

**A BETWEEN-SUBJECTS COMPARISON OF SAME-GROUP AND CROSS-  
GROUP FRIENDSHIPS AMONGST COLOURED SOUTH AFRICAN STUDENTS  
AT STELLENBOSCH UNIVERSITY**

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## ABSTRACT

Interpersonal friendships fulfil several important functions in the lives of individuals across their lifespan, and cross-group friendships have been shown to be strongly associated with reduced outgroup prejudice (Pettigrew & Tropp, 2006). The emerging literature comparing same-group and cross-group friendships along interpersonal-level variables amongst majority-status participants in Northern Ireland, England, Serbia, and South Africa has consistently shown that same-gender, same-group friendships are rated as greater in overall quality than corresponding cross-group friendships (Swart et al., 2011). The present study aimed to replicate these findings amongst minority-status coloured South African respondents by (1) undertaking between-group comparisons of the mean-level scores reported for same-group and cross-group friendships along nine interpersonal-level variables, namely friendship length, friendship type, friendship closeness, friendship contact, friendship functions, friendship affection, interpersonal trust, positive reciprocal self-disclosure and negative reciprocal self-disclosure; (2) comparing the structural relationships between these interpersonal-level variables across the two friendship conditions; (3) exploring whether attitudes towards a specific outgroup exemplar (closest same-gender white South African friend) generalise towards more positive attitudes towards white South Africans in general; and (4) exploring the extent to which interactions with a specific cross-group friend were related to access with a wider social-network of outgroup peers and the development of further cross-group friendships. Cross-sectional, electronic survey data were collected amongst 302 coloured South African students studying at Stellenbosch University and included 157 respondents in the same-group condition and 145 respondents in the cross-group condition. Results showed that (1) same-group friendships were characterized by significantly greater intimacy and overall quality than cross-group friendships; (2) there exist several differences in the structural relationships between the interpersonal-level and group-level variables across the two friendship conditions; (3) that positive attitudes towards a specific outgroup exemplar generalised to more positive attitudes towards white South Africans in general; and (4) that a single cross-group friend provides valuable access to a broader network of outgroup peers with whom to form further cross-group friendships. These findings not only replicate

the results found in the emerging literature (Goosen, 2011; Swart et al., 2011), they further its contributions by providing a comparison with minority-status groups.

## OPSOMMING

Interpersoonlike vriendskappe vervul verskeie belangrike funksies in die lewens van individue in hul leeftyd. Kruis-groep vriendskappe dui aan dat dit in groot mate verbind word met verminderde buitengroep veroordeeltheid (Pettigrew & Tropp, 2006). Die opkomende literatuur wat selfde-groep en kruis-groep vriendskappe vergelyk langs interpersoonlike-vlak veranderlikes onder meerderheid-status deelnemers in Noord-Ierland, Engeland, Serwië en Suid-Afrika en het gewys dat selfde-geslag, selfde-groep vriendskappe word gegradeer as groter in kwaliteit as ooreenstemmende kruis-groep vriendskappe (Swart et al., 2011). Die huidige, tussen-groep studie het 'n poging aangewend om hierdie bevindinge te repliseer deur: (1) die gemiddelde-vlak punte vir selfde-groep en kruis-groep vriendskappe met nege interpersoonlike veranderlikes te vergelyk, naamlik die lengte van die vriendskap, vriendskap tipe, vriendskap nabyheid, vriendskaps kontak, vriendskap funksies, vriendskaps gehegtheid, interpersoonlike vertrouwe en positiewe en negatiewe wedersydse self-bekendmaking; (2) die strukturele verhoudings tussen hierdie interpersoonlike-vlak veranderlikes tussen die twee vriendskap-kondisies te vergelyk; (3) om te ondersoek of houdings teenoor 'n spesifieke buitengroep model (naaste, selfde-geslag blanke Suid-Afrikaanse vriend) veralgemeen tot positiewe houdings teenoor blanke Suid-Afrikaners in die algemeen; en (4) te ondersoek tot watter mate wissel werking met 'n spesifieke kruis-groep vriend aan verwant is met toegang na 'n breër netwerk van buitengroep lede om verder kruis-groep vriendskappe te ontwikkel. Deursnee, elektroniese vraelyste data was ingesamel onder 302 kleurling Suid-Afrikaanse studente wat aan die Universiteit van Stellenbosh studeer en 157 proefpersone in die selfde-groep vriendskapskondisie as ook 145 proefpersone in die kruis-groep vriendskapskondisie. Die resultate het aangedui dat (1) selfde-groep vriendskappe word gekenmerk deur noemenswaardige hoër vlakke van die interpersoonlike veranderlikes as kruis-groep vriendskappe; (2) daar bestaan verskeie verskille in die strukturele verhoudings tussen die interpersoonlike-vlak en groep-vlak veranderlikes tussen die twee vriendskapkondisies; (3) dat positiewe houdings teenoor 'n spesifieke buitengroep model word veralgemeen tot meer positiewe houdings teenoor blanke Suid-Afrikaners in die algemeen; en (4) dat 'n enkele kruis-groep vriend waardevol toegang tot 'n breër netwerk van buitengroepe lede verskaf en met wie verder kruis-groep vriendskappe geworm word.

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## **CHAPTER ONE**

### **Introduction**

#### **Brief History of South African Intergroup Relations**

South Africa today comprises of a diverse population able to freely engage in intergroup contact since the fall of the 46-year period of legislated segregation, known as Apartheid. The nature of contemporary South African intergroup relations can be considered as a direct result of the legacy of Apartheid. In order to understand the social dynamics in today's society, it is necessary to take a closer look at South African society under Apartheid.

#### **South African Intergroup Relations During Apartheid**

Apartheid was a period of racial separation between 1948 and 1994, where the white South African minority established legislation defining racial groups and oppressing the rights of non-white South Africans. The white government's ideology behind this segregation was built around the argument that contact between different racial groups was a source of friction and growing tension among South Africans. They argued that tension and conflict amongst South Africans could be reduced by strictly regulating the contact between these various groups (Gibson, 2004).

The formalization of this limited contact by Apartheid laws centred on the Population Registration Act of 1950, which categorized individuals into pre-defined racial groups, determining their rights and privileges in society. Many of these rights and privileges were enshrined in other Apartheid laws. For example, the Group Areas Act of 1950 destroyed communities, as residential areas became racially segregated, with more affluent residential areas reserved for white South Africans. A further consequence of this neighbourhood segregation was that schools became segregated by law. The Prohibition of Mixed Marriages Act of 1946 and the

Immorality Act of 1950 prohibited marriages between white and non-white individuals and criminalized sexual relations between these groups. The Reservation of Separate Amenities Act of 1953 required racial separation on public transport, separate entrances to all public facilities as well as the prohibition of mixed sports teams, restaurants, beaches, hotels and cinemas (Welsh & Spence, 2011).

In spite of these various laws institutionalising limited contact between groups, they failed to achieve their stated objective of preventing intergroup conflict. Instead, the conflict between groups steadily grew. Most notably, the Sharpeville massacre occurred during a protest on March 21 1960 in the township of Sharpeville, Gauteng in response to pass laws which further enforced segregation. Police attempted to disperse the crowd with teargas, but as the crowd hostile police opened fire. Official reports state that 69 people were killed and ten injured (Eades, 1999). The Soweto uprising began as a protest by an estimated 20 000 black high school students on June 16 1976. Students protested in response to the introduction of Afrikaans as the medium of instruction within South African schools. Police opened fire on the crowd and violence between police and students escalated. The official number of deaths is recorded at 176, although many claim this number to be as high as 700 (Ndlovu, 2004).

Numerous sanctions were imposed on South Africa by the international community in protest against Apartheid, culminating in political, sporting and economic isolation. The American Congress passed the Anti-Apartheid Act of 1986, which sparked the withdrawal from South Africa of investment and involvement of over 200 American organisations (Eades, 1999). Sanctions from the United Nations and Britain added to the pressure placed on the ruling government to abandon Apartheid.

The fall of Apartheid in 1990 was preceded by the unbanning of the largest non-white political movement, the African National Congress (ANC). Shortly thereafter, the leader of the ANC, Nelson Mandela (a political prisoner for 27 years), was released from Robben Island. South Africa's first democratic election was held in 1994 with every South African adult, regardless of race, afforded the right to vote. The ANC came to power, as the world witnessed Nelson Mandela inaugurated as South Africa's first, democratically elected, black president.

During Apartheid, race attitudes in South Africa were characterised by high levels of prejudice between groups. English- and Afrikaans-speaking white South Africans originally held the highest levels of prejudice towards non-white South Africans. Afrikaans-speaking white South Africans continued to express the highest levels of prejudice toward other non-white groups, while English-speaking white South Africans prejudice levels steadily declined as they began showing less support for the institution of Apartheid and began developing more tolerance towards non-white South Africans. This change in racial attitudes was specifically noted after the Soweto uprising. Coloured South Africans reported the highest levels of prejudice towards Afrikaans-speaking white South Africans and more positive attitudes towards black and English-speaking white South Africans (Durrheim, Tredoux, Foster, & Dixon, 2011; Kinloch, 1985).

### **South African Intergroup Relations Post-1994**

Post-Apartheid South Africa has witnessed a change, not only in law, but in the social climate of society. As contact between groups is no longer criminalized, all individuals and groups are free to associate and interact with each other. Unlike during Apartheid, South African citizens are now able to reside where they choose. Beaches, transport services and other public facilities are now fully integrated

(Welsh, 2009). Within the education system, South Africans are now all afforded the right to receive an equal education and are able to attend any school or university they choose.

Despite the dramatic increase in the available opportunities for intergroup contact, social interactions between South Africans of different racial groups remain limited. Recent studies have indicated that individuals from various racial groups continue to remain segregated as these patterns of self-segregation have been observed on South African beaches as well as in night clubs and bars (Dixon & Durrheim, 2003; Tredoux & Dixon, 2009). Unfortunately, individuals now practice self-segregation, threatening the progress already made regarding intergroup attitudes and improved intergroup contact within South Africa.

Studies then began investigating how attitudes towards other groups affect the extent and nature of change within South African intergroup relations. Dixon and Durrheim (2010) investigated how the changes in South African politics and society have affected intergroup attitudes, with a specific focus on attitudes concerning social distance and racial policy. Results indicated mixed attitudes from both black (African) South Africans and white South Africans, and also reported that desegregation was not always evident and was limited in many areas. Black (African) South Africans seem to be the most physically isolated, and although white individuals seem to support racial integration in theory, they are reluctant to engage with individuals of other groups on a social level. The quantity of contact between black and white South Africans was found to be considerably low, irrespective of age (Dixon & Durrheim, 2010).

These findings were supported by Gibson and Claassen (2010). They reported mixed attitudes towards intergroup relations across different racial groups,



with black and white South Africans reporting considerably less reconciliation than other race groups. It may be that the limited amount of intergroup contact observed within the South African society is the result of the negative attitudes individuals hold towards other racial groups (e.g., Durrheim & Dixon, 2005; Gibson, 2004; Hofmeyr, 2006). Importantly, positive intergroup contact experiences offer one of the most powerful means of reducing outgroup prejudice and improving intergroup relations.

Gordon Allport's (1954) contact hypothesis broadly suggests that positive intergroup contact between individuals of different groups can improve intergroup attitudes, resulting in decreased levels of outgroup prejudice and encouraging further contact. The inverse relationship between intergroup contact and outgroup prejudice has been found across a range of settings and various target groups (Brown & Hewstone, 2005; Pettigrew & Tropp, 2006). Cross-group friendships have been identified as a particularly important type of intergroup contact, capable of bringing about the most significant reduction in outgroup prejudice, because they involve repeated, intimate interactions between individuals who share common interests (Pettigrew, 1998; Pettigrew & Tropp, 2006).

What is evident from the South African research described above is that, at present, South Africa's social climate comprises of limited positive contact (e.g., Durrheim & Dixon, 2005; Gibson, 2004; Hofmeyr, 2006), and even fewer cross-group friendships, leaving outgroup prejudice unchallenged and the state of intergroup relations in South Africa largely unchanged. Nevertheless, where positive intergroup contact (in the form of cross-group friendships) *does* occur, such contact experiences are strongly associated with reduced prejudice (e.g., Swart, Hewstone, Christ, & Voci, 2010, 2011; Tredoux & Finchilescu, 2010). In light of these encouraging findings, the importance of cross-group friendships for improving

intergroup relations and social integration within South African society should become the primary focus in improving attitudes between groups.

### **The University Context in South Africa**

During Apartheid, communities and schools comprised of homogenous racial groups, which was largely due to the Group Areas Act. However, South African neighbourhoods and schools have remained largely homogenous since 1994, offering young South Africans limited opportunities for engaging in intergroup contact. University campuses are arguably more diverse than the neighbourhoods or schools that many of the students come from, offering young South Africans with more opportunities for engaging in regular intergroup contact.

However, recent South African research has reported that the limited social contact witnessed in universities reflects the state of intergroup attitudes across South Africa as a whole. Schrieff, Tredoux, Dixon, and Finchilescu (2005) observed patterns of contact between undergraduate students in university residence cafeterias. Their results indicated elevated levels of segregation between black and white students who exhibited almost no cross-group friendships. Alexander and Tredoux (2010) observed seating patterns in undergraduate tutorial groups. These seating patterns were found to be significantly segregated. Students also reported to be aware of this self-segregation taking place across campus. Nevertheless, given their relative diversity (as compared to neighbourhoods and schools), university campuses have an important role to play in creating the necessary social climate that could assist in achieving improved intergroup relations amongst all South Africans.

Stellenbosch University played a pivotal role as the intellectual centre of Apartheid. Under the Apartheid regime, Stellenbosch University was an Afrikaans-

medium tertiary institution reserved solely for white students. As the University continues to break away from this stigma, it actively strives towards a student body that mirrors the diversity found in South Africa and encourages the development of intergroup ties. Given the importance of University contexts for the future of intergroup relations in South Africa, the present research explored the nature of same-group and cross-group friendships amongst young South African adults studying at Stellenbosch University.

### **The Present Study**

The present study explored how cross-group and same-group friendships compare along nine interpersonal-level variables amongst minority-status coloured South African students at Stellenbosch University. Using a between-subjects, cross-sectional design, survey data were collected electronically from participants who were randomly assigned to either the same-group friendship or cross-group friendship condition. This study aimed to replicate findings relating to the structural relationships between the interpersonal variables associated with cross-group and same-group friendships amongst majority-status white South African participants, reported by Goosen (2011).

The aims of the present study included (1) comparing the mean-level scores of respondents along several primary interpersonal-level variables, namely friendship length, friendship type, friendship contact, positive and negative reciprocal self-disclosure, friendship functions, friendship closeness, friendship affection and interpersonal trust; (2) comparing the structural relationships between these interpersonal-level friendship variables across both friendship conditions; (3) investigating whether positive attitudes towards a specific white South African friend would be able to generalise towards more positive attitudes towards white South

Africans in general; and (4) exploring the extent to which interactions with a specific white South African friend was related to the development of cross-group friendships with other white South Africans as a result of the exposure to a broader social network of white South Africans.

### **Chapter Summary**

Chapter Two considers Gordon Allport's (1954) contact hypothesis from its early development to contemporary support and focuses on the most important form of intergroup contact, namely cross-group friendships. The power of contact to reduce prejudice through extended contact and the generalisation of contact effects is briefly reviewed. The importance of group status as a function of the effects of contact is explored together with the mediators and moderators of the contact-prejudice relationship. Chapter Three focuses on the characteristics of interpersonal friendships, their development and their benefits. In this Chapter the development of cross-group friendships are contrasted to those of same-group friendships, and the findings from emerging literature comparing same-group and cross-group friendships are described.

Chapter Four provides an overview of the present study, including a rationale of the study's focus, a description of the methods and materials utilized during data collection, as well as an explanation of the data analysis techniques employed. This is followed by a comprehensive description of the results of the present study. A detailed discussion of the results is presented in Chapter Five. This Chapter locates the significance and implications of these findings within existing friendship literature in general, and within the context of intergroup relations in South Africa in particular. This Chapter concludes with a consideration of the limitations of the present study as

well as a discussion of directions for future research comparing same-group and cross-group friendships.

## CHAPTER TWO

### The Contact Hypothesis

South Africa's pre-democratic history was dominated by attempts at limiting the amount, and controlling the type, of contact that took place between individuals of different groups. This was epitomized by the legislated attempts at keeping groups apart, during Apartheid (meaning 'separateness') between 1948 and 1990. The prevailing idea was that reducing or limiting intergroup contact would reduce intergroup tensions and avoid all forms of conflict between members of different racial groups. Interestingly, at around the same time the South African Apartheid government was developing legislation to formalize the segregation of various groups, ideas were being developed in American social psychology and sociology (in light of the Civil Rights movement), arguing that *increased intergroup contact* was necessary for *improving intergroup relations* (Beck, 2000; Foster & Finchilescu, 1986). This chapter considers the development of the contact hypothesis, as well as the contemporary literature establishing the empirical support for the development of intergroup contact theory.

#### Early Development of the Contact Hypothesis

The contact hypothesis was formulated by Gordon Allport in his noted work, *The Nature of Prejudice* (1954). This hypothesis, centred on intergroup interactions, suggests that a reduction of prejudice between ingroup and outgroup members results from the positive and repeated interactions between them. An ingroup is any group to which an individual belongs to and/or identifies themselves with, while an outgroup is any group to which an individual does not belong to and/or does not identify themselves with (Brown & Hewstone, 2005).

Allport (1954) was not the first to suggest the reduction of prejudice between groups via intergroup contact (see Saenger, 1953; Williams, 1947), but his 'contact hypothesis' has proven to be one of the most influential ideas in social psychology over the past six decades. In its earliest formulation, the contact hypothesis suggested that under four specific 'optimal' conditions, intergroup contact could be one of the most effective ways of reducing prejudice between groups (Allport, 1954).

Firstly, there should be equal status between the groups engaging in the contact situation. Both groups should perceive this equal status in order for the contact relationship between them to be effective (Cohen, 1982; Robinson & Preston, 1976). While some studies have indicated that the perceived equal status between groups should exist outside of the contact setting before engaging in the contact situation (e.g., Cagle, 1973; Riordan, 1978; Wilner, Walkey, & Cook, 1952), others suggest that equal status within an intergroup contact situation can still be effective in reducing prejudice, despite both groups initially perceiving differences in group status outside of the contact situation (e.g., Dovidio, Gaertner, & Kawakami, 2003; Otten, Mummendey, & Blanz, 1996).

