the depth and the degree of self-disclosure reciprocity of partners.

The study also validated the assumptions of Altman and Taylor (1973) and other scholars regarding the need for self-disclosure in order to foster and develop relationships. This could be derived from the highly significant, moderate, negative relationship between the desired closeness and the overall degree of self-disclosure reciprocity. This shows that participants desired to know more from their partners who did not match or reciprocate the depth of their disclosure. This could also be explained by Altman and Taylor's (1973) assumption that self-disclosure and relationship development progress over time—a premise which could not be satisfied in an experiment that lasted for 45 minutes. With these findings, Berg and Clark's (1986) clicking model of rapid relationship development was not as evident.

When it came to the relationship of attachment styles to interpersonal closeness and self-disclosure, the study yielded similar results as that of Aron et al. (1997). No significant relationship was found between attachment styles and interpersonal closeness. These contradicted the findings of Mikulincer and Nachson (1991) regarding the possible association between the two constructs. Similarly, no significant relationship was established between attachment styles and self-disclosure depth and degree of reciprocity. This could be attributed to the fact that Aron et al.'s (1997) closeness-generating procedure involved direct questioning which required partners to alternately provide answers to questions regardless of depth and degree of reciprocity. This scenario possibly intervened with participants' attachment styles.

In fulfilling the second objective of the study the researcher delved into analyzing the dimensions of depth and degree self-disclosure reciprocity. In doing this, the study proved the model of increasing intensity of self-disclosure expected in the laboratory-produced questions of Aron et al. (1997) as evident in the significant and highly significant correlations between the overall degree of self-disclosure reciprocity and the degree of self-disclosure reciprocity in sets 2 and 3. Sprecher et al.'s assertion (2013) based on previous research that self-disclosure could lead to more self-disclosure were also shown through the significant and highly significant correlations between the depth of self-disclosure and the degree of self-disclosure reciprocity especially in the more intensified sets of the closeness-generating procedure.

The study and its modification found interesting results and further refined the landmark study of Aron et al. (1997) by dissecting and providing measures of the dimensions of self-disclosure, specifically the depth and degree of reciprocity, by analyzing the dyad's conversation using the ordinal measure based on Altman and Taylor's (1973) social penetration theory instead of relying on self-reported questionnaires. However, this study also had its limitations in terms of its sample size and the application of

statistical tests. These limitations prevented the researcher from establishing causal relationships between the variables. Furthermore, the researcher was also hindered in terms of measuring the changes in attachment styles beyond pre- and post-experiment questionnaires.

Future research may opt to replicate this study with university students in open and distance learning institutions in order to test Aron et al.'s (1997) closeness-generating procedure in computer-mediated communication. It will also be interesting to test the procedure on dyads in established and varying levels of relationships. Other factors such as age, gender, race, socio-economic status and other characteristics may also be tested in relation to the three variables in this study. Further exploration may also be done to find out if the closeness generated in the study can be extended outside the laboratory and applied to individuals and to group interactions.

The constructs of interpersonal closeness, self-disclosure, and attachment styles are important in building and sustaining interpersonal relationships. The study showed that the degree of self-disclosure reciprocity is associated with desire for closeness and self-disclosure could lead to more self-disclosure especially when it came to personal information. These findings indicate that the constructs of interpersonal closeness and self-disclosure should be harnessed in order to foster camaraderie among university students. In the same way, the limits discussed in this paper suggested further examination and understanding of the three constructs in order to harness its usage in mitigating issues and improving university students' retention, engagement, and success.

ACKNOWLEDGMENTS

Dr. Gloria Luz Nelson, Professor of the University of the Philippines Los Baños for the introduction to social psychology and the overall guidance provided to the researcher; Mr. Peter Jerome Del Rosario and Ms. Diane Duran, Lecturers of the University of the Philippines Los Baños for their assistance in the selection of participants; Ms. Mary Aizel Dolom of the University of the Philippines Open University for the initial proofreading of the journal article; Dr. Kim Bartholomew of Simon Fraser University and Dr. Ellen Berscheid of the University of Minnesota for the permission to use their instruments; and Dr. Arthur Aron of Stony Brook University whose generosity and body of work inspired the conduct of this research.