The second and third of Allport's (1954) optimal conditions include cooperation and common goals respectively. Allport (1954) suggested that intergroup contact would be most effective in reducing outgroup prejudice if the contact situation allows the members of the two groups engaging in the contact situation to cooperate with one another on achieving a common goal (see Hansell & Slavin, 1981; Pettigrew, 2008). Finally, Allport (1954) emphasized that in order for intergroup contact to bring about a reduction in outgroup prejudice, the contact between members of these two groups should be supported by the authorities. This explicit support from authorities and institutions is important for developing a climate

of acceptance of intergroup contact, and for establishing the guidelines for how members of different groups should engage with each other (Dovidio et al., 2003).

### **Support for the Contact Hypothesis**

Support for the contact hypothesis was found soon after Allport's (1954) proposal (e.g., Amir, 1969). Since then, contact studies have explored the relationship between contact and prejudice across a variety of settings and target groups. Studies have been conducted within education settings (e.g., Van Laar, Levin, Sinclair, & Sidanius, 2005) and the workplace (Paluck, 2006), and also among people with disabilities (e.g., Cameron & Rutland, 2006), refugees (e.g., Turner & Brown, 2008) and the mentally ill (e.g., Desforges et al., 1991). Across each of these different settings and target groups, contact has been shown to be reliably associated with reduced prejudice (Pettigrew & Tropp, 2006).

Notably, there has been strong support for the reduction of prejudice through intergroup contact in post-conflict societies. In Northern Ireland, for example, intergroup contact between Protestants and Catholics has been associated with a reduction in prejudice and more positive attitudes, as well as greater perspective-taking towards the outgroup, increased intergroup trust, and a greater willingness to forgive members of the outgroup (e.g., Hewstone, Cairns, Voci, Hamberger, & Niens, 2006; Paolini, Hewstone, Cairns, & Voci, 2004; Tausch, Tam, Hewstone, Kenworthy, & Cairns, 2007).

Within the post-Apartheid South African context, Holtman, Louw, Tredoux, and Carney (2005) surveyed white English- and Afrikaans-speaking South African high school students and found that contact with black South Africans significantly predicted positive outgroup attitudes to the black South African outgroup as a whole. Amongst black South African High School students, Holtman et al. (2005) found that



contact with white Afrikaans-speaking South African students significantly predicted reduced anti-white sentiment and social distance, as well as more positive attitudes towards white South Africans in general.

Dixon et al. (2010) surveyed black South Africans ( $N = 595$ ) to explore their perceptions of racial discrimination and the psychological processes underlying the relationship between intergroup contact and black South African's perceptions of discrimination. Results showed that black South Africans generally reported significantly lower personal discrimination ( $M = 2.64$ ,  $SD = 1.89$ ) than they did group-based discrimination ( $M = 3.20$ ,  $SD = 1.30$ ;  $t(594) = 9.79$ ,  $p < .001$ ). Moreover, increased intergroup contact was negatively associated with black individual's negative perceptions of racial discrimination post-Apartheid (Dixon et al., 2010). Tredoux and Finchilescu (2010) explored the relationship between contact and prejudice amongst university students across four campuses in South Africa and found a significant association between increased intergroup contact and decreased levels of both affective prejudice (white South Africans:  $r = -.38$ ,  $p < .01$ ; black South Africans:  $r = -.32$ ,  $p < .01$ ) and social distance (white South Africans:  $r = -.32$ ,  $p < .01$ ; black South Africans:  $r = -.17$ ,  $p < .01$ ).

Arguably the strongest support for the inverse relationship between intergroup contact and prejudice comes from the meta-analytic study undertaken by Pettigrew and Tropp (2006). The meta-analysis undertaken by Pettigrew and Tropp (2006) included 515 studies and 713 independent samples covering a range of contexts and target groups, and which included both experimental and survey research studies. Pettigrew and Tropp (2006) used four strict inclusion criteria for their meta-analysis. Firstly, studies were only included where intergroup contact was considered the independent variable and outgroup prejudice considered as the dependent variable.

Secondly, to ensure that only the intergroup effects of contact were examined, only studies where contact occurred between distinct groups were included. Thirdly, to exclude studies integrated in summaries of research, only studies that investigated the effects of direct, observable contact were included. Finally, studies were only included where individuals were used as the unit of analysis instead of examining collective levels of contact and/or prejudice.

Importantly, Pettigrew and Tropp (2006) found that across all the studies included in the meta-analysis, contact was reliably negatively associated with prejudice (mean  $r = -.21$ ,  $p < .001$ ), irrespective of the setting or target group included in the study. This finding provides the strongest support yet for the inverse relationship between intergroup contact and prejudice hypothesized by Allport (1954). Predictably, those studies that included Allport's four 'optimal' conditions (i.e., equal status, cooperation, common interests, and authority support;  $N = 134$ ) showed a strong negative association between contact and prejudice (mean  $r = -.28$ ,  $p < .001$ ). Interestingly, however, so too did those studies where Allport's four conditions were not explicitly met (mean  $r = -.20$ ,  $p < .001$ ), suggesting that Allport's conditions are perhaps more facilitating than they are essential in the contact-prejudice relationship.

One particularly important finding reported by Pettigrew and Tropp (2006) is that the ability for intergroup contact to reduce prejudice was not confined to the contact setting. In fact, their meta-analyses showed that contact effects are able to generalise beyond the immediate contact setting (mean  $r = -.23$ ,  $p < .001$ ), across situations (mean  $r = -.24$ ,  $p < .001$ ), from outgroup exemplars to outgroups as a whole (mean  $r = -.21$ ,  $p < .001$ ), and from the outgroup engaging in the immediate contact setting to other outgroups not involved in the contact situation (mean  $r = -.19$ ,

$p < .001$ ). These generalisation effects have also been observed longitudinally. For example, Eller and Abrams (2004) found that six months after positive contact with French students studying in England, British first-year University students reported more favourable evaluations towards the French in general.

Tausch et al. (2010) explored the secondary transfer effect, where contact with a single outgroup could result in improved attitudes towards another outgroup uninvolved in the contact situation. Across four different studies, Tausch et al. (2010) explored these effects amongst respondents in Cyprus, Northern Ireland and Texas and reported that contact with a primary outgroup does result in reduced prejudice towards a second outgroup. Contact between Greek and Turkish Cypriots significantly improved attitudes towards the Cypriot mainland outgroup ( $B = 9.99$ ,  $SE = 1.14$ ,  $\beta = .22$ ,  $p < .001$ ). Contact between Catholic and Protestants in Northern Ireland significantly improved attitudes towards an uninvolved minority outgroup ( $B = 2.49$ ,  $SE = .50$ ,  $\beta = .11$ ,  $p < .001$ ). Finally, white and black American students cross-group friendships with Hispanic students reduced prejudice towards a Vietnamese/Indian outgroup ( $B = 5.11$ ,  $SE = 1.55$ ,  $\beta = .21$ ,  $p = .001$ ).

Schmid, Hewstone, Küpper, Zick, and Wagner (2012) then explored the secondary transfer effect amongst respondents from eight European countries ( $N = 7042$ ). Via the effects of attitude generalisation, contact between the ingroup (citizens of France, Germany, Hungary, Italy, The Netherlands, Poland, Portugal and the United Kingdom) and immigrant outgroup was able to improve attitudes towards the uninvolved outgroups of homosexuals ( $b = .37$ ,  $SE = .05$ ,  $p < .001$ ) and Jews ( $b = .39$ ,  $SE = .04$ ,  $p < .001$ ). Together, these results confirm intergroup contact as a practical means of reducing prejudice between groups, as well as an effective means of improving intergroup relations (Pettigrew & Tropp, 2006).

## Contact Effects as a Function of Group Status

Pettigrew and Tropp's (2006) meta-analysis provides robust support for the inverse relationship between intergroup contact and outgroup prejudice. However, group status (majority- versus minority-status) appears to have a strong impact on the strength of this relationship.

Tropp and Pettigrew (2005) conducted a meta-analysis on the contact literature comparing the contact-prejudice relationship for majority- and minority-status group members. Their meta-analysis included 693 samples in total, of which only 142 samples (20.49%) represented minority-status respondents and 51 samples (7.36%) included both majority- and minority-status respondents. It is clear that compared to the amount of research conducted amongst majority-status participants, research considering minority-status participants is relatively scarce (Tropp & Pettigrew, 2005).

Tropp and Pettigrew (2005) found that contact was significantly negatively associated with outgroup prejudice for both minority- and majority-status group members. However, the negative contact-prejudice relationship was significantly stronger for majority- (mean  $r = -.23$ ,  $p < .01$ ) than minority-status (mean  $r = -.18$ ,  $p < .01$ ) group members. In the South African context, Swart et al. (2010) compared the relationship between intergroup contact (in the form of cross-group friendships) and a range of measures of prejudice amongst white (majority-status) and coloured (minority-status) South Africans. Across two studies they found that contact was significantly associated with reduced prejudice for both majority- and minority-status samples. However, the relationship between contact and prejudice was significantly stronger for majority-status respondents than for the minority-status respondents.

More recently, Bastian, Lusher, and Ata (2012) explored the effects of intergroup contact on reduced social distance as a function of group status among high school students in Australia. The relationship between intergroup contact and reduced social distance was significantly stronger for non-Muslim (majority-group) than Muslim (minority-group) students.

Similar differences in the contact-prejudice relationship for majority- and minority-status group members have also been reported longitudinally. For example, Binder et al. (2009) explored the effects of intergroup contact on prejudice amongst majority- ( $n = 1,143$ ) and minority-group members ( $n = 512$ ) across three different European countries. It was hypothesized that contact effects for majority group members would be stronger than the contact effects for minority group members. Results supported this hypothesis: there was a significant inverse relationship between contact and prejudice amongst majority-status respondents, whereas for minority-status respondents the relationship between contact and prejudice was non-significant. These consistent results, obtained amongst various target groups and settings, provide strong evidence to suggest that while intergroup contact is successful in reducing prejudice for both majority- and minority-status group members, this relationship is significantly stronger for majority-status group members than for minority-status group members.

The reasons behind these different contact effects for majority- and minority-groups may be because majority- and minority-status group members have differing expectations and experiences of the contact situation (Tropp & Pettigrew, 2005). Contact effects for majority-status group members have been found to be significantly stronger than for minority-status group members (mentioned above). These results could be explained by several different reasons.

Majority- and minority-status groups view intergroup interactions differently. Majority-status groups have experienced greater benefits from intergroup interactions and therefore may be more likely to continuously engage in these contact situations than minority-status groups who have not benefitted as greatly. Majority-status groups benefit from intergroup contact as their status goes unchallenged, for this reason intergroup contact scenarios remain positive for these groups. However, these contact situations may not be as positive for minority-status groups as their lower status remains unchanged.

Majority-status group members have been considered as increasingly self-aware of their groups general prejudices held towards minority groups. This may result in increased levels of anxiety when engaging in intergroup contact. Therefore, majority group members may attempt to be considerably more accepting of minority group members with regards to their own cultural ideas and practices so as not to be perceived as prejudiced by minority-status groups.

Minority-status group members may be particularly reluctant to engage with members of the majority-status group given their group's openly devalued status. For minority group members, their concerns centre on falling victim to prejudices held by majority group members. When engaging in intergroup contact, minority group members consider themselves in terms of their group's devalued status and anticipate prejudice from majority group members. The goal of intergroup contact for minority group members includes opportunities to integrate themselves within the dominant cultural ideals. During intergroup contact, minority group members tend to be receptive to suggestions of inclusion and acceptance from majority group members (Plant, 2004; Plant & Devine, 2003; Piel, 1999; Shelton, 2003; Stephan & Stephan, 1985; Vorauer, Main, & O'Connell, 1998).

An example of this was found when Shelton (2003) observed interactions between white (majority-status) and black (minority-status) American university students, investigating the concerns that influence the relations between these two groups. The results suggested that majority-status group members are often considered prejudice by individuals of a lower group status, while minority-status group members are often considered as the targets of prejudice from higher status individuals.

The contact literature has established contact as an effective means of reducing prejudice between groups. Although not essential, intergroup contact supported by Allport's (1954) optimal conditions result in even greater levels of prejudice reduction between groups (see Pettigrew & Tropp, 2006). The effects of intergroup contact have also been shown to generalise beyond the immediate contact situation, and so contact effects are also able to reduce prejudice between those individuals and groups not specifically involved in the contact situation. Understanding how both majority- and minority-status groups conceptualise and respond to intergroup contact is important for discovering the most effective means of prejudice reduction between groups. In more recent times, contact researchers have turned their attention towards understanding the different types of contact that are most likely to result in prejudice reduction.

## **Contemporary Developments in Contact Research**

### **Types of Intergroup Contact**

Contact researchers have explored various forms of intergroup contact and how these impact on outgroup prejudice. Research shows that it is not only direct, or face-to-face contact that reduces prejudice, and even more indirect forms of intergroup contact are able to improve outgroup attitudes. These indirect forms of

contact include extended and even imagined contact. Extended contact was first suggested by Wright, Aron, McLaughlin-Volpe, and Ropp (1997). Their hypothesis proposed that the mere knowledge of other ingroup members engaging in cross-group friendships (e.g., via the observation of such interactions or being told by fellow ingroup members about such friendships) would result in the reduction of prejudice against this specific outgroup (Wright et al., 1997).

The effects of extended contact are most beneficial when the opportunity for direct contact is low (Christ et al., 2010), as well as within larger populations as not every individual need have outgroup friends to experience the effects of prejudice reduction towards an outgroup (Turner, Hewstone, & Voci, 2007). Studies testing the effects of extended contact amongst both majority- and minority-group samples found extended contact to be effective in reducing prejudice (see Liebkind & McAlister, 1999; Turner, Hewstone, Voci, & Vonofaku, 2008; Wright et al., 1997).

Another form of indirect contact that has been shown to improve intergroup attitudes is that of imagined contact. Turner, Crisp, and Lambert (2007) hypothesized that imagined contact could result in the increased intention to attempt to engage in intergroup contact by creating more favourable perceptions towards outgroup members. This can be achieved through simply visualising engaging in a conversation with an individual from the outgroup (see Harwood, Paolini, Joyce, Rubin, & Arroyo, 2011; Husnu & Crisp, 2010; Stathi & Crisp, 2008; Turner & Crisp, 2009; Turner et al., 2007). Both extended and imagined contact are especially beneficial and useful when opportunities for contact are low. However, in situations with increased opportunities for contact, direct contact that is high in quality (i.e., is experienced positively) is capable of reducing outgroup prejudice.



Islam and Hewstone (1993; see also McGuigan & Scholl, 2007) examined how two particular dimensions of contact, contact quantity and contact quality, related to outgroup attitudes among 131 Hindu and Muslim university students in Bangladesh. When considered simultaneously, high-quality contact was found to be a stronger predictor of lower prejudice ( $\beta = -.48, p < .001$ ) than high-quantity contact ( $\beta = -.12, p < .05$ ). Islam and Hewstone (1993) were among the first researchers to argue that the quality of intergroup contact is a more important predictor of reduced prejudice than the quantity of intergroup contact. However, their findings are in line with Allport's (1954) original 'contact hypothesis.' Allport (1954) emphasized the role of his optimal conditions in the relationship between contact and prejudice, as these factors were sure to influence the quality of intergroup contact.

### **Cross-group Friendships**

In response to the emphasis placed on the quality of the contact experience by Islam and Hewstone (1993), Pettigrew (1998) argued that the contact setting should provide outgroup members with an opportunity to form friendships, what he termed 'friendship potential.' According to Pettigrew (1998), friendship potential is stimulated in the contact setting by repeated social contact in different contexts and settings, creating opportunities for self-disclosure, which would result in closer interactions between individuals, and providing the opportunity for ingroup and outgroup members to form friendships. Interestingly, almost thirty years before Pettigrew (1998), Allport (1954) highlighted the importance of acquaintance potential within the contact setting. Cross-group friendships are considered an especially effective and important means of reducing prejudice between groups because they generally meet most of Allport's (1954) optimal conditions (including equal status,

cooperation, and common interests) and tend to be typified by more regular, long-term contact as opposed to the contact between acquaintances (Pettigrew, 1998).

Research has shown that cross-group friendships are arguably one of the most powerful forms of direct, face-to-face intergroup contact (e.g., Pettigrew, 1997, 1998; Pettigrew & Tropp, 2006). Pettigrew (1997) explored the effects of intergroup contact on prejudice amongst Western European respondents ( $N = 3,806$ ).

Pettigrew's (1997) results were consistent in showing that cross-group friendship was significantly negatively associated with affective prejudice. Moreover, the inverse relationship between contact as cross-group friends and affective prejudice ( $r = -.22, p < .001$ ) was significantly larger than that between contact as co-workers and affective prejudice ( $r = -.03, p < .001$ ) and that between contact as neighbours and affective prejudice ( $r = -.01, p < .001$ ). Pettigrew's (1997) findings stimulated further research investigating the effects of cross-group friendships on outgroup prejudice (e.g., Mendoza-Denton & Page-Gould, 2008; Page-Gould, Mendoza-Denton, & Tropp, 2008; Pettigrew & Tropp, 2006; Turner et al., 2007; Vonofaku, Hewstone, & Voci, 2007).

The strongest support for the important role played by cross-group friendships in the reduction of outgroup prejudice comes in the form of two recent meta-analytic studies. In their meta-analysis of over 500 contact studies, Pettigrew and Tropp (2006) found that direct contact in the form of cross-group friendships had the strongest negative relationship with prejudice (mean  $r = -.25, p < .001$ ) than any other measure of direct contact (e.g., contact quantity or contact quality), further establishing cross-group friendships as the most effective form of reducing prejudice through direct contact.

More recently, Davies, Tropp, Aron, Pettigrew, and Wright (2011) undertook a meta-analysis of the cross-group friendship contact literature. They explored whether different operational definitions used as measures of cross-group friendships resulted in varied effects on intergroup attitudes. The operational definitions included time spent with outgroup friends, closeness to outgroup friends, self-disclosure to outgroup friends, perceived inclusion of outgroup friends in the self, number of outgroup friends and percentage of friendship circle who are outgroup members. They included 135 studies in their meta-analysis on the basis of four inclusion criteria.