REFERENCES

- Agheli, M., Abedi, M.R., Nilforooshan, P., & Baghban, I. (2013). The study of relationship between attachment styles and career decision-making styles in Universities of Isfahan students. *Interdisciplinary Journal of Contemporary Research in Business*, 5(6), 406-413. Retrieved from <http://journal-archieves36.webs.com/404-413.pdf>
- Altman, I., & Taylor, D.A. (1973). *Social penetration: The development of interpersonal relationship*. New York, NY: Holt, Rinehart & Winston
- Aron, A., Aron, E.N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality and Social Psychology*, 60(2), 241-253. <http://dx.doi.org/10.1037/0022-3514.60.2.241>
- Aron, A., Aron, E.N., & Smollan, D. (1992). Inclusion of Other in the Self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63(4), 596-612. <http://dx.doi.org/10.1037/0022-3514.63.4.596>
- Aron, A., Melinat, E., Aron, E. N., Vallone, R., & Bator, R. (1997). The experimental generation of interpersonal closeness: A procedure and some preliminary findings. *Personality and Social Psychology Bulletin*, 23, 363-377. Retrieved from <http://psp.sagepub.com/content/23/4/363.full.pdf+html>
- Bartholomew, K. & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four category model. *Journal of Personality and Social Psychology*, 61(2), 226-244. <http://dx.doi.org/10.1037/0022-3514.61.2.226>
- Berg, J.H., & Clark, M.S. (1986). Difference in social exchange between intimate and other relationships: Gradually evolving or quickly apparent? In V.J. Derlega & B.A. Winstead (Eds.), *Friendship and social interaction* (101-128). Retrieved from http://clarkrelationshiplab.yale.edu/sites/default/files/files/Differences%20in%20social%20exchange%20between%20intimate%20and%20other%20relationships_%20Gradually%20evolving%20or%20quickly%20apparent.pdf
- Berscheid, E., Snyder, M., & Omoto, A.M. (1989). The Relationship Closeness Inventory: Assessing the closeness of interpersonal relationships. *Journal of Personality and Social Psychology*, 57(5), 792-807. <http://dx.doi.org/10.1037/0022-3514.57.5.792>
- Cayanus, J.L., Martin, M.M., & Goodboy, A.K. (2009). The relation between teacher self-disclosure and student motives to communicate. *Communication Research Reports*, 26(2), 105-113. <http://dx.doi.org/10.1080/08824090902861523>
- Collectivism: Effects on relationships. (2011). In *Encyclopedia of Human Relationships*. Retrieved from http://dornsife.usc.edu/assets/sites/783/docs/sorensen_oyserman_2009.pdf
- De Torres, S. (2002). *Understanding persons of Philippine origin: A primer for rehabilitation service providers*. Retrieved from <http://cirrie.buffalo.edu/culture/monographs/philippines.php>
- Delamater, J.D. & Myers, D.J. (2011). *Social psychology* (7th Ed.). Belmont, CA: Cengage Learning.
- Del Villar, C. (2012). Intercultural sensitivity of Filipinos in multinational corporations in the Philippines. *Human Communication*, 15(2), 59-84. Retrieved from http://www.uab.edu/Communicationstudies/humancommunication/02_01_Del%20Villar.pdf