Firstly, friendships were defined as an on-going and meaningful relationship with an individual outgroup member that is closer than that of an acquaintance. Secondly, cross-group friendships had to be between members of distinct groups. Thirdly, the data had to be collected on individuals instead of groups and, finally, only cross-sectional studies were included. Their results showed that closeness to outgroup friends (mean  $r = .18$ ,  $p < .001$ ), perceived inclusion of outgroup friends in the self (mean  $r = .20$ ,  $p < .001$ ), number of outgroup friends (mean  $r = .22$ ,  $p < .001$ ) and the percentage of the friendship circle who are outgroup members (mean  $r = .24$ ,  $p < .001$ ) each significantly predicted positive outgroup attitudes.

Cross-group friendships appear to be relatively rare within the South African context, with many South Africans reporting having no cross-group friends (Gibson, 2004). Nevertheless, there is an emerging body of South African literature that shows that where cross-group friendships do occur in the South African context, they are reliably negatively associated with outgroup prejudice (e.g., Finchilescu, Tredoux, Muianga, Mynhardt, & Pillay, 2006; Moholola & Finchilescu, 2006).

Swart et al. (2010) undertook two studies amongst both white and coloured South African high school students. The first study explored the effects of cross-

group friendships on prejudice in the form of outgroup attitudes and perceived outgroup variability for both white ( $N = 186$ ) and coloured ( $N = 196$ ) South African students towards black (African) South Africans. The second study explored the relationship between cross-group friendships on outgroup attitudes towards, white South Africans (for the coloured South African participants,  $N = 171$ ) and coloured South Africans (for the white South African participants,  $N = 191$ ). In both studies, cross-group friendships were associated with reduced prejudice towards the outgroup. In the first study, cross-group friendships with black (African South Africans) was significantly associated with positive outgroup attitudes towards black (African) South Africans in general (white:  $b = .40, p < .01$ ; coloured:  $b = .33, p < .01$ ) and the perceived outgroup variability of the black (African) South African target group (white:  $b = .24, p < .01$ ; coloured:  $b = .19, p < .01$ ). In the second study, cross-group friendships with the respective target group was significantly associated with more positive outgroup attitudes towards the target group in general (white:  $b = .40, p < .01$ ; coloured:  $b = .20, p < .01$ ).

However, a short-coming of these studies is that they are cross-sectional in nature and therefore unable to determine whether cross-group friendships predicts reduced prejudice or whether reduced prejudice predicts more cross-group friendships. To overcome this short-coming researchers have explored the relationship between cross-group friendships and prejudice longitudinally.

Levin, Van Laar, and Sidanius (2003) undertook a longitudinal study that included five waves of data collected from white ( $N = 311$ ), Asian ( $N = 389$ ), Latino ( $N = 252$ ) and African-American ( $N = 67$ ) students at the University of California at Los Angeles. Across each of these sub-groups, students who reported having more

cross-group friendships in their second and third years of university also indicated reduced outgroup bias after their fourth year at university.

Swart, Hewstone, Christ, and Voci (2011) conducted a three-wave longitudinal study amongst coloured South African high school students ( $N = 465$ ), exploring the relationship between cross-group friendships and several measures of prejudice, including outgroup attitudes, negative action tendencies, and perceived outgroup variability of white South Africans. Data were collected at six month intervals. Their results showed that cross-group friendships with white South Africans at time 1 were significantly associated with more positive outgroup attitudes and greater perceived outgroup variability at time 3, as well as reduced negative action tendencies at time 3.

From the above literature it is clear that cross-group friendships can be considered as considerably more important than other forms of direct or extended contact for achieving significant prejudice reduction, most notably because contact between friends embodies regular high-quality contact. Nevertheless, until recently, it was still rather unclear exactly how or why intergroup contact (specifically cross-group friendships) reduced prejudice.

### **Putative Mediators of the Contact-Prejudice Relationship**

In the original formulation of the contact hypothesis, Allport (1954) considered that contact could reduce prejudice between groups because it was able to increase and improve the knowledge held about the outgroup. While this has shown to be the case (e.g., Pettigrew & Tropp, 2008), meta-analytic findings suggest that affective mediators play a more important role than cognitive mediators (such as outgroup knowledge) in explaining how or why positive intergroup contact is able to reduce prejudice. Baron and Kenny (1986) describe mediators as variables that are able to

explain how or why two variables are correlated with one another. Within the context of the contact literature, a mediating variable would be one that illustrates how and why intergroup contact is associated with reduced prejudice (Brown & Hewstone, 2005).

Pettigrew and Tropp (2008) undertook a meta-analysis of the three most commonly researched mediators in the contact literature, namely outgroup knowledge, intergroup anxiety and empathy/perspective taking. Outgroup knowledge was indirectly identified by Allport (1954) as a mediator of the contact-prejudice relationship. He suggested that intergroup contact under the four 'optimal' conditions he specified (equal status, cooperation, common interests, and authority support) would reduce prejudice because of the improvement in accurate knowledge obtained by the ingroup member participating in the intergroup contact regarding the outgroup. This improved knowledge about the outgroup would result in a correction of the biased outgroup stereotypes held by ingroup members towards the outgroup.

Intergroup anxiety refers to the fear of negative outcomes and consequences that ingroup members may experience when anticipating future encounters (or during actual encounters) with outgroup members. Intergroup anxiety may develop out of circumstances where there has been a lack of prior contact with the outgroup, or where previous relations between the two groups have been marked by a history of conflict. This is especially relevant within the South African context. Intergroup anxiety may result in both behavioural and affective consequences within the intergroup contact situation. Individuals may choose to avoid future intergroup interactions, or where this interaction does occur, they may actively attempt to end the contact situation as quickly as possible, in order to reduce their anxiety levels. Emotional consequences may result in further negative attitudes towards the

outgroup, as well as negative evaluations of intergroup contact which could lead to increased levels of prejudice towards all outgroups (Stephan & Stephan, 1985).

Empathy can be defined as a state of emotion which is affectively evoked by experiencing the emotional states of others (Davis, 1994). Cognitively, empathy refers to consideration for outgroup members perceptions of a given situation and their resulting feelings, or where ingroup members consider the views or perspectives of outgroup members, resulting in thoughts regarding outgroup members being incorporated into thoughts about the self (Pettigrew & Tropp, 2008).

The meta-analyses undertaken by Pettigrew and Tropp (2008) included 17 samples exploring outgroup knowledge as a mediator of the contact-prejudice relationship, 60 samples exploring intergroup anxiety as a mediator of the contact-prejudice relationship and 14 samples exploring empathy/perspective-taking as a mediator of the contact-prejudice relationship. Only studies that explored the contact-prejudice relationship as well as the role of any of these three mediators were included in the meta-analysis. Results showed that intergroup anxiety yielded the most significant mediation effects ( $z = -26.60$ ,  $p < .001$ ), followed by empathy/perspective-taking ( $z = -4.28$ ,  $p < .001$ ), and outgroup knowledge, which produced the smallest, although still significant, mediating effect ( $z = -3.87$ ,  $p < .001$ ; Pettigrew & Tropp, 2008).

The importance of intergroup anxiety and affective empathy as mediators of the relationship between cross-group friendships and prejudice has also been established longitudinally within the South African context. In the three-wave longitudinal study undertaken amongst coloured South African high school students described earlier, Swart et al. (2011) found that cross-group friendships at time 1, was significantly negatively associated with intergroup anxiety at time 2 ( $b = -.10$ ,

$p < .01$ , 95% CI [-.17, -.03]) which was significantly negatively associated with outgroup variability at time 3 ( $b = -.14$ ,  $p < .01$ , 95% CI [-.23, -.05]). Cross-group friendships at time 1 was also significantly positively associated with affective empathy at time 2 ( $b = .15$ ,  $p < .01$ , 95% CI [-.05, .25]). This was significantly positively associated with positive outgroup attitudes at time 3 ( $b = .15$ ,  $p < .001$ , 95% CI [.07, .23]), which was also significantly negatively associated with negative action tendencies at time 3 ( $b = -.18$ ,  $p < .001$ , 95% CI [-.26, -.10]). However, there are a number of other important mediators that have also been tested and that are of particular relevance to cross-group friendships. These mediators include self-disclosure and self-other overlap, which I discuss in more detail below.

#### **Reciprocal self-disclosure.**

Self-disclosure may be defined as the sharing of significant information, feelings, and points of view relating to the self with another. Self-disclosure may either be evaluated as being positive or as being negative. The presence of regular (positive and negative) reciprocal self-disclosure in cross-group friendships may be one explanation as to why this specific form of contact is more effective in bringing about prejudice reduction as compared to contact between co-workers or neighbours (Miller, 2002). Therefore, one would expect more reciprocal self-disclosure between cross-group friends than between acquaintances, co-workers or neighbours.

Reciprocal self-disclosure allows individuals a certain amount of control over how others view them, and gives individuals within a friendship dyad the opportunity to get to know more about one another and to establish whether they have anything in common. Reciprocal self-disclosure between cross-group friends is able to reduce negative stereotypes as well as foster intimacy and positive affect within the dyad. The effects of self-disclosure include the development of greater trust between the



individuals establishing the cross-group friendship because sharing personal information about the self requires a certain amount of vulnerability on the part of the discloser. This trust will then encourage further self-disclosure and the maintenance of the friendship, which could lead to more positive attitudes towards the entire outgroup (Davies et al., 2011). As such, interpersonal trust can be regarded as an important outcome of cross-group friendships as it fosters more positive attitudes between both individuals and groups (Davies et al., 2011).

Turner et al. (2007) explored the mediation effects of self-disclosure on the relationship between cross-group friendships and outgroup attitudes, as well as the mediation effects of trust on the relationship between reciprocal self-disclosure and outgroup attitudes. White British university students ( $N = 142$ ) were surveyed regarding their friendships with Asian outgroup members. Cross-group friendships significantly predicted increased reciprocal self-disclosure ( $\beta = .63, p < .001$ ), which was in turn associated with significantly increased levels of intergroup trust ( $\beta = .47, p < .001$ ). Moreover, greater trust was associated with more positive outgroup attitudes ( $\beta = .18, p < .06$ ).

In their meta-analysis of the contact literature focusing on cross-group friendships, Davies et al. (2011) investigated the mediation effects of reciprocal self-disclosure within the relationship between cross-group friendships and prejudice. Self-disclosure with cross-group friends (mean  $r = .26, p < .001$ ) significantly mediated the relationship between cross-friendships and prejudice, further supporting the importance of both positive and negative reciprocal self-disclosure within cross-group friendships. An important possible outcome of regular reciprocal self-disclosure between individuals (especially close friends) is that it increases the interpersonal closeness between them – in other words, they begin to view

themselves as similar to one another. This psychological process is known as increased self-other overlap, to which I now turn.

### **Self-other overlap.**

Within cross-group friendships, positive effects of intergroup contact are able to extend to uninvolved group members as they are able to include others in their view of themselves, also known as the self-other overlap. This is as a result of an increase in perceived similarity, interests and goals between the individuals within the dyad. Resulting increases in interpersonal closeness created greater positive associations towards the outgroup friend and eventually to the outgroup as a whole, as the ingroup member now considered a greater overlap between the outgroup identity and their own identity (Wright et al., 1997).

The mediation effects of the self-other overlap in the relationship between cross-group friendships and outgroup attitudes was explored amongst white British high school students ( $N = 120$ ) towards the Asian outgroup (Turner et al., 2008). Cross-group friendships were significantly associated with increased self-other overlap ( $\beta = .54, p < .001$ ) which was, in turn, associated with increased positive outgroup attitudes ( $\beta = .33, p < .001$ ). These results suggest that these mediators are indeed important for our understanding of the relationship between contact and prejudice.

### **Intergroup Contact: From Hypothesis to Theory**

Substantial support for the positive effects of positive intergroup contact (especially cross-group friendships) for the reduction of outgroup prejudice has been established over the past 57 years since the formulation of the contact hypothesis (see Brown & Hewstone, 2005; Pettigrew & Tropp, 2006). Moreover, contact researchers now have a much better understanding of why contact reduces

prejudice (e.g., Pettigrew & Tropp, 2008) and when contact is most likely to reduce prejudice (e.g., Brown & Hewstone, 2005). Given these developments, Allport's (1954) contact hypothesis has arguably developed into a bona fide theory (Hewstone, 2009; Hewstone & Swart, 2011).

However, in spite of having identified cross-group friendships as one of the most important dimensions of intergroup contact, very little is known about how cross-group friendships compare to same-group friendships. Do these friendships function in the same way? Are they characterised by the same level of intimacy or quality? Can a single cross-group friendship promote more positive attitudes towards an entire outgroup? What role does a single cross-group friendship play in exposing ingroup members to a broader social network of outgroup members? These are the main questions that the present study sought to investigate. Understanding the answers to these questions may hold important benefits for the development of successful contact interventions that attempt to promote the development of cross-group friendships. The following chapter takes a closer look at the importance of interpersonal friendships in general, and how these friendships develop, as well as the emerging literature exploring same-group and cross-group friendships.

## CHAPTER THREE

### Interpersonal Friendships

Pettigrew and Tropp (2006) suggest that contact experiences characterized by repeated close interactions, where participants have the opportunity to exchange intimate information, arguably provide the biggest opportunity for reducing outgroup prejudice. Cross-group friendships are generally characterized by precisely these kinds of close, intimate interactions, and it is therefore not surprising that they have been shown to be stronger predictors of reduced outgroup prejudice than other, more casual forms of intergroup contact (e.g., Brown & Hewstone, 2005; Pettigrew, 1997; Pettigrew & Tropp, 2006).

Although the recent intergroup contact literature has advanced the understanding of the benefits of cross-group friendships for the improvement of intergroup relations, questions remain as to how cross-group friendships compare to same-group friendships in terms of interpersonal intimacy and closeness. Can the interpersonal friendship between an ingroup and an outgroup member be considered equivalent (for all intents and purposes) to the interpersonal friendship between fellow ingroup members? Answering this question can provide important insights that would benefit the implementation of successful contact interventions that aim to promote the development of cross-group friendships.

The research presented in this Thesis aimed, in part, to address this question by (a) comparing the mean-level scores reported for same-group and cross-group friendships along several interpersonal-level variables, to explore whether these friendships are experienced in the same way or not, and (b) comparing the structural relationships between some of these interpersonal-level variables between same-group and cross-group friendships to explore whether these interpersonal-level

variables influence each other in a comparable way across these two types of friendships.

Below I begin with a discussion of the role played by interpersonal friendships in people's lives, as well as the factors that influence the development of these interpersonal friendships. This is followed by a discussion of the development of cross-group friendships. After providing a review of the existing literature comparing same-group and cross-group friendships, I conclude with a brief outline of the research that comprises this Thesis.

## **Defining Interpersonal Friendships**

### **The Importance of Interpersonal Friendships**

The nature and structure of friendships have been shown to vary along a continuum of intimacy (or closeness) ranging from a casual acquaintance to a best friend, and the development of a friendship relies strongly upon an initial mutual interest or liking (Fehr, 2000; Hays, 1988). Friendships, according to Hays (1988), may be defined as a voluntary and intentional interdependence between two individuals, comprising of various levels of intimacy, assistance, affection and companionship, which are continuously changing over time and facilitate the achievement of mutual goals. This interdependence between the two individuals who form a friendship dyad relies upon the co-ordination and influence of different behaviours within the dyad (Hays, 1988) and, as such, friendships persist to the extent that each individual in the dyad expects and actively pursues continued, reciprocal interactions, culminating in greater friendship intimacy.

Friendships fulfil several important functions in the lives of individuals across their lifespan. These include the provision of emotional and social support (La Greca & Lopez, 1998) and intimacy (Clark & Ayers, 1993; Fehr, 1996; 2000; La Gaipa,

1979; Parks & Floyd, 1996), and have been shown to correlate with greater self-reported happiness (Baldassare, Rosenfield, & Rook, 1984; Demir & Weitekamp, 2007; Diener & Seligman, 2002; Gilligan, 1982; Gladow & Ray, 1986) and psychological well-being (Cohen, Sherrod, & Clark, 1986; Gauze, Bukowski, Aquan-Assee, & Sippola, 1996; Keefe & Berndt, 1996; Wentzel & McNamara, 1999).

Amongst adolescents, friendships are instrumental in developing a sense of self and establishing independence (Dusek, 1991), while they also serve as a source of emotional support, intimacy, companionship, and a means of expressing emotions and resolving conflict (Berndt, 1982). Friendships are central to healthy adult functioning as they provide a means of self-expansion, playing an important role in the development of social skills and personal competence (Ingersoll, 1989).

### **Self-Expansion, Self-Other Overlap, and the Importance of Self-Disclosure**

The 'self' has broadly been defined as cognitive or affective representations of one's identity (Jung, 1964). In social psychology, one's 'self' has come to refer to the individual being, as well as the individual's social identity (i.e., the specific social roles and social memberships that are salient for an individual; Baumeister & Leary, 1995). The conceptualization of the 'self' allows an individual to distinguish themselves from others.

Self-expansion refers to an individual's desire to increase their potential efficacy (the belief that they can achieve specific goals), and it is achieved by altering the cognitive and affective representations of one's identity to include the experiences, knowledge and social roles of others. The self-expansion model proposed by Aron and Aron (1986) suggests that individuals form close friendships with others in order to increase their potential efficacy by accessing the physical (e.g., financial support, shelter), affective (e.g., emotional support, affection), and

cognitive (e.g., opinions, worldviews) resources available to other individuals. The progression of an interpersonal relationship from that of being strangers, to acquaintances, to close friends, is often characterized by an increased sharing of a wider range of these resources.

As the interpersonal relationship develops via the mutual sharing of these various resources, a psychological process occurs whereby individuals begin to view the other as being ever more similar to themselves, a process known as the inclusion of the other in the self (or self-other overlap; Aron & Aron, 1996). Aron, Aron, Tudor, and Nelson (1991) have demonstrated that as the interpersonal closeness between two individuals increase, they view each other as increasingly alike (in terms of opinions and worldviews, amongst others), and this then positively impacts the extent to which they psychologically include one another in their conception of their own 'self' (i.e., increased self-other overlap; see also Aron & McLaughlin-Volpe, 2001; Hays, 1988).

Self-other overlap can be considered a reliable measure of friendship intimacy or closeness, and is a consequence of our inherent desire to expand the self. It seems logical to expect that dyads that are characterized by greater self-other overlap (indicative of a greater satisfaction of our desire for self-expansion; e.g., close friendships) are evaluated more positively than those that are not (e.g., acquaintances). A key mechanism through which individuals are able to share their cognitive and affective resources with one another, promoting greater self-other overlap (and friendship intimacy), is reciprocal self-disclosure.

Reciprocal self-disclosure involves the voluntary sharing of significant and personal information between two people, and helps promote interpersonal trust (Miller, 2002), while it also increases the perceived importance of the interpersonal

friendship (Van Dick et al., 2004). Increased levels of self-disclosure within interpersonal friendships are able to reduce negative attitudes towards an outgroup. By altering the perceptions held toward an outgroup member, individuals begin to categorize the outgroup member as more similar to themselves (Ensari & Miller, 2002). Through reciprocal self-disclosure, individuals are able to share their cognitive and affective resources with one another. Therefore, greater levels of self-disclosure within a friendship is able to lead to greater self-other overlap, which is also able to develop into greater levels of friendship intimacy.

### **Intimacy**

Intimacy and the degree of self-other overlap are two possible ways of evaluating the quality of an interpersonal friendship. Friendships that exhibit a high degree of interpersonal intimacy, and/or that are characterized by a greater degree of psychological overlap between the individuals in the friendship dyad, could be regarded as being of greater quality than friendships that do not share this degree of interpersonal intimacy or self-other overlap. Friendship quality (and, by extension, friendship intimacy) may also be evaluated in terms of the functions or roles that individuals perceive their friends to fulfil within the friendship (Hays, 1988). A friendship wherein a friend is perceived to fulfil a number of important functions in an individual's life could be considered to be characterized by greater friendship intimacy and quality than a friendship wherein the friend is not perceived to fulfil as many (if any) important functions.

Mendelson and Aboud (1999) identified the following friendship functions to be of particular importance within interpersonal friendships: stimulating companionships, help, intimacy, reliable alliance, self-validation and emotional security. Using these six broad dimensions of friendship functions, Mendelson and



About (1999) developed the McGill Friendship Questionnaire – Friend's Functions scale, where higher scores on this measure are indicative of greater levels of perceived friendship functions fulfilled by a particular friend (and, by extension, greater friendship quality). Mendelson and About (1999) further explored the relationship between friendship functions and friendship affection by developing the McGill Friendship Questionnaire – Respondents Affection scale. These friendship questionnaires were then tested amongst Canadian university students.

Mendelson and About (1999) asked a sample of Canadian university students ( $N = 227$ ) to complete both of these measures. They found that respondents who were involved in close (i.e., more intimate) interpersonal friendships that were longer in duration, generally rated their friend significantly higher on the friendship functions scale, and they were also significantly more satisfied with their friendship, than those respondents engaged in less intimate friendships that were shorter in duration.

Interpersonal friendships play an important role in our lives. They fulfil our unconscious motivation towards self-expansion, and satisfy our need for interpersonal intimacy via greater self-other overlap and the reciprocal fulfilment of important friendship functions. Importantly, however, a number of studies have indicated the presence of gender differences when it comes to how interpersonal friendships are characterized by males and females.

### **Gender Differences**

It is often thought that the nature of interpersonal friendships differs across gender. Female friendships are often stereotyped as involving greater communication and the sharing of personal information and emotions, while male friendships are thought to involve less sharing of emotions and more companionship

revolving around joint activities. There is research to suggest that these gender differences may be more than mere social stereotypes.

Women's friendships are characterized by communication and centred on dialog and the sharing of personal, emotional, and/or confidential information (Wright, 1982). As a result, women generally refer to their friendships as being more meaningful than friendships between men, as a result of the depth and breadth of self-disclosure that takes place between female friends (Fehr, 2000; Hays, 1988; Wood, 2000). As females reported significantly increased levels of intimacy than males, these results could suggest that females perceive their friendships as significantly closer than male friendships, another result predicted in the present study.

Conversely, friendships between males are primarily activity orientated. Conversations between men usually include non-personal matters such as sports (Bell, 1981; Wellman, 1992). Although female friendships may appear to be closer to that of male friendships, research has found both males and females to have similar perceptions of intimacy and closeness within their friendships, even though they are conveyed by different methods (Dindia & Allen, 1992; Reis, Senchak, & Solomon, 1985). Males are less likely to explicitly express emotions with each other; their shared activities relate to similar forms of intimacy as engaging in reciprocal self-disclosure for women. Despite these gender differences both male and female friendships are established and maintained through these basic constructs.

Given these gender differences, the present study included an investigation of any possible gender differences between same-group and cross-group friendships. Results in the present study should show females scoring significantly higher on both positive and negative self-disclosure than males as the results from the above

mentioned studies (Aboud, Mendelson, & Purdy, 2003; Mendelson & Aboud, 1999) consistently yielded differences on scores between female and male respondents.

### **The Development of Interpersonal Friendships**

Many factors influence friendship formation, including opportunities for contact (Kubitschek & Hallinan, 1998) and interpersonal attraction (Aboud & Mendelson, 1996). Several factors have been identified as important predictors of the perceived attractiveness of potential friends, including proximity, status, similarity, reciprocal self-disclosure, and reciprocity (Hallinan & Williams, 1989). Each of these is discussed in turn below.

#### **Opportunity/Proximity**

Hallinan (1976) found that when opportunities for contact and interaction are increased, the probability of individuals forming new friendships increases significantly. Opportunities for contact (greater interpersonal proximity) are important for fostering the initial interactions between individuals. These interactions between individuals are capable of establishing whether there are common interests between them through self-disclosure (sharing of information related to the self with another), encouraging further repeated interactions.

Over time, these interactions (and the self-disclosure that accompanies them) will foster greater empathy, perspective-taking and trust, which could lead to the development of an interpersonal friendship (Aron et al., 1991). However, an increase in the proximity of individuals alone does not necessarily guarantee interactions between individuals or the development of interpersonal friendships. Individuals are more likely to establish friendships with people who they consider to be similar to themselves than with people who they perceive to differ from themselves (Hallinan & Williams, 1989).

## **Similarity and Interpersonal Attraction**

Similarity, especially in terms of attitudes and values (Hill & Stull, 1981), is especially important in the early stages of friendship formation (Hays, 1988). It not only increases the attractiveness of potential friends, but also serves as a means of fostering closeness between individuals in the process of friendship formation (Fehr, 2000). Individuals perceived to be dissimilar to the self are more likely to be excluded as potential friends. Perceived similarity allows individuals to have their opinions and points of view validated and endorsed by another, an experience that is perceived as considerably more fulfilling than that experienced in the interactions between dissimilar individuals (Fehr, 2000).

## **Status**

The formation of interpersonal friendships may also be influenced by the personal status of individuals. Individuals with an increased personal status are usually considered to have higher levels of interpersonal attraction as compared to those with low personal status (Hallinan & Teixeira, 1987; Hallinan & Williams, 1989). Individuals are more likely to form friendships with others they perceive as having a higher personal status than their own, as a means of improving their own personal status. This principle is directly related to Aron and Aron's (1986) self-expansion model, where individuals strive for improved resources and self-improvement. However, the tendency to establish friendships with individuals who are perceived to have a high personal status can also be considered from the perspective of Tajfel and Turner's (1979) Social Identity Theory.

According to Social Identity Theory, individuals strive to develop a positive social identity (in relation to their various group memberships) in addition to their personal (individual) identity. In order to develop this positive social identity,

individuals seek to form friendships with group members who are able to promote a positive sense of self. It is from this perspective that individuals are attracted to form friendships with others from a higher social status, resulting in a more positive social identity and sense of self.

### **Reciprocity**

Becoming friendlier with others increases the interpersonal attraction between individuals, and increases the chance of selecting someone as a friend on the basis of reciprocity. Reciprocity describes the situation whereby individuals are more likely to consider others as a 'friend' on the basis of reciprocated friendliness, despite any other characteristics of either individual influencing friendship formation (Gouldner, 1960).

Factors influencing the development of friendship formation, namely opportunity/proximity, similarity and interpersonal attraction, status and reciprocity, have been shown to be important factors in influencing the development of interpersonal friendships. These factors may be equally important in the development of cross-group friendships.

### **The Development of Cross-group friendships**

Cross-group friendships (i.e., the interpersonal friendships between ingroup and outgroup members) offer several advantages in intergroup interactions, including the reduction of blatant prejudice and implicit bias (e.g., Aberson, Shoemaker, & Tomolillo, 2004; Dovidio & Gaertner, 1991; Gaertner & Dovidio, 1986; Levin et al., 2003; Pettigrew, 1997), increased tolerance towards outgroups in general (Dovidio et al., 2003; Pettigrew, 1997), improved outgroup attitudes (McGuigan & Scholl, 2007), improved interracial closeness (Tropp, 2007), reduced intergroup anxiety (Mendoza-Denton, Page-Gould, & Pietrzak, 2006), and reduced

anxiety about future intergroup interactions (Brown, 1995; Brown, Vivian, & Hewstone, 1999).

Moreover, cross-group friendships have been shown to have a stronger inverse relationship with outgroup prejudice than other forms of contact (e.g., contact between neighbours or work colleagues, or contact between strangers or acquaintances; Pettigrew, 1997; Pettigrew & Tropp, 2006). It is not surprising that many of the variables that are influential in the development of interpersonal friendships in general are also important for the development of cross-group friendships. However, their role in the development of interpersonal friendships may be influenced according to whether the interpersonal friendship is between individuals who share the same group membership or between those that differ in group membership.

### **Opportunity/Proximity**

Opportunities for intergroup contact and close proximity with outgroup members increase the chance that individuals will become acquainted with outgroup members (the first step towards developing a cross-group friendship; Feld & Carter, 1998). Hallinan and Williams (1989) explored the processes involved in the selection of same-group and cross-group friendships among high school students, as well as the effects of classroom structure on students' cross-group friendship formations. They found that, together with the mechanisms underlying the development of interpersonal friendships in general (discussed earlier), classroom structure (and especially seating patterns) strongly influenced friendship formation for both ingroup and outgroup individuals as well as for same-group and cross-group friendships. As ingroup and outgroup members were placed in closer proximity to each other,

increases in opportunities for contact were also made available, thereby encouraging the formation of acquaintances and friendships.

Research has indicated a positive relationship between opportunity for contact and cross-group friendships. Turner et al. (2007) conducted research amongst Asian and white high school students in England ( $N = 96$ ). The results supported their hypothesis that opportunity for contact would be positively associated with cross-group friendships ( $r = .37, p < .001$ ). In the context of intergroup relations, especially in post-conflict societies such as South Africa, greater opportunities for contact do not always translate into greater contact or friendship development. Within South Africa, research has illustrated that opportunity for contact and proximity does not always guarantee that contact will take place or that cross-group friendship will develop.

Schrieff et al. (2005) observed the patterns of racial segregation within residence dining-halls at the University of Cape Town. Although opportunity for contact and proximity levels were high (within the limited space of the dining-halls), the seating patterns of students continued to show racial segregation between groups. This limited contact (despite an increase in the opportunity to engage in intergroup contact) may be explained by levels of intergroup anxiety experienced by students who are often only experiencing opportunities for intergroup contact for the first time. Opportunities for intergroup contact may offer unique obstacles for the development of cross-group friendships than for the development of same-group friendships.

### **Similarity**

While opportunity for contact and proximity has been shown to be important for cross-group friendship formation, the same can be said for the importance of

similarity in the early stages of cross-group friendship formation (Hays, 1988). As in the case of interpersonal friendships in general, greater perceived similarity in terms of interests or opinions will stimulate an increased sense of self-other overlap between ingroup and outgroup members over time, which would strengthen their relationship.

However, one of the challenges of establishing cross-group friendships lies in the fact that ingroup and outgroup members often regard each other as being very dissimilar along a range of dimensions (notably group membership and group status; Brewer, 2009; Tajfel & Turner, 1986). This might reduce the interpersonal attraction between them, discouraging the development of an intimate bond. Reciprocal self-disclosure plays an especially important role in the development of cross-group friendships because it can create opportunities for overcoming any sense of dissimilarity and increase perceived similarity.

### **Reciprocal Self-Disclosure**

Reciprocal self-disclosure amongst cross-group friends has been shown to generate greater interpersonal attraction, intimacy and positive affect towards the outgroup friend, as well as reducing the negative stereotypes held about the outgroup (Brewer & Gaertner, 2001; Laurenceau, Barrett, & Peitmonaco, 1998; Reis & Shaver, 1988; Worthy, Gary, & Kahn, 1969). As such, positive and negative reciprocal self-disclosure amongst cross-group friends not only strengthens their friendship by increasing interpersonal intimacy and trust, but also contributes to the improvement of outgroup attitudes as a whole.

As alluded to above, reciprocal self-disclosure may play an especially important role in overcoming the perceived dissimilarity between ingroup and



outgroup members. This is particularly important in overcoming the perceived status differences that drive ingroup-outgroup relations in general (Brewer, 2009).

In the discussion on the role of status in the development of interpersonal friendships earlier, it was highlighted that, from the perspective of the Social Identity Theory (Tajfel & Turner, 1986), individuals seek friendships with others whom they perceive to have a high social status as a means of enhancing their own personal status. Within the context of intergroup relations, then, individuals who perceive themselves as belonging to a higher status group may actively avoid interactions with individuals they perceive as belonging to a lower status group. To increase the opportunities for ingroup and outgroup individuals to become acquaintances and subsequently develop cross-group friendships, the perceived category salience of their respective groups should be minimized during the earliest stages of intergroup contact (or friendship development), while creating opportunities for them to explore what it is they have in common.

Although this category salience is important for the generalisation of the positive attitudes held towards an outgroup individual to the outgroup as a whole (Brown & Hewstone, 2005), heightened category salience may increase perceptions of group inequality and thereby inhibit the development of cross-group friendships (Pettigrew, 1998). It is therefore essential that initial intergroup encounters provide opportunities for sufficient reciprocal self-disclosure of interests and opinions on the interpersonal level (i.e., in a manner that does not increase the category salience of the two individuals, but rather creates opportunities for them to establish where they share common interests; Brown & Hewstone, 2005; Pettigrew, 1998).

From the above it is clear that the same variables underlying and influencing the development of interpersonal (same-group) friendships in general play an

important role in the development of friendships between ingroup and outgroup members (cross-group friendships). These variables include opportunities for contact, proximity, similarity, group-status and reciprocal self-disclosure. While equally important, these variables are likely to exert unique effects on the development, experience, and maintenance of same-group and cross-group friendships respectively. As such, it is important to consider how same-group and cross-group friendships compare to one another along key interpersonal-level variables. Below I discuss the emerging literature that has explored how same-group and cross-group friendships compare to one another along a range of interpersonal-level variables.

### **Comparing Same-Group and Cross-Group Friendships**

The literature on intergroup contact has seldom compared same-group and cross-group friendship dyads, focusing instead on generalised (or aggregated) cross-group friendships (e.g., Pettigrew, 1997; Swart et al., 2011; Turner et al., 2007). One of the shortcomings of this aggregated approach is that intergroup encounters (in the form of cross-group friendships) are aggregated across both positive and negative encounters with cross-group friends and across cross-group friendships that vary in their levels of intimacy (from an outgroup acquaintance to a very close outgroup friend). Moreover, very little research has explored whether friendships between fellow ingroup members are comparable to ingroup-outgroup friendships (controlling for variables such as friendship closeness, length of friendship and so forth).

The little research that is available in this regard indicates that same-group friendships and cross-group friendships appear to differ significantly from one another in terms of the amount of friends reported, friendship stability, and shared activities (e.g., Aboud et al, 2003; Boulton & Smith, 1996; Epstein, 1986; Graham &

Cohen, 1997; Howes & Wu, 1990; Kao & Joyner, 2004). Amongst high school students in Canada, Aboud et al. (2003) explored the differences in levels of friendship functions (via the McGill Friendship Questionnaire – Friendship Functions). Results showed no differences in perceived levels of most friendship functions in either the same-group or cross-group conditions.

Yet, not much is known about how same-group friendships compare to cross-group friendships along other important interpersonal dimensions including friendship type (or intimacy), friendship length, the amount of reciprocal self-disclosure (both positive and negative), friendship functions and friendship affect. Recent research has begun to explore this very question.

### **The Emerging Literature Comparing Same-group and Cross-group Friendships**

Five recent between-subjects studies amongst majority-status respondents from four distinct social contexts (England, Northern Ireland, Serbia, and South Africa) have evaluated same-group and cross-group friendships along the seven interpersonal-level variables, namely length of friendship, type of friendship (e.g., acquaintance versus best friend), amount of contact with the friend, positive and negative reciprocal self-disclosure, friendship functions, and friendship affection.

Within each study, participants were randomly assigned to either a same-group friendship condition, exploring their relationship with their closest same-gender, same-group friend, or a cross-group friendship condition, which explored their relationship with their closest same-gender, cross-group friend. Across all five studies, multivariate analyses of variance (MANOVA) reported no significant difference between participants in the two friendship conditions along key demographic variables (including gender and age). Each of the five studies showed

that same-group friendships appear to be qualitatively different to cross-group friendships.

The first study, conducted online amongst white British university students in England, compared same-gender same-group ( $N = 46$ ) friendships (with white Brits) and same-gender cross-group friendships ( $N = 55$ ) with South Asians (Patterson, 2010). Friendship length was found to be significantly longer in the same-group condition than in the cross-group condition. After controlling for friendship length (adding it as a covariate), and comparing same-group and cross-group friendships on the remaining interpersonal-level variables, multivariate differences were found between the two friendship conditions. Respondents in the same-group friendship condition reported having more contact with their same-group friend, greater levels of intimacy (as measured by the type of friendship), more positive and negative reciprocal self-disclosure, more friendship functions, and greater friendship affection than participants in the cross-group friendship condition (see Table 1).