- Derlega, V.J., Winstead, B.A., & Greene, K. (1997). Self-disclosure and starting a new relationship. In S. Sprecher, A. Wenzel and J. Harvey (Eds.), *Handbook of relationship* (8). Retrieved from <http://wp.comminfo.rutgers.edu/kgreene/wp-content/uploads/sites/51/2014/pdf/Derlega%20et%20al.%20Self-disclosure%20and%20starting%20a%20close%20relationship.PDF>
- Dibble, J. L., Levine, T. R., & Park, H. (2012). The Unidimensional Relationship Closeness Scale (URCS): Reliability and validity evidence for a new measure of relationship closeness. *Psychological Assessment*, 24(3), 565-572. doi:10.1037/a0026265
- Durand, C. (2010). *A comparative study of self-disclosure in face-to-face and email communication between Americans and Chinese*. Retrieved from DigitalCommons@URI
- Feeney, B.C., & Collins, N.L. (2003). Couple relationships. In *International Encyclopedia of Marriage and Family*. Retrieved from <http://www.encyclopedia.com/science-and-technology/computers-and-electrical-engineering/computers-and-computing/attachment>
- Furrer, C. J., Skinner, E. A., Pitzer, J. R. (2014). The influence of teacher and peer relationships on students' classroom engagement and everyday resilience. In D. J. Shernoff & J. Bempechat (Eds.), *National Society for the Study of Education Yearbook: Engaging Youth in Schools: Empirically-based Models to Guide Future Innovations*, 113, 101-123. Retrieved from [https://www.pdx.edu/psy/sites/www.pdx.edu/psy/files/2014-Furrer.Skinner.Pitzer%20\(1\).pdf](https://www.pdx.edu/psy/sites/www.pdx.edu/psy/files/2014-Furrer.Skinner.Pitzer%20(1).pdf)
- Garbin, C. (n.d). *Spearman's Rank-order Correlation: Analysis of the relationship between two quantitative variables*. Retrieved from <http://psych.unl.edu/psycrs/handcomp/hcspear.PDF>
- Griffin, E. (2006). *A first look at human communication* (6th Edition). New York, NY: McGraw Hill
- Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52(3), 511-524. <http://dx.doi.org/10.1037/0022-3514.52.3.511>
- Hofstede, G. (1980). *What about the Philippines?* Retrieved from <https://geert-hofstede.com/philippines.html>
- Knop, K., Oncu, J.S., Penzel, J., Abele, T.S., Bruner, T., Vorderer, P., & Wessler, H. (2016). Offline time is quality time: Comparing within-group self-disclosure in mobile messaging applications and face-to-face interactions. *Computers in Human Behavior*, 55, 1076-1084. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0747563215302193>
- Lee, J., & Gillath, O. (2016). Perceived closeness to multiple social connections and attachment style. *Social Psychological and Personality Science*, 7(7). Retrieved from <http://journals.sagepub.com/doi/full/10.1177/1948550616644963>
- Lee, R.B., Sta. Maria, M., Estanislao, S., & Rodriguez, C. (2013). Factors associated with depressive symptoms among Filipino university students. *PLoS ONE*, 8(11). doi:10.1371/journal.pone.0079825
- Makara, K.A., Fishman, B., Karabenick, S.A., & Teasley, S.D. (2015). Students' interpersonal connections with peers and staff at the start of higher education. Paper presented at the International Conference on Enhancement and Innovation in Higher Education, Glasgow, UK, 9-11 June. Retrieved from <http://www.enhancementthemes.ac.uk/docs/paper/students-interpersonal-connections-to-peers-and-staff-at-the-start-of-higher-education.pdf?sfvrsn=10>
- McLeod, S. (2009). *Attachment Theory*. Retrieved from <http://www.simplypsychology.org/attachment.html>
- Mikulincer, M., & Nachson, O. (1991). Attachment styles and patterns of self-disclosure. *Journal of Personality and Social Psychology* 61(2), 321-331. <http://doi.apa.org/journals/psp/61/2/321.pdf>.
- Parks, M.R., & Floyd, K. (1996). Meanings for closeness and intimacy in friendship. *Journal of Personality and Social Psychology*, 13(1), 85-107. Retrieved from <http://journals.sagepub.com/doi/pdf/10.1177/0265407596131005>
- Prosen, S., & Vitalic, H. S. (2012). Attachment style in university students and its importance for their professional work. *Journal of Education and Future*, (2), 1-14. Retrieved from <https://search.proquest.com/docview/1460847921?accountid=47253>
- Resurreccion, P.F. (2012). The impact of faculty, peers and integrity culture in the academe on academic misconduct of Filipino students: An empirical study based on Social Cognitive Theory. *International Journal of Academic Research in Business and Social Sciences*, 2(12). Retrieved from <http://www.hrmars.com/admin/pics/1342.pdf>
- Schouten, A.P., Valkenburg, P.M., & Peter, J. (2009). An experimental test of processes underlying self-disclosure in computer-mediated communication. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 3(2). Retrieved from <http://cyberpsychology.eu/view.php?cisloclanku=2009111601&article=1>
- Sprecher, S. (2014b). Initial interactions online-text, online-audio, online-video, or face-to-face: Effects of modality on liking, closeness, and other interpersonal outcomes. *Computers In Human Behavior*, 31, 190-197. doi:10.1016/j.chb.2013.10.029
- Sprecher, S., Stanislav, T., Wondra, J., Hilaire, N., & Wallpe, K. (2013). Taking turns: Reciprocal self-disclosure promotes liking in initial interactions. *Journal of Experimental Social Psychology*, 49, 860-866. <http://dx.doi.org/10.1016/j.jesp.2013.03.017>
- Swenson, L.M., Nordstrom, A., & Hiester, M. (2008). The role of peer relationships in adjustment to college [Abstract]. *Journal of College Student Development*, 49(6). Retrieved from <http://muse.jhu.edu/article/253955>
- Weidler, D.J., & Clark, E.M. (2011). A distinct association: Inclusion of other in the self and self-disclosure. *The New School Psychology Bulletin*, 9(1). Retrieved from <http://www.nspb.net/index.php/nspb/article/download/192/120>