In Northern Ireland, the second study compared the same-gender same-group friendships and the same-gender cross-group friendships of undergraduate Protestant ( $N = 86$ ) and Catholic ( $N = 95$ ) university students (Brewer, 2009). Protestant respondents reported on their closest same-gender Catholic friend in the cross-group friendship condition and vice versa. After controlling for friendship length (which was again significantly greater in the same-group friendship condition than in the cross-group friendship condition), same-group and cross-group friendships did not differ significantly in terms of amount of friendship contact between friends or positive reciprocal self-disclosure. However, differences did emerge along the remaining interpersonal-level variables. Participants in the same-group friendship condition reported significantly more intimate friendships (as measured by friendship

type), and significantly more negative reciprocal self-disclosure, friendship functions, and friendship affect than respondents in the cross-group friendship condition (see Table 1).

Moreover, the results also showed significant gender differences, irrespective of friendship condition. In other words, irrespective of whether they were reporting on their closest same-group or their closest cross-group friendship, female respondents reported significantly greater mean levels of interpersonal trust (females:  $M = 5.84$ , males:  $M = 5.36$ ;  $F(1, 171) = 4.06$ ,  $p = .05$ ,  $\eta^2 = .02$ ), and greater mean levels of positive (females:  $M = 5.77$ ; males:  $M = 5.28$ ;  $F(1, 171) = 6.60$ ,  $p = .01$ ,  $\eta^2 = .04$ ) and negative (females:  $M = 5.33$ ; males:  $M = 4.85$ ;  $F(1, 171) = 4.41$ ,  $p = .03$ ,  $\eta^2 = .02$ ) reciprocal self-disclosure than male respondents.

The third study, conducted in Serbia by Lukovic (2010), surveyed same-gender, same-group and cross-group friendships (with Croats and Bosniaks) amongst Serbian university students ( $N = 400$ ). Once again, friendship length was significantly greater in the same-group condition than in the cross-group condition. After controlling for friendship length, same-group and cross-group friendships differed along all the interpersonal-level variables. Participants in the same-group friendship condition reported significantly more intimate friendships (measured by friendship type, time spent with their friend, positive and negative reciprocal self-disclosure, friendship functions and friendship affect) than respondents in the cross-group friendship condition (see Table 1).

Two further studies (study 4 and study 5) were undertaken comparing same-gender, same-group and cross-group friendships amongst white South African university students. In the first of these (study 4), paper-and-pencil survey data were

collected amongst white South African students studying at Stellenbosch University ( $N = 430$ ; Loxton, 2009). Respondents in the cross-group friendship condition reported on their closest same-gender cross-group friendship with coloured South Africans. Consistent with the findings of the three previous studies, same-group and cross-group friendships differed significantly in terms of friendship length; respondents in the same-group friendship condition reported significantly greater friendship length than respondents in the cross-group friendship condition. After controlling for this difference in friendship length same-group friendships scored higher on friendship type, positive reciprocal self-disclosure, friendship functions and friendship affection than respondents in the cross-group friendship condition (see Table 1).

Goosen (2011) attempted a replication of the South African study undertaken by Loxton (2009). Using an electronic survey design, Goosen (2011) collected self-report data relating to same-gender, same-group and cross-group friendships amongst white South African first-year students at Stellenbosch University ( $N = 468$ ). As with the four studies reported above, Goosen (2011) used a between-subjects design to compare same-gender, same-group friendships (with white South Africans) and same-gender cross-group friendships (with coloured South Africans) along seven interpersonal-level friendship variables (namely friendship length, friendship type, friendship contact, positive and negative reciprocal self-disclosure, friendship functions and friendship affection). Goosen (2011) found that, in comparison to respondents in the cross-group friendship condition, respondents in the same-group friendship condition reported significantly longer friendship duration (see Table 1).

Subsequent to controlling for this difference in friendship length, Goosen (2011) found that respondents in the same-group friendship condition reported

significantly more positive and negative reciprocal self-disclosure, friendship functions, interpersonal closeness, friendship affection and greater quality of friendships than participants in the cross-group friendship condition. Moreover, female respondents reported significantly greater mean levels of positive and negative reciprocal self-disclosure, more positive friendship functions, and more positive friendship affection than male respondents, irrespective of friendship condition.

Goosen (2011) then used path analyses to compare the structural relationships amongst these interpersonal-level variables for same-group and cross-group friendships. Results showed significant differences in the structural relationships between several paths across the same-group and cross-group friendship conditions: between friendship length and friendship closeness, between positive reciprocal self-disclosure and friendship functions, between positive reciprocal self-disclosure and friendship affection, and between friendship closeness and friendship affection.

She found evidence in the cross-group friendship condition supporting the generalisation of positive attitudes held towards a particular coloured South African friend to positive attitudes towards coloured South Africans in general (subsequent to controlling for prior general contact with coloured South Africans). Friendship affect significantly mediated the relationship between friendship functions and outgroup attitudes ( $z = 2.33, p < .05$ ) and between friendship closeness and outgroup attitudes ( $z = 2.29, p < .05$ ).

She also found evidence supporting her hypothesis that access to a specific outgroup exemplar by way of a cross-group friendship was significantly associated with exposure to a broader social network of outgroup members and significantly

positively associated with the growth of further cross-group friendships. Friendship closeness significantly mediated the relationship between friendship contact and contact with the coloured South African friend's same-group friends ( $z = 3.03$ ,  $p < .01$ ).

Although these represent only a handful of research studies comparing same-group and cross-group friendships, the results achieved across the different intergroup contexts are remarkably consistent. Across all five studies, the data showed significant multivariate differences between same-group and cross-group friendships along a range of interpersonal-level variables, even after controlling for the significant differences in friendship length. Same-group friendships were consistently shown to be characterized by significantly greater friendship intimacy, friendship contact, positive and negative reciprocal self-disclosure, friendship functions and friendship affection than cross-group friendships. Moreover, these five studies revealed significant gender differences amongst males and females, irrespective of friendship condition. Females generally reported significantly more positive and negative self-disclosure and interpersonal trust than males.

In spite of these multivariate mean-level differences between same-group and cross-group friendships along these seven interpersonal-level variables, Goosen (2011) showed that the inter-relations between these variables do not (for the most part) differ significantly across same-group and cross-group friendships, suggesting that these variables impact each other in similar ways for both same-group and cross-group friendships. Goosen (2011) also showed that a single close cross-group friendship with a coloured South African was not only associated with greater friendship affect, but also more positive attitudes towards the coloured South African outgroup in general (even after controlling for prior contact with coloured South



Table 1

*Mean Differences between Same-group (reported in bold) and Cross-group (reported in italics) Friendships across the Five Studies*

	Group Means and Significance Levels				
	England	Ireland	Serbia	South Africa (1)	South Africa (2)
Friendship Length	<b>7.39/4.74*</b>	<b>8.56/5.54**</b>	<b>5.31/3.89***</b>	<b>4.97/3.37***</b>	<b>46.66/63.75***</b>
Friendship Type	<b>3.28/1.67***</b>	<b>3.17/2.08***</b>	<b>4.20/2.58***</b>	<b>3.94/2.19***</b>	<b>3.00/4.57**</b>
Friendship Contact	<b>17.53/5.84**</b>	<b>3.85/3.55<sup>a</sup></b>	<b>2.09/1.17***</b>	<b>7.50/3.77***</b>	<b>1.17/2.09***</b>
Positive Self-Disclosure	<b>5.79/4.58***</b>	<b>5.77/5.43<sup>b</sup></b>	<b>4.14/3.47***</b>	<b>5.64/4.18***</b>	<b>3.47/4.14***</b>
Negative Self-Disclosure	<b>4.70/3.56**</b>	<b>5.34/4.92*</b>	<b>3.28/2.79***</b>	<b>4.64/3.38***</b>	<b>2.80/3.28***</b>
Friendship Functions	<b>7.04/5.56***</b>	<b>6.97/6.16***</b>	<b>3.17/2.48***</b>	<b>6.43/4.75***</b>	<b>2.48/3.17***</b>
Friendship Affect	<b>3.44/2.10***</b>	<b>7.20/6.62**</b>	<b>4.66/4.12***</b>	<b>7.79/6.11***</b>	<b>4.12/4.66***</b>

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ ; <sup>a</sup> $p = .10$ ; <sup>b</sup> $p = .06$

Note: Scales in each study were scored such that higher mean values denote higher levels of a particular construct: Friendship Length scored in years (study 1, 2 & 3) and months (study 4 & 5); Friendship Type scored from 1 - 4 (study 1 & 2), 1 - 5 (study 3 & 4) and 0 - 7 (study 5); Friendship Contact scored from 1 - 50 (study 1) and 1 - 5 (study 2, 3 & 5); Positive and Negative Reciprocal Self-disclosure scored from 1 - 7 (study 1, 2, 3 & 4) and 1 - 5 (study 5); and Friendship Functions and Friendship Affection scored from 0 - 8 (study 1, 2, 3 & 4) and 1 - 5 (study 5).

Africans in general). This finding suggests that even a single, close outgroup friend is capable of impacting positively on outgroup attitudes in general, over-and-above any prior general interactions with coloured South Africans. Moreover, Goosen's (2011) findings suggest that an important benefit of having a close outgroup friend is that it exposes the ingroup member to a broader network of outgroup members, which could facilitate the development of further cross-group friendships.

Interventions aimed at improving intergroup relations will benefit from these five studies as they provide consistent support for the processes involved in how cross-group friendship are able to bring about improved attitudes towards groups. However, in spite of these benefits, each of the five studies reported above suffer the same shortcoming. They were each undertaken amongst majority-status respondents within their given context. As described in the previous chapter, the contact-prejudice relationship has been shown to differ significantly for majority- and minority-status groups (Tropp & Pettigrew, 2005). Majority-status group members may experience increased levels of anxiety as they fear minority-status group members may view them as prejudiced. Minority-status group members may be reluctant to engage in contact as they may fear falling victim to prejudices held by majority-status members. Given these differences, it is perhaps worthwhile asking whether the consistent findings amongst majority-status respondents in the five studies described above can be replicated amongst minority-status respondents. This is what the present study set out to achieve. The following chapter considers the rational and methodological considerations related to the present study, followed by the description of the study's findings.

## CHAPTER FOUR

### **Comparing Same-group and Cross-group Friendships amongst Minority-status Students**

The literature review presented in Chapter Two has established the broad support for the idea that positive intergroup contact (and specifically cross-group friendships) is a powerful means of reducing prejudice and improving intergroup relations (see Davies et al., 2011; Pettigrew & Tropp, 2006). Results from the emerging literature, contrasting interpersonal-level variables for same-group and cross-group friendships, have consistently shown a significant distinction between same-group and cross-group friendships (e.g., Goosen, 2011; Swart et al., 2011). Respondents reporting on their closest same-gender, same-group friendship consistently report greater friendship length, friendship contact, levels of positive and negative reciprocal self-disclosure, friendship functions, friendship closeness and friendship affection than respondents reporting on their closest same-gender, cross-group friendship.

Notably, these studies were all conducted amongst majority-status respondents (e.g., white university students in the United Kingdom, Protestant/Catholic university students in Northern Ireland, Serbian university students in Serbia and white university students in South Africa). None of them compared same-group and cross-group friendships amongst minority-status participants. Given the findings reported by Tropp and Pettigrew (2005) that contact effects vary significantly as a function of group-status, it is worthwhile asking whether these consistent findings amongst majority-status respondents can be replicated amongst minority-status respondents.

The present research aimed to address this question by attempting to replicate the findings reported by Goosen (2011) by comparing the same-group friendships of coloured South African students (a relative minority-status group, comprising 15.52% of the student population) and their cross-group friendships with white South Africans (a relative majority-status group, comprising 66.86% of the student population) at Stellenbosch University (Division for Institutional Research and Planning, 2012).

### **The Present Study**

The present study explored four specific research questions. Firstly, using a between-subjects design, it aimed to compare the mean-level scores of respondents reporting on their same-gender, same-group and cross-group friendships along nine primary interpersonal-level variables. These variables include friendship length, friendship type, friendship contact, positive reciprocal self-disclosure, negative reciprocal self-disclosure, friendship functions, friendship closeness, friendship affection and interpersonal trust. Interpersonal trust is a unique addition to the five studies that have previously undertaken these comparisons. These mean-level comparisons were designed to explore whether same-group and cross-group friendships are characterized similarly or not. As with the studies described previously, this research focused only on same-gender friendships (as opposed to male-female friendships) in an effort to control for any gender effects.

Secondly, the present study aimed to compare the structural relationships between these interpersonal-level friendship variables across the two friendship conditions to determine whether the interrelationships between them (or the quasi-causal relationships) were comparable across the two friendship conditions or not. The comparison of these structural relationships across the two friendship conditions

formed part of the investigation as to whether the interpersonal-level variables operate (or influence one another) in the same way or not across the two friendship conditions. Thirdly, the present study explored whether the attitudes towards a specific outgroup exemplar (white South African friend), as measured in terms of friendship affect, were able to generalise towards more positive attitudes towards white South Africans in general.

Finally, the present study aimed to explore the extent to which interactions with a specific cross-group friend were related to access with a wider social-network of outgroup peers and the development of further cross-group friendships. Collectively, the benefit of these research questions would be of value, as to know whether a single, close cross-group friend has the advantage of improving attitudes towards an outgroup exemplar and outgroup as a whole, but also exposing ingroup members to further opportunities for having contact with outgroup members in environments that encourage the development of cross-group acquaintances and friendships.

## **Hypotheses**

Six hypotheses were derived from these aims after a careful consideration of the existing literature comparing same-group and cross-group friendships. The first three hypotheses relate to the mean-level comparison of the nine interpersonal-level variables across same-group and cross-group friendship conditions. The first three hypotheses are:

- (1) Same-group friendships will be characterised by significantly greater friendship length, and significantly greater mean-levels of friendship intimacy (as measured via the nature/type of the friendship), friendship contact, positive and negative reciprocal self-disclosure, friendship

functions, interpersonal closeness (self-other overlap), positive affective feelings and interpersonal trust than same-gender, cross-group friendships.

- (2) The significant multivariate and univariate differences on the mean-level along these nine interpersonal-level variables will persist across the two friendship conditions even after controlling for differences in friendship length.
- (3) Female respondents will rate their same-gender interpersonal friendships significantly higher in terms of friendship intimacy, positive and negative reciprocal self-disclosure, friendship functions, and friendship affect than male respondents, irrespective of the friendship condition.

The fourth hypothesis relates to the structural relationships between these interpersonal-level variables amongst same-group and cross-group friendships.

- (4) Positive and negative reciprocal self-disclosure (proximal mediators), and friendship functions and interpersonal closeness (distal mediators) will each mediate the relationship between friendship contact and both friendship affect and interpersonal trust for both same-group and cross-group friendships (after controlling for friendship length and, in the case of cross-group friendships, also controlling for the quality and quantity of contact with the outgroup in general). More specifically, friendship contact will be significantly positively associated with positive and negative reciprocal self-disclosure, both of which will in turn be significantly associated with greater friendship closeness, more friendship functions, greater friendship affection and increased levels of interpersonal trust for both friendship conditions. Furthermore, friendship contact will be

significantly positively associated with greater friendship closeness and more friendship functions, both of which will in turn be significantly positively associated with greater friendship affect and interpersonal trust for both friendship conditions.

The final two hypotheses were developed for the cross-group friendship condition only. Hypothesis five focused on the generalisation of attitudes towards the outgroup friend (the outgroup exemplar) to the outgroup as a whole. Hypothesis six focused on the potential exposure to broader social networks of outgroup members offered by having an outgroup friend.

- (5) Friendship affect towards a specific same-gender white South African friend in the cross-group friendship condition will be significantly positively associated with more positive outgroup attitudes towards white South Africans in general, even after controlling for prior general quantity and quality of contact with white South Africans.
- (6) Contact with a specific white South African friend in the cross-group friendship condition (i.e., contact with one's closest white South African friend) will be significantly associated with more contact with this white South African friend's other white South African friends, which will in turn be significantly associated with more friendships with the white South African's white South African friends. This hypothesis sought to test the role played by having a cross-group friend in exposing ingroup members to a wider social network of outgroup members.

## Method

### Procedure.

A flow-diagram illustrating the data collection procedure is illustrated in Figure 1 below. Prior to the commencement of the data collection amongst Stellenbosch University students, ethical approval was obtained from the Division of Institutional Research and Planning and from the Stellenbosch University Research Ethics Committee (#HS592/2011). The e-mail addresses of all registered coloured South African students (aged 18 years or older) were obtained from the Stellenbosch University Registrar, and prospective respondents were randomly assigned to either the same-group or the cross-group friendship condition. Data collection took place between May and August 2012.

Respondents were recruited for participation in the study by means of an electronic mail invitation (Appendix A) sent out to 2,523 coloured South African students registered at Stellenbosch University. Each email invitation contained a unique Uniform Resource Locator (URL; See Appendix A) that directed prospective respondents to the electronic survey ( $N = 1,257$  email invitations were sent out containing the URL for the survey questionnaire of the same-group friendship condition;  $N = 1,266$  invitations were sent out containing the URL for the survey questionnaire of the cross-group friendship condition).

After the URL link had been accessed, an electronic consent form was presented to each prospective respondent (Appendix B). The electronic consent form included a broad description of the study, explained the rights of respondents pertaining to participant confidentiality and respondent anonymity and also informed prospective respondents that they were allowed to withdraw their participation from the survey at any time. Prospective respondents were then able to either 'Agree' to



the terms and conditions and proceed to the online survey or 'Disagree' and exit the online survey portal.

Respondents who agreed to complete the online survey were then presented with biographical and demographic questions (Appendix C), which were presented to them in both English and Afrikaans. These biographical questions collected information relating to each participant's age, gender and home language. After providing their biographic information, respondents in the same-group friendship condition were instructed to identify their closest same-gender, same-group (i.e., coloured South African) friend by providing the initials of this friend (this served as a stimulus to prompt the respondent to think of this particular friend when answering each of the interpersonal-level questions).

The instructions given to the respondents in the cross-group friendship condition were similar, except that they were asked to identify their closest same-gender, cross-group (i.e., white South African) friend by providing the initials of this friend (which again served as a stimulus to prompt the respondent to think of this particular friend when answering each of the interpersonal-level questions).

Respondents who indicated that they had no such same-group or cross-group friendship were asked to confirm their answer. Those who confirmed that they did indeed not have any such friendships were automatically directed to the group-level questions regarding their contact with and attitudes towards white South Africans in general.

All respondents who indicated that they did have either a same- or cross-group friend (depending on the friendship condition they were randomly assigned to) were asked to answer both the interpersonal-level questions relating to this particular friendship and the group-level questions (relating to the white South African target

group). The presentation of the interpersonal-level and group-level questions was counterbalanced in each friendship condition so as to reduce response bias due to presentation order.

Each page of the electronic survey included a 'Quit' button that allowed respondents to withdraw from the study at any stage. Upon completion of the online survey, the data were submitted to a secure database and then exported to the SPSS statistical package for further analyses. To motivate students' participation in this study, those who submitted a completed online survey were included into a cash prize draw to the value of R500.00.

### **Questionnaire.**

The online survey was divided into two, counterbalanced sections (although they are presented here as 'first' and 'second' sections for ease of reading). The first section of the online survey asked questions relating to the interpersonal-level variables being explored in the study. The interpersonal-level constructs explored within these friendships included: friendship length, friendship type, friendship contact, positive reciprocal self-disclosure, negative reciprocal self-disclosure, friendship functions, friendship closeness, friendship affection and interpersonal trust.

***Friendship length.*** A single item adapted from Goosen (2011) was used to measure the length of the specific friendship. Respondents were asked to indicate the year and month that the specific friendship they were reporting on began. This data was then transformed to measure friendship length in terms of total months.

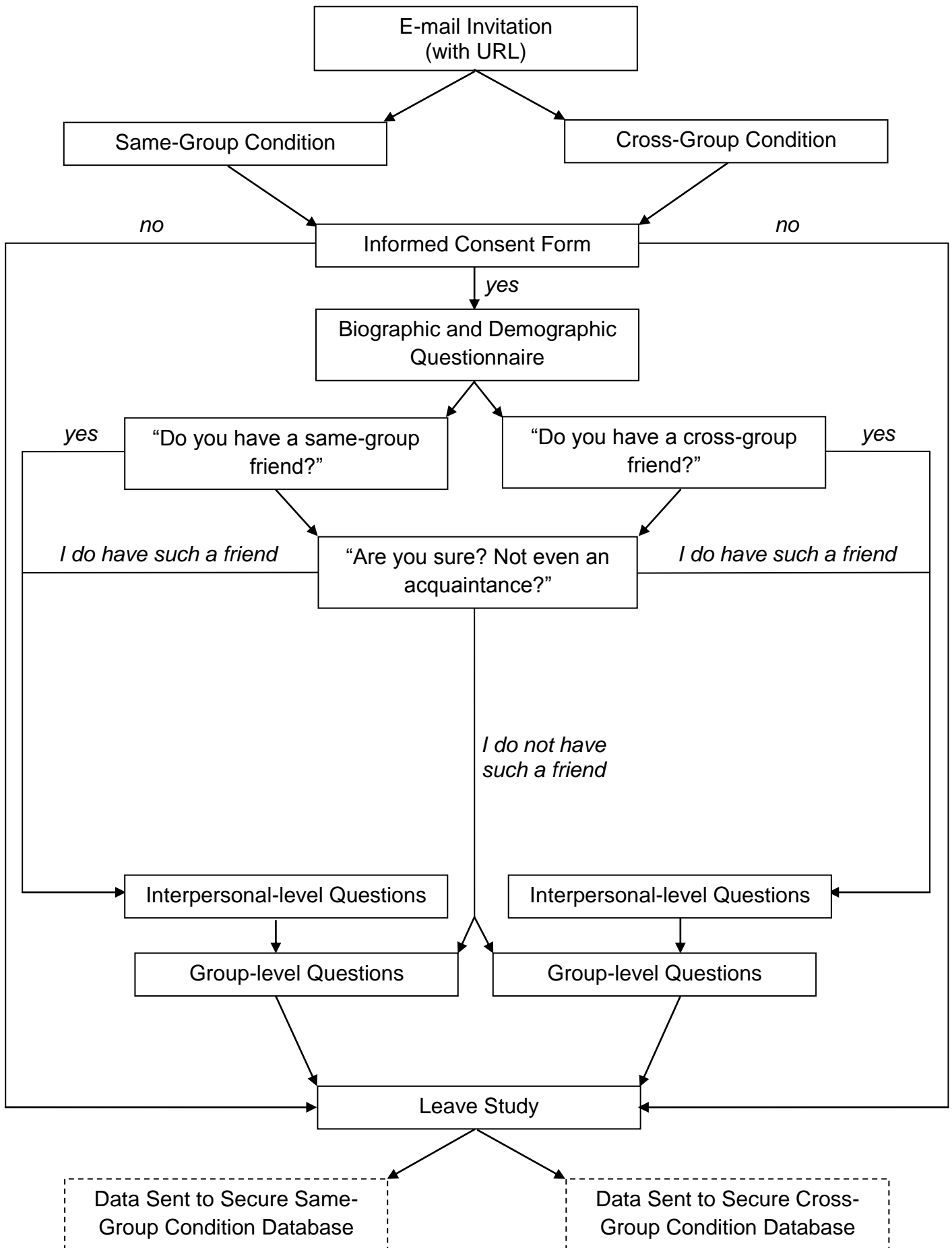


Figure 1: Data Collection Flowchart

**Friendship type.** This single item measure (adapted from Goosen, 2011) asked respondents to rate the nature of their interpersonal friendship with the person they were thinking of. Responses were scaled from 0 (*an acquaintance*) to 5 (*my best friend*). The intermediate answer options were, in ascending order, *just a friend*, *a very close friend*, *one of my closest friends* and *my best friend*. A sixth answer option (*I am in a romantic relationship with this person*) was also provided. The data provided by respondents who reported on a romantic relationship ( $n = 9$ ) were excluded from the final analyses.

**Friendship contact.** Friendship contact was measured with three items adapted from Goosen (2011). Each item was measured on a five-point scale and assessed the amount of time spent with their friend at different locations or in different situations. Respondents were asked the following questions: 'How many hours per week do you spend with this friend at your house/flat/residence?' (scaled from 0 = *None* to 4 = *More than 10 hours*), 'How many hours per week do you spend with this friend at their house/flat/residence?' (scaled from 0 = *None* to 4 = *More than 10 hours*), and 'How many hours per week do you spend with this friend in total?' (scaled from 0 = *None* to 4 = *More than 10 hours*).

**Positive reciprocal self-disclosure.** Positive reciprocal self-disclosure was measured using six items adapted from the 'Reciprocal self-disclosure scale' created by Laurenceau, Barrett, and Pietromonaco (1998). Respondents were asked to think about the most positive and enjoyable conversation they had with their friend in the past year and then answer six questions relating to this conversation (each scaled from 1 = *Very little* to 5 = *A great deal*). These questions were: 'How much did you express your feelings?', 'How much personal information did you share?', 'How personal was the information you shared?', 'How much did this friend express their

feelings?', 'How much personal information did this friend share with you?', and 'How personal was the information that this friend shared with you?'

**Negative reciprocal self-disclosure.** Negative reciprocal self-disclosure was assessed using the same six items used to measure positive reciprocal self-disclosure. Respondents were asked to think about the most negative and unpleasant conversation they had with their friend in the past year before answering the same six questions described above.

**Friendship functions.** Friendship functions were measured by means of 18 items (replicated from Goosen, 2011) selected from Mendelson and Aboud's (1999) McGill friendship questionnaire – Friendship Functions. Respondents were asked to indicate the extent to which they agreed or disagreed with 18 statements (each scaled from 0 = *Never* to 4 = *Always*). Examples of some of the statements include: 'This friend is someone whom I can tell private things to', 'This friend would make me feel better if I was worried', 'This friend shows me how to do things better', and 'This friend lends me things I need.'

**Friendship closeness.** A single item (from Aron, Aron, & Smollan, 1992), comprising seven images of varying degrees of overlapping circles, was used to measure self-reported friendship closeness. Respondents were asked to select an image that best represented the level of closeness within the interpersonal friendship they were reporting on. These images represented levels of closeness ranging from 1 (*circles not touching each other*) to 7 (*circles sharing most of their surface area with each other*).

**Friendship affection.** Friendship affection was measured using eight items (replicated from Goosen, 2011) from the McGill friendship questionnaire –

Respondents Affection (Mendelson & Aboud, 1999). Respondents were asked to indicate the extent to which they agreed or disagreed with each of the eight statements regarding their feelings towards their friend (each scaled from 1 = *Disagree completely* to 5 = *Agree completely*). Examples of the statements include: 'I feel our friendship is a great one', 'I am satisfied with our friendship', and 'I feel close to this friend.'

***Interpersonal trust.*** Interpersonal trust was measured using three items, which asked respondents to indicate how much they agreed or disagreed with statements regarding their feelings of trust towards their friend (each scaled from 1 = *Disagree completely* to 5 = *Agree completely*). The three statements were: 'This friend is often only concerned with his/her own well-being and cannot be relied upon to look out for my best interests' (reverse scored), 'I can trust this friend to keep my secrets that I have shared with him/her' and 'I have learned through experience that, as much as I like this friend, I cannot really trust him/her' (reverse scored).

Two further constructs were included in the cross-group friendship condition survey relating to the respondents' interactions with their closest cross-group friend. These included questions relating to how much time each respondent spent with the same-group friends (i.e. white South African friends) of their closest cross-group friend, and how many of their cross-group friend's same-group friends (i.e., white South African friends) were also friends with the respondent.

***Contact with outgroup friend's same-group friends.*** Contact with the outgroup friend's same-group friends was measured with a single item and asked respondents in the cross-group friendship condition to report on how much contact they had with the same-group friends of their closest white South African friend ('How often do you spend time with your friend's white South African friends at their

house/flat/res?'; scaled from 1 = *Never* to 5 = *All the time*). This question assessed the extent to which individuals were exposed to a broader social network of outgroup members via their closest cross-group friendship.

***Friendship with outgroup friend's same-group friends.*** Friendship with outgroup friend's same-group friends was measured with a single item that asked respondents in the cross-group friendship condition, 'How many of your friend's white South African friends are also your friends?' (scaled as follows: 1 = *None*, 2 = *Hardly any*, 3 = *A few*, 4 = *Quite a few*, 5 = *More than 10*).

The second section of the online survey included questions relating to group-level constructs, which focused on contact with, and attitudes towards, white South Africans in general.

***Quantity of contact with white South Africans in general.*** Contact quantity was measured using three items that asked respondents in both the same-group and cross-group friendship conditions to indicate the extent of their intergroup contact with white South Africans in general (Islam & Hewstone, 1993). These questions included: 'How regularly do you have direct, face-to-face interactions in social settings with white South Africans in general?', 'How regularly do you have direct, face-to-face interactions with white South Africans in general as part of the same sports team/social club/campus society?', and 'How regularly do you have direct, face-to-face interactions with white South Africans in general during lectures/practicals/tutorials?.' Each item was scaled from 0 (*Never*) to 4 (*All the time*).

***Quality of contact with white South Africans in general.*** Contact quality was assessed using two items (Islam & Hewstone, 1993) which asked respondents: 'In general, when you interact with white South Africans, do you find the interactions

to be pleasant or unpleasant' (scaled from 1 = *Very unpleasant* to 5 = *Very pleasant*). The second question asked: 'In general, when you interact with white South Africans, do you find this interaction to be positive or negative?' (scaled from 1 = *Very negative* to 5 = *Very positive*).

***Trust towards white South Africans in general.*** Outgroup trust was measured using two items, which were adapted from the measure of interpersonal trust described above. These two items were: 'White South African's are only concerned with their own well-being and cannot be relied upon to look out for my best interest' (scaled from 1 = *Disagree completely* to 5 = *Agree completely*), and 'I am often suspicious when I am in the company of white South Africans, and keep my wits about me' (scaled from 1 = *Disagree completely* to 5 = *Agree completely*). These two items were reverse scored so that higher scores on this scale reflected greater outgroup trust.

***Positive attitudes towards white South Africans in general.*** Positive outgroup attitudes were measured using three items adapted from Wright et al.'s (1997) General Affective Scale. Respondents were asked to rate the extent to which they agreed or disagreed with the following three statements (each scaled from 1 = *Disagree completely* to 5 = *Agree completely*): 'I feel negative towards white South Africans' (reverse scored), 'I respect white South Africans', and 'I admire white South Africans.'

### **Respondents.**

The final sample included 302 coloured South African respondents (a 14.3% total response rate), which included 157 respondents in the same-group friendship condition ( $n = 58$  males;  $n = 99$  females), and 145 respondents in the cross-group friendship condition ( $n = 51$  males;  $n = 94$  females). A number of respondents were



excluded from the final data set. These included respondents who did not answer any of the interpersonal-level questions relating to their closest same-group friendship ( $n = 11$ ) or cross-group friendship ( $n = 12$ ), respondents who did not report on their closest *same-gender* friendship in the same-group friendship condition ( $n = 10$ ) or in the cross-group friendship condition ( $n = 10$ ), and respondents who indicated that they were in a romantic relationship with the friend that they were reporting on in the same-group friendship ( $n = 6$ ) or in the cross-group friendship ( $n = 3$ ) condition.

Respondents were between 18 and 20 years of age ( $M = 20.25$  years,  $SD = 1.96$  years). A multivariate analysis of variance (MANOVA) was undertaken to compare the respondents in each friendship condition along a series of biographical variables, including gender, age, language, accommodation and years as a student at Stellenbosch University. The MANOVA indicated that there were no multivariate differences along these biographical variables amongst respondents across the two friendship conditions. A closer inspection of the univariate statistics showed that there were no significant univariate differences along any of these biographical variables amongst respondents across the two friendship conditions.

## Results

### Preliminary Data Analysis

Exploratory Factor Analyses (EFA) were conducted independently on each construct in each friendship condition to assess whether each of the main multi-item constructs (i.e., measured by three or more items) were unidimensional. Each EFA was undertaken using a maximum likelihood method of extraction and direct oblimin rotation. A minimum factor loading of .40 was set for each item (Field, 2010). The results from these factor analyses showed that the scales for friendship contact,

positive reciprocal self-disclosure, negative reciprocal self-disclosure, friendship affection, interpersonal trust, general outgroup contact quantity, general outgroup contact quality, outgroup trust and positive outgroup attitudes were unidimensional in each friendship condition.

Friendship functions originally comprised of 18 items. The results from the initial EFA suggested that, in order to create a comparable construct of friendship functions for both friendship conditions (necessary for any meaningful comparisons), eight items (items 4, 7, 8, 11, 12, 14, 15 and 16) needed to be removed from the scale. An EFA on the remaining ten items showed that they loaded onto a single, unidimensional factor measure of friendship functions for both friendship conditions. The items in each multi-item scale measured their respective scales well in each friendship condition, as indicated by the high percentages of variance explained for each multi-item construct (see Table 2).

Reliability analyses were run for each multi-item construct using Cronbach's Alpha. These reliability analyses indicated acceptable construct reliability for each multi-item construct in each friendship condition. Mean-level composite measures were then created by computing the mean for each scale in each friendship condition. The composite measure group means, standard deviations, construct reliabilities, and percentage of variance explained for each construct (as per the EFAs that were undertaken) in each friendship condition are summarized in Table 2.

The bivariate correlations between the composite (mean-score) variables of each construct are reported for each friendship condition in Table 3. Several pairs of bivariate correlations provide preliminary support for some of the *a priori* hypotheses. In the same-group friendship condition, friendship typewas significantly positively correlated with positive reciprocal self-disclosure ( $r = .38, p < .001$ ), negative

reciprocal self-disclosure ( $r = .36, p < .001$ ), friendship functions ( $r = .53, p < .001$ ), friendship closeness ( $r = .54, p < .001$ ) and friendship affection ( $r = .50, p < .001$ ), while friendship contact was significantly positively correlated friendship affection ( $r = .19, p < .001$ ). Positive reciprocal self-disclosure was significantly positively correlated with friendship functions ( $r = .60, p < .001$ ), friendship closeness ( $r = .39, p < .001$ ) and friendship affection ( $r = .51, p < .001$ ), while negative reciprocal self-disclosure was significantly positively correlated with friendship functions ( $r = .42, p < .001$ ) and friendship affection ( $r = .36, p < .001$ ). Friendship functions was significantly positively correlated with friendship closeness ( $r = .54, p < .001$ ) and friendship affection ( $r = .74, p < .001$ ), while friendship closeness was significantly positively correlated with friendship affection ( $r = .47, p < .001$ ).

In the cross-group friendship condition, friendship type was significantly and positively correlated with friendship contact ( $r = .42, p < .001$ ), positive reciprocal self-disclosure ( $r = .59, p < .001$ ), negative reciprocal self-disclosure ( $r = .43, p < .001$ ), friendship closeness ( $r = .72, p < .001$ ), and friendship affection ( $r = .67, p < .001$ ). Friendship contact was significantly positively correlated with positive reciprocal self-disclosure ( $r = .40, p < .001$ ), negative reciprocal self-disclosure ( $r = .38, p < .001$ ), friendship functions ( $r = .46, p < .001$ ), friendship closeness ( $r = .51, p < .010$ ), and friendship affection ( $r = .45, p < .001$ ). Positive and negative reciprocal self-disclosure were each significantly and positively correlated with friendship functions (positive reciprocal self-disclosure:  $r = .70, p < .001$ ; negative reciprocal self-disclosure:  $r = .51, p < .001$ ), friendship closeness (positive reciprocal self-disclosure:  $r = .58, p < .001$ ; negative reciprocal self-disclosure:  $r = .51, p < .001$ ), and friendship affection (positive reciprocal self-disclosure:  $r = .54, p < .001$ ; negative reciprocal self-disclosure:  $r = .40, p < .001$ ). Friendship functions

was significantly positively correlated with friendship closeness ( $r = .62, p < .001$ ) and friendship affection ( $r = .83, p < .001$ ), while friendship closeness was, in turn, significantly correlated with friendship affection ( $r = .63, p < .001$ ).