APPENDIX

Appendix 1. Closeness-Generating Procedure Questions (Aron et al., 1997)

Set	Question
I	<ol style="list-style-type: none">1. Given the choice of anyone in the world, whom would you want as a dinner guest?2. Would you like to be famous? In what way?3. Before making a telephone call, do you ever rehearse what you are going to say? Why?4. What would constitute a "perfect" day for you?5. When did you last sing to yourself? To someone else?6. If you were able to live to the age of 90 and retain either the mind or body of a 30-year-old for the last 60 years of your life, which would you want?7. Do you have a secret hunch about how you will die?8. Name three things you and your partner appear to have in common.9. For what in your life do you feel most grateful?10. If you could change anything about the way you were raised, what would it be?11. Take four minutes and tell your partner your life story in as much detail as possible.12. If you could wake up tomorrow having gained any one quality or ability, what would it be?
II	<ol style="list-style-type: none">13. If a crystal ball could tell you the truth about yourself, your life, the future or anything else, what would you want to know?14. Is there something that you've dreamed of doing for a long time? Why haven't you done it?15. What is the greatest accomplishment of your life?16. What do you value most in a friendship?17. What is your most treasured memory?18. What is your most terrible memory?19. If you knew that in one year you would die suddenly, would you change anything about the way you are now living? Why?20. What does friendship mean to you?21. What roles do love and affection play in your life?22. Alternate sharing something you consider a positive characteristic of your partner. Share a total of five items.23. How close and warm is your family? Do you feel your childhood was happier than most other people's?24. How do you feel about your relationship with your mother?
III	<ol style="list-style-type: none">25. Make three true "we" statements each. For instance, "We are both in this room feeling ..."26. Complete this sentence: "I wish I had someone with whom I could share ..."27. If you were going to become a close friend with your partner, please share what would be important for him or her to know.28. Tell your partner what you like about them; be very honest this time, saying things that you might not say to someone you've just met.29. Share with your partner an embarrassing moment in your life.30. When did you last cry in front of another person? By yourself?31. Tell your partner something that you like about them already.32. What, if anything, is too serious to be joked about?33. If you were to die this evening with no opportunity to communicate with anyone, what would you most regret not having told someone? Why haven't you told them yet?34. Your house, containing everything you own, catches fire. After saving your loved ones and pets, you have time to safely make a final dash to save any one item. What would it be? Why?35. Of all the people in your family, whose death would you find most disturbing? Why?36. Share a personal problem and ask your partner's advice on how he or she might handle it. Also, ask your partner to reflect back to you how you seem to be feeling about the problem you have chosen.