### **Mean-level Comparisons of Same-group and Cross-group Friendships**

A preliminary analysis of the skewness and kurtosis of item distributions indicated that the distribution of a number of the items measuring the interpersonal-level variables deviated significantly from normal (see West, Finch, & Curran, 1995). This is not surprising since participants in each friendship condition were asked to report on their *closest* same-group/cross-group friend. To accommodate for any deviations from normality, a bootstrapped (1,000 resamples) independent samples *t*-test was run to determine whether same-group friendships and cross-group friendships differed significantly in terms of friendship length (as found in previous studies; e.g., Brewer, 2009; Goosen, 2011; Luckovic, 2010; Patterson, 2010). Results indicated that in the same-group condition, friendship length ( $M = 73.17$  months,  $SD = 57.61$ ) was significantly longer than friendship length in the cross-group condition ( $M = 55.29, SD = 46.98; t(300) = 2.94, p < .01$ ). Given this significant difference in friendship length, all further multivariate comparisons of the two friendship conditions were undertaken while controlling for friendship length (i.e., adding friendship length as a covariate).

A multivariate analysis of covariance (MANCOVA) was undertaken to compare the mean-level scores of friendship type, friendship contact, positive reciprocal self-disclosure, negative reciprocal self-disclosure, friendship functions, friendship closeness, and friendship affect across the two friendship conditions, while adding friendship length as a covariate. Friendship length was added as a covariate to ensure that any differences that may appear along these interpersonal-level

Table 2

*Composite Measure Group Means, Standard Deviations (SD), Construct Reliability (Cronbach's Alpha) and Percentage of Explained Variance*

	Same-group Condition (N= 157)				Cross-group Condition (N = 145)			
	Mean	SD	Reliability ( $\alpha$ )	Variance Explained	Mean	SD	Reliability ( $\alpha$ )	Variance Explained
Friendship Length (Months; 1 item)	73.17	57.61	-	-	55.29	46.98	-	-
Friendship Type (1 item)	4.01	1.00	-	-	2.94	1.22	-	-
Friendship Contact (3 items)	1.84	1.78	.86	77.85%	1.38	1.18	.84	76.40%
Positive Reciprocal Self-Disclosure (6 items)	4.05	0.74	.88	63.29%	3.79	0.92	.91	68.86%
Negative Reciprocal Self-Disclosure (6 items)	3.27	1.07	.94	76.95%	3.10	1.11	.94	75.63%
Friendship Functions (10 items)	3.14	0.70	.90	54.31%	2.74	0.93	.94	63.57%
Friendship Closeness (1 item)	3.71	1.79	-	-	3.25	1.78	-	-
Friendship Affection (8 items)	4.60	0.55	.93	69.16%	4.29	0.72	.93	68.01%
Interpersonal Trust (3 items)	4.40	0.78	.69	61.92%	4.16	0.92	.80	71.37%
Contact with Outgroup Friend's Same-Group Friends (1 item)	-	-	-	-	3.09	1.12	.90	71.08%
Friendship with Outgroup Friend's Same-Group Friends (1 item)	3.27	1.08	-	-	3.05	1.26	-	-
General Outgroup Contact Quantity (3 items)	2.84	0.90	.72	65.17%	2.94	0.88	.73	65.54%
General Outgroup Contact Quality (2 items)	4.00	0.85	.84 <sup>a</sup>	-	4.00	0.85	.76 <sup>a</sup>	-
Outgroup Trust (2 items)	3.85	1.02	.70 <sup>a</sup>	-	3.87	1.06	.72 <sup>a</sup>	-
Positive Outgroup Attitudes (3 items)	3.97	0.71	.72	54.81%	3.88	0.77	.76	58.88%

<sup>a</sup> Pearson product-moment correlation coefficient ( $r$ ) used to determine the internal consistency between two-item measures.

*Note:* Scales were scored such that higher mean values denote higher levels of a particular construct. Scales of measurement: Friendship Type scored from 0 – 7; Friendship Contact, Friendship Functions and General Outgroup Contact Quantity scored from 0 – 4; Friendship Closeness scored from 1 – 7; Positive and Negative Reciprocal Self-Disclosure, Friendship Affection, Interpersonal Trust, Contact with Outgroup Friend's Same-group Friends, Friendship with Outgroup Friend's Same-group Friends, General Outgroup Contact Quality, Outgroup Trust and Outgroup Attitudes scored from 1 – 5.

Table 3

*Pearson Product-Moment Bivariate Correlations between Composite Interpersonal-level Variables for the Same-group (reported below the diagonal) and the Cross-group Friendship Conditions (reported in bold above the diagonal).*

	1	2	3	4	5	6	7	8
Friendship Length	-	<b>.33**</b>	<b>-.09</b>	<b>.14</b>	<b>.06</b>	<b>.16</b>	<b>.25</b>	<b>.13</b>
Friendship Type	.28**	-	<b>.42**</b>	<b>.59**</b>	<b>.43**</b>	<b>.70**</b>	<b>.72**</b>	<b>.67**</b>
Friendship Contact	-.16*	.16	-	<b>.38**</b>	<b>.40**</b>	<b>.46**</b>	<b>.51**</b>	<b>.45**</b>
Positive Reciprocal Self-Disclosure	.05	.38**	.15	-	<b>.65**</b>	<b>.70**</b>	<b>.58**</b>	<b>.54**</b>
Negative Reciprocal Self-Disclosure	.10	.36**	.14	.62**	-	<b>.51**</b>	<b>.51**</b>	<b>.40**</b>
Friendship Functions	.12	.53**	.13	.60**	.42**	-	<b>.62**</b>	<b>.83**</b>
Friendship Closeness	.18	.53**	.32*	.39**	.21	.54**	-	<b>.65**</b>
Friendship Affection	.08	.50**	.19*	.52**	.36**	.74**	.47**	-

\* $p < .05$ , \*\* $p < .001$

*Note:* Scales of measurement: Friendship Type scored from 0 – 7; Friendship Contact and Friendship Functions scored from 0 – 4; Friendship Closeness scored from 1 – 7; Positive and Negative Reciprocal Self-Disclosure and Friendship Affection scored from 1 – 5.

variables across the two conditions are not the result of the significant differences in friendship length across the two conditions.

Significant multivariate differences emerged across the two friendship conditions, ( $F(7, 293) = 9.74, p < .001, \text{partial } \eta^2 = .18$ ), even after controlling for the differences in friendship length across the two friendship conditions (as previously determined by the independent samples t-tests). Closer inspection of the univariate statistics shows that the respondents in the same-group condition rated their friendship significantly greater along several of the interpersonal-level variables than respondents in the cross-group friendship condition (see Figure 2 below).

Respondents in the same-group condition reported significantly greater levels of intimacy (as measured by friendship type; same-group:  $M = 4.01, SD = 1.00$ ; cross-group:  $M = 2.94, SD = 1.22$ ;  $F(1, 293) = 60.13, p < .001, \text{partial } \eta^2 = .17$ ), friendship contact (same-group:  $M = 1.81, SD = 1.78$ ; cross-group:  $M = 1.38, SD = 1.18$ ;  $F(1, 293) = 13.75, p < .001, \text{partial } \eta^2 = .04$ ), positive reciprocal self-disclosure (same-group:  $M = 4.05, SD = 0.74$ ; cross-group:  $M = 3.79, SD = 0.92$ ;  $F(1, 293) = 6.20, p < .05, \text{partial } \eta^2 = .02$ ), friendship functions (same-group:  $M = 3.14, SD = 0.70$ ; cross-group:  $M = 2.74, SD = 0.93$ ;  $F(1, 293) = 14.75, p < .001, \text{partial } \eta^2 = .05$ ), friendship closeness (as measure in terms of self-other overlap; same-group:  $M = 4.39, SD = 1.74$ ; cross-group:  $M = 3.32, SD = 1.73$ ;  $F(1, 293) = 24.98, p < .001, \text{partial } \eta^2 = .08$ ) and friendship affection (same-group:  $M = 4.60, SD = 0.55$ ; cross-group:  $M = 4.29, SD = 0.72$ ;  $F(1, 293) = 15.54, p < .001, \text{partial } \eta^2 = .05$ ) than respondents in the cross-group friendship condition. The only interpersonal-level construct that did not yield any significant differences across the two friendship conditions was that of reciprocal negative self-disclosure

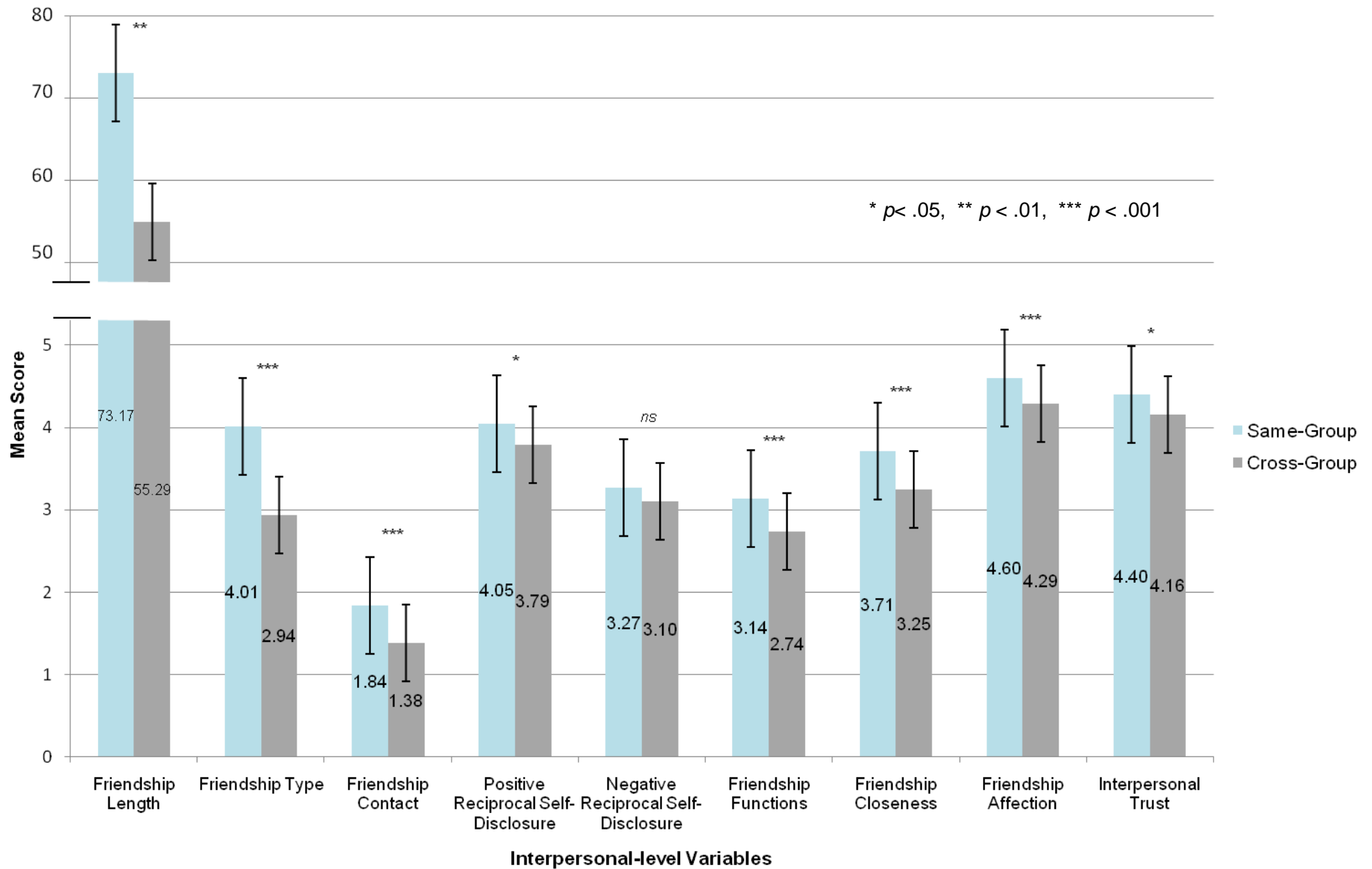


Figure 2: Mean-Level Univariate Differences between Same-Group and Cross-Group Friendships



(same-group:  $M = 3.27$ ,  $SD = 1.07$ ; cross-group:  $M = 3.10$ ,  $SD = 1.11$ ;  
 $F(1, 293) = 1.24$ ,  $p = ns$ , partial  $\eta^2 = .00$ ).

### Testing for Gender Differences

To explore whether the significant differences along these interpersonal-level variables found across the two friendship conditions might not be a function of possible gender differences (as reported in the interpersonal friendship literature: e.g., Aboud et al., 2003; Fehr, 2000; Hays, 1988; Mendelson & Aboud, 1999; Wood, 2000), the previous MANCOVA was re-run with gender added to friendship length as a covariate. The pattern of multivariate differences across the two conditions (reported above) remained unchanged, suggesting that there were no ConditionxGender interaction effects that may explain the significant multivariate differences across the two friendship conditions.

However, this analysis yielded significant multivariate differences between male and female respondents, irrespective of friendship condition ( $F(7, 292) = 3.18$ ,  $p < .001$ , partial  $\eta^2 = .07$ ). A closer inspection of the univariate statistics (see Figure 3) showed that female friendships were characterised by significantly greater levels of intimacy (as measured by friendship type; females:  $M = 3.61$ ,  $SD = 1.23$ ; males:  $M = 3.30$ ,  $SD = 1.22$ ;  $F(1, 292) = 7.59$ ,  $p < .01$ , partial  $\eta^2 = .03$ ), positive reciprocal self-disclosure (females:  $M = 4.04$ ,  $SD = 0.82$ ; males:  $M = 3.73$ ,  $SD = 0.86$ ;  $F(7, 292) = 10.14$ ,  $p < .01$ , partial  $\eta^2 = .03$ ), friendship functions (females:  $M = 3.07$ ,  $SD = 0.81$ ; males:  $M = 2.72$ ,  $SD = 0.84$ ;  $F(7, 292) = 14.90$ ,  $p < .001$ , partial  $\eta^2 = .05$ ), friendship closeness (as measured by self-other overlap; females:  $M = 4.09$ ,  $SD = 1.79$ ; males:  $M = 3.50$ ,  $SD = 1.79$ ;  $F(7, 292) = 9.72$ ,  $p < .01$ , partial  $\eta^2 = .03$ ) and friendship

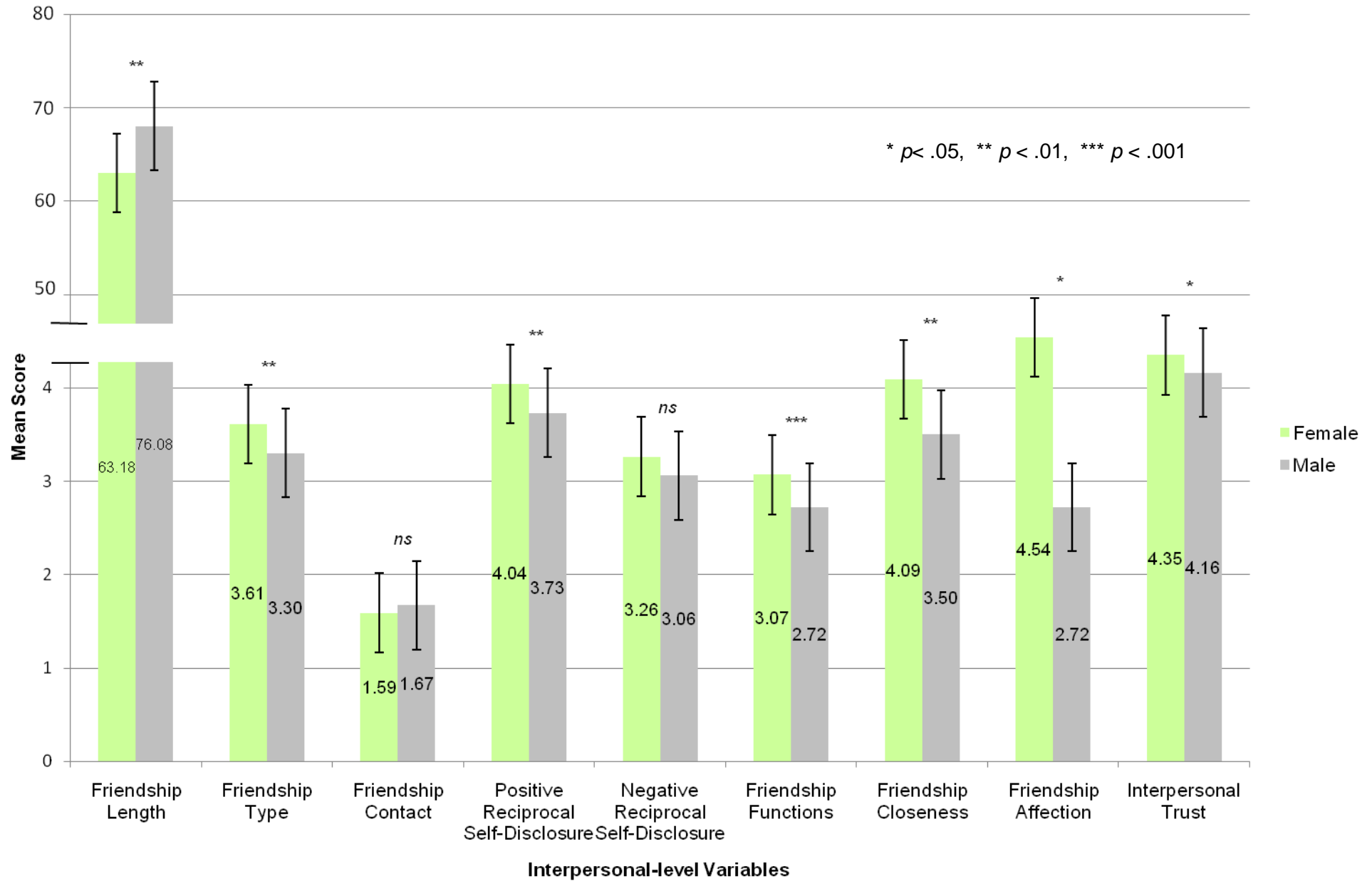


Figure3: Mean-Level Univariate Differences between Female and Male Friendships (Irrespective of Friendship Condition)

affection (females:  $M = 4.54$ ,  $SD = 0.67$ ; males:  $M = 2.72$ ,  $SD = 0.84$ ;  $F(7, 292) = 6.80$ ,  $p < .05$ , partial  $\eta^2 = .02$ ) than male respondents.

## **Exploring the Structural Relationships between Constructs Using Path**

### **Analyses**

Path analyses were undertaken using the Structural Equation Modelling program Mplus (Mplus v6.0; Muthén & Muthén, 2010) to explore the structural relationships between the construct means of these interpersonal-level variables for each friendship condition. This method of analysis offers several advantages over multiple regression analyses. These include being able to test more complex models with the simultaneous inclusion of multiple dependent and independent variables, allowing for the measurement of both direct and indirect effects through the modeling of mediating variables, and allowing for multi-group comparisons (i.e., comparing regression coefficients across multiple groups of respondents; Norman & Streiner, 2003). Path analysis also has the advantage of allowing the processing of non-normal data (Kline, 2005). This is a particularly relevant advantage for the present study because respondents were reporting on their closest friendship, resulting in positively skewed data.

In the present study, these advantages advocate for the use of path analysis for (a) comparing the structural relationships between interpersonal-level variables amongst the same-group and cross-group friendship conditions, (b) investigating attitude generalisation for respondents in the cross-group friendship conditions, and (c) investigating the extent to which cross-group friendships provide the exposure to a broader social network of outgroup members. Each of these path analyses are described below.

### **Comparing the Structural Relationships between Interpersonal-level Variables amongst Same-group and Cross-group Friendships**

A path model was fit to test the interrelationships between the interpersonal-level variables for both the same-group and cross-group conditions, using MPlus v6.0 (Muthén & Muthén, 2010). In this path model, friendship contact was added as the distal predictor variable and friendship affect and interpersonal trust were added as the distal outcome variables. Positive reciprocal self-disclosure and negative reciprocal self-disclosure were both added as proximal mediator variables, while friendship functions and perceived friendship closeness were included as distal mediator variables. Friendship length, as well as general quantity of contact with the outgroup and general quality of contact with the outgroup were added as control variables (see Figure 3).

In the first step, a path model was fit separately for both the same-group and the cross-group conditions to determine whether the hypothesized interrelationships between each of the variables fit the data sufficiently well in each friendship condition. To accommodate the skewness apparent in the data (described previously), bootstrapping (1,000 re-samples) was again included in each analysis in order to generate parameter estimates that would better reflect those found within the population (Bollen & Stine, 1990; Mooney & Duval, 1993).

Multiple goodness-of-fit indices were considered as indicators of overall model fit. Firstly, the Chi-square ( $\chi^2$ ) statistic, where acceptable model fit is indicated by a non-significant chi-square value, is a traditional measure of evaluating model fit that compares the observed covariance matrix to an expected (theoretical) covariance matrix (Hu & Bentler, 1999). However, the chi-square statistic can be influenced by sample size, and so for these analyses the relative Chi-square ( $\chi^2/df$ ) statistic

introduced by Wheaton, Muthen, Alwin, and Summers (1977) was also calculated. Acceptable model fit is indicated by a relative the chi-square ratio ( $\chi^2/df$ ) smaller than 3:1 (Kline, 2005).

Secondly, the Comparative Fit Index (CFI) considers a models improvement of fit compared to the baseline model (i.e., a model with no significant interrelations) and indicates acceptable to excellent model fit between  $\geq .90$  to  $\geq .95$ . The third fit index included was the Root Mean Square Error of Approximation (RMSEA), introduced by Steiger (1990). It considers how well the model fits the covariance matrices where the parameter estimates are unknown. The RMSEA is sensitive to the number of estimated parameters within the model and favours models with the least number of parameters (i.e., more parsimonious models). Values between .08 and .05 indicate acceptable model fit, while values smaller than .05 indicate excellent model fit (Hu & Bentler, 1999).

Finally, the Standardised Root Mean Residual (SRMR) is the most meaningful statistic to interpret the overall differences between the observed and predicted correlations and indicates acceptable to excellent model fit with values between  $< .08$  and  $< .05$  (Hu & Bentler, 1999; Kline, 2005). Using these multiple fit indices, the path model described above (and specified by the *a priori* hypotheses) showed very good overall model fit for both the same-group ( $\chi^2(7) = 12.06$ ,  $p = .10$ ,  $\chi^2/df = 1.72$ ; CFI = .99; RMSEA = .068; SRMR = .035) and the cross-group friendship conditions ( $\chi^2(7) = 7.84$ ,  $p = .35$ ,  $\chi^2/df = 1.12$ ; CFI = .99; RMSEA = .029; SRMR = .046).

Having established that the hypothesized relationships described the data sufficiently well in each friendship condition, the second step was to fit a combined

model for both friendship conditions (again using bootstrapped analyses with 1,000 resample to correct for any non-normality in the data). This combined model fit the data well ( $\chi^2(14) = 19.89, p = .10, \chi^2/df = 1.42; CFI = .99; RMSEA = .053; SRMR = .040$ ) and is summarised in Figure 4, with the regression coefficients for the same-group friendship condition reported in bold and those for the cross-group friendship condition reported in italics.

In the same-group condition, friendship contact was positively and significantly associated with positive reciprocal self-disclosure ( $B = .16, p < .05$ ), negative reciprocal self-disclosure ( $B = .17, p < .05$ ) and perceived friendship closeness ( $B = .22, p < .01$ ). Positive reciprocal self-disclosure was significantly associated with friendship functions ( $B = .56, p < .001$ ) and perceived friendship closeness ( $B = .44, p < .001$ ), while friendship functions was positively and significantly associated with friendship affection ( $B = .62, p < .001$ ) and interpersonal trust ( $B = .55, p < .001$ ).

In the cross-group friendship condition, friendship length was significantly positively associated with positive reciprocal self-disclosure ( $B = .17, p < .05$ ) and perceived friendship closeness ( $B = .16, p < .01$ ). Friendship contact was positively and significantly associated with positive reciprocal self-disclosure ( $B = .40, p < .001$ ), friendship functions ( $B = .23, p < .001$ ), negative reciprocal self-disclosure ( $B = .41, p < .001$ ), perceived friendship closeness ( $B = .26, p < .001$ ) and friendship affection ( $B = .09, p < .05$ ). Positive reciprocal self-disclosure was positively associated with friendship functions ( $B = .57, p < .001$ ) and perceived friendship closeness ( $B = .35, p < .001$ ) while negative reciprocal self-disclosure was significantly positively associated with perceived friendship closeness ( $B = .20, p < .05$ ) only. Finally, friendship functions was positively and significantly associated

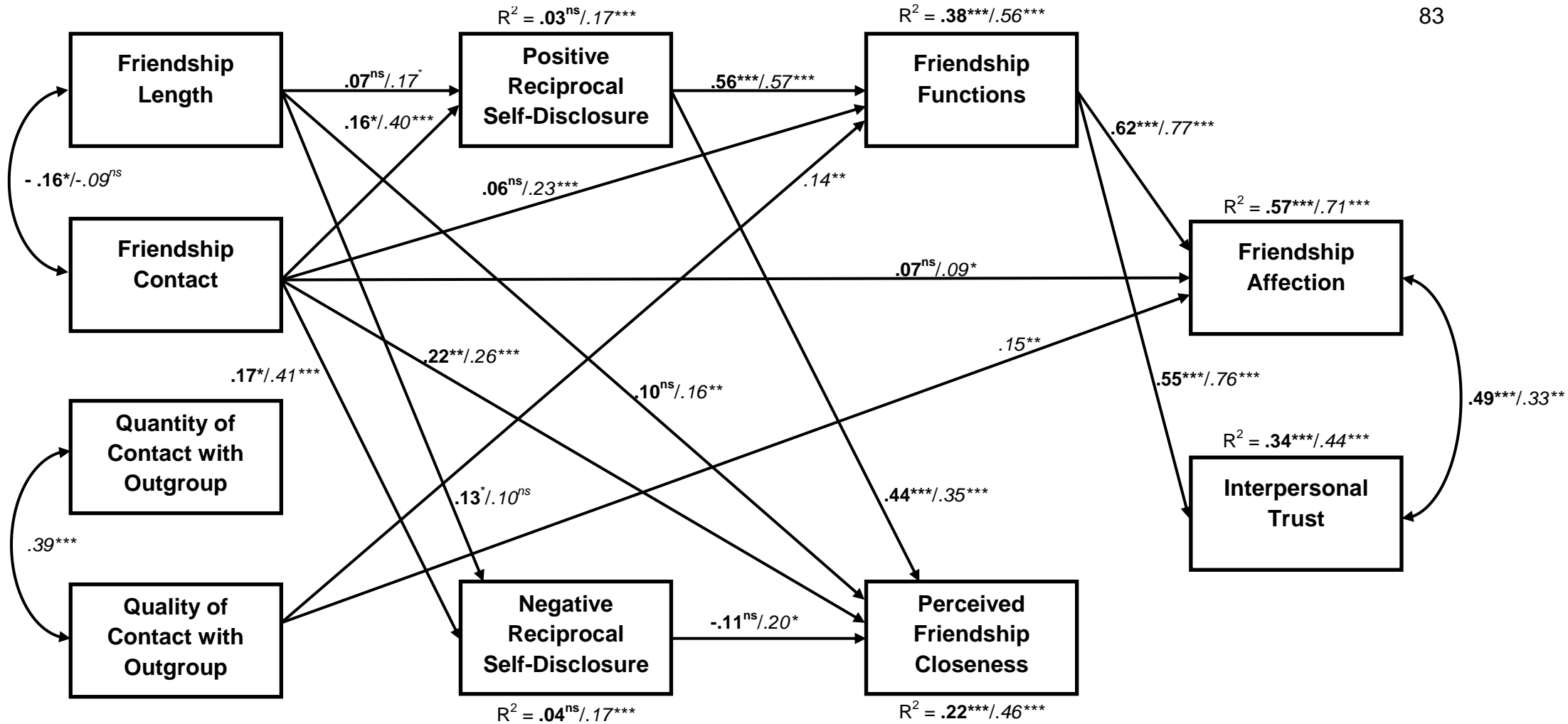


Figure 4: Path analytic model comparing the structural relationships between the interpersonal-level friendship variables for the same-group ( $N = 157$ ) versus cross-group friendship ( $N = 145$ ) conditions amongst coloured South African students at Stellenbosch University (cross-group friendship coefficients in italics).

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; Bootstrapped standardised regression coefficients; only significant paths are shown. Covariances: Positive Reciprocal Self-Disclosure-Negative Reciprocal Self-Disclosure:  $.61^{***}/.58^{***}$ ; Friendship Functions – Perceived Friendship Closeness:  $.45^{***}/.38^{***}$ .

with friendship affection ( $B = .77, p < .001$ ) and interpersonal trust ( $B = .76, p < .001$ ).

Bootstrapped mediation tests (1,000 re-samples; Preacher & Hayes, 2008) were then conducted for each condition to test whether any of the indirect paths illustrated in Figure 4 constituted significant mediation effects. Bootstrapping solves the problem of lack of normality within the sample distributions by estimating its properties from the data, allowing for the generation of more accurate parameter estimates, and is useful when working with multiple potential mediators simultaneously (Field, 2010).

In the same-group friendship condition, the bootstrapped mediation tests confirmed that friendship functions significantly and fully mediated the relationship between positive reciprocal self-disclosure and friendship affect ( $b = .26, p < .001$ ) as well as between positive reciprocal self-disclosure and interpersonal trust ( $b = .32, p < .001$ ). This mediation effect suggests that positive reciprocal self-disclosure predicts greater friendship affect and interpersonal trust by broadening the functions that the friend serves.

Positive reciprocal self-disclosure partially mediated the relationship between friendship contact and friendship functions ( $b = .05, p = .05$ ) with an effect that approached significance. This suggests that the amount of time spent with the same-group friend predicts an increase in the functions that the friend serves because of an increase in positive reciprocal self-disclosure between the two individuals, over-and-above the direct relationship between the amount of time spent with the same-group friend and friendship functions.

Finally, the mediation effect of positive reciprocal self-disclosure in the relationship between friendship contact and friendship closeness ( $b = .10, p = .06$ )



approached significance, which suggests that the time spent with the same-group friend predicts an increase in how close the friendship is perceived as a result of the greater levels of positive reciprocal self-disclosure within the friendship. This model explained 38% of the variance ( $R^2$ ) in friendship functions, 22% of the variance in perceived friendship closeness, 57% of the variance in friendship affections and 34% of the variance in interpersonal trust in the same-group friendship condition.

In the cross-group friendship condition, bootstrapped mediation tests confirmed that friendship functions significantly and fully mediated the relationship between positive reciprocal self-disclosure and friendship affect ( $b = .34, p < .001$ ) as well as between positive reciprocal self-disclosure and interpersonal trust ( $b = .43, p < .001$ ). These mediation effects suggest that positive reciprocal self-disclosure between cross-group friends predicts greater friendship affect and interpersonal trust as a result of the functions individuals serve within the friendship.

Friendship functions also partially mediated the relationship between friendship contact and friendship affect ( $b = .11, p < .01$ ) and fully mediated the relationship between friendship contact and interpersonal trust ( $b = .13, p < .01$ ). These effects suggest that the amount of time spent with the cross-group friend predicts greater friendship affect (over-and-above the direct relationship between friendship contact and friendship affect) and interpersonal trust as a result of a broader range of functions that the individuals serve within the friendship.

Positive reciprocal self-disclosure significantly partially mediated the relationship between friendship contact and perceived friendship closeness ( $b = .20, p = .001$ ), while fully mediating the relationship between friendship contact and friendship functions ( $b = .17, p < .001$ ). This suggests that the amount of time spent with the cross-group friendship predicts increases in perceived friendship closeness

and friendship functions by means of greater positive reciprocal self-disclosure within the cross-group friendship.

Positive reciprocal self-disclosure also fully mediated the relationship between friendship length and friendship functions ( $b = .00, p = .05$ ), while its mediation effect between friendship length and perceived friendship closeness ( $b = .00, p = .07$ ) approached significance. These mediation effects imply that the length of the friendship is able to predict greater levels of perceived friendship closeness and friendship functions as a result of the amount of positive reciprocal self-disclosure shared within the cross-group friendship.

Finally, negative reciprocal self-disclosure partially mediated the relationship between friendship contact and perceived friendship closeness ( $b = .12, p < .05$ ), which suggests that the amount of time spent with the cross-group friend predicts greater levels of perceived friendship closeness by the amount of negative reciprocal self-disclosure shared within the cross-group friendship. This model explained 17% of the variance ( $R^2$ ) in positive reciprocal self-disclosure, 17% of the variance in negative reciprocal self-disclosure, 56% of the variance in friendship functions, 46% of the variance in perceived friendship closeness, 71% of the variance in friendship affection and 44% of the variance in interpersonal trust in the cross-group friendship condition.

Structural Invariance tests were undertaken to compare the structural relationships in model one (Figure 4) across the two conditions. These tests explored whether the relationships between the interpersonal-level variables differed significantly across the same-group and cross-group conditions. The path model in Figure 4 is referred to as the freely estimated baseline model as all the parameters

were estimated freely, with no conditions or restrictions imposed on the relationships between the constructs within the model.

To test for structural invariance, constraints were imposed on the freely estimated baseline model such that, across the two friendship conditions, all paths between the same pair of variables were constrained to equality (Swart et al., 2010, 2011). The model fit for this full structural invariance model was poor,  $\chi^2(44) = 58.62$ ,  $p = .07$ ,  $\chi^2/df = 1.33$ ; CFI = .99; RMSEA = .047; SRMR = .112. This poor model fit indicated that one or more of the paths differed significantly in size between the two friendship conditions. As such, equality constraints were sequentially released on paths (beginning with those indicating the largest differences between bootstrapped unstandardised regression coefficients across the two conditions) until an acceptable model fit was achieved.

Partial structural invariance, with acceptable model fit ( $\chi^2(41) = 47.09$ ,  $p = .24$ ,  $\chi^2/df = 1.15$ ; CFI = .99; RMSEA = .031; SRMR = .074), was achieved after releasing the equality constraints for three paths, namely: (1) from negative reciprocal self-disclosure to perceived friendship closeness; (2) from friendship contact to positive reciprocal self-disclosure; and (3) from friendship contact to negative reciprocal self-disclosure, yielding an acceptable model fit. To determine whether this partial invariance model was equivalent overall to the freely estimated baseline model, the change in the chi-square statistic across the two models was compared using the corrected chi-square statistic (Satorra & Bentler, 1999). The corrected chi-square difference was not significant,  $\Delta\chi^2(27) = 26.07$ ,  $p > .05$ , and indicated that the partial structural invariance model did not differ significantly from the freely estimated baseline model.

In other words, these results suggest that the structural relationships between the interpersonal-level variables illustrated in Figure 4 can be considered equivalent to one another across the two friendship conditions, except for the pathways from negative reciprocal self-disclosure to perceived friendship closeness, friendship contact to positive reciprocal self-disclosure and from friendship contact to negative reciprocal self-disclosure, where the relationships between these respective variables were all significantly stronger in the cross-group friendship condition.

### **Attitude Generalisation in the Cross-group Friendship Condition**

The fifth hypothesis considered whether friendship affection towards a specific cross-group friend would be associated with more positive outgroup attitudes towards the outgroup in general. To explore the potential generalisation of interpersonal-level attitudes (towards the closest white South African friend) to outgroup attitudes (towards white South Africans in general) within the cross-group friendship condition, the group-level variables of outgroup attitudes and outgroup trust were added as distal outcomes to the original cross-group friendship interpersonal-level model illustrated in Figure 4, predicted by interpersonal affection and interpersonal trust respectively. Friendship length, general quantity of contact with the outgroup and general quality of contact with the outgroup were retained as control variables. This path model fit the data well,  $\chi^2(21) = 58.62$ ,  $\chi^2/df = 2.79$ ,  $p = .41$ ; CFI = .99; RMSEA = .016; SRMR = .053, and is illustrated in Figure 5.

In addition to the relationships found between the interpersonal-level variables in the cross-group friendship condition (described earlier), general quality of contact with the outgroup was positively and significantly associated with outgroup attitudes ( $B = .42$ ,  $p < .01$ ) and outgroup trust ( $B = .29$ ,  $p < .01$ ), while general quantity of contact with the outgroup ( $B = .22$ ,  $p < .01$ ) and interpersonal trust ( $B = .27$ ,  $p < .001$ )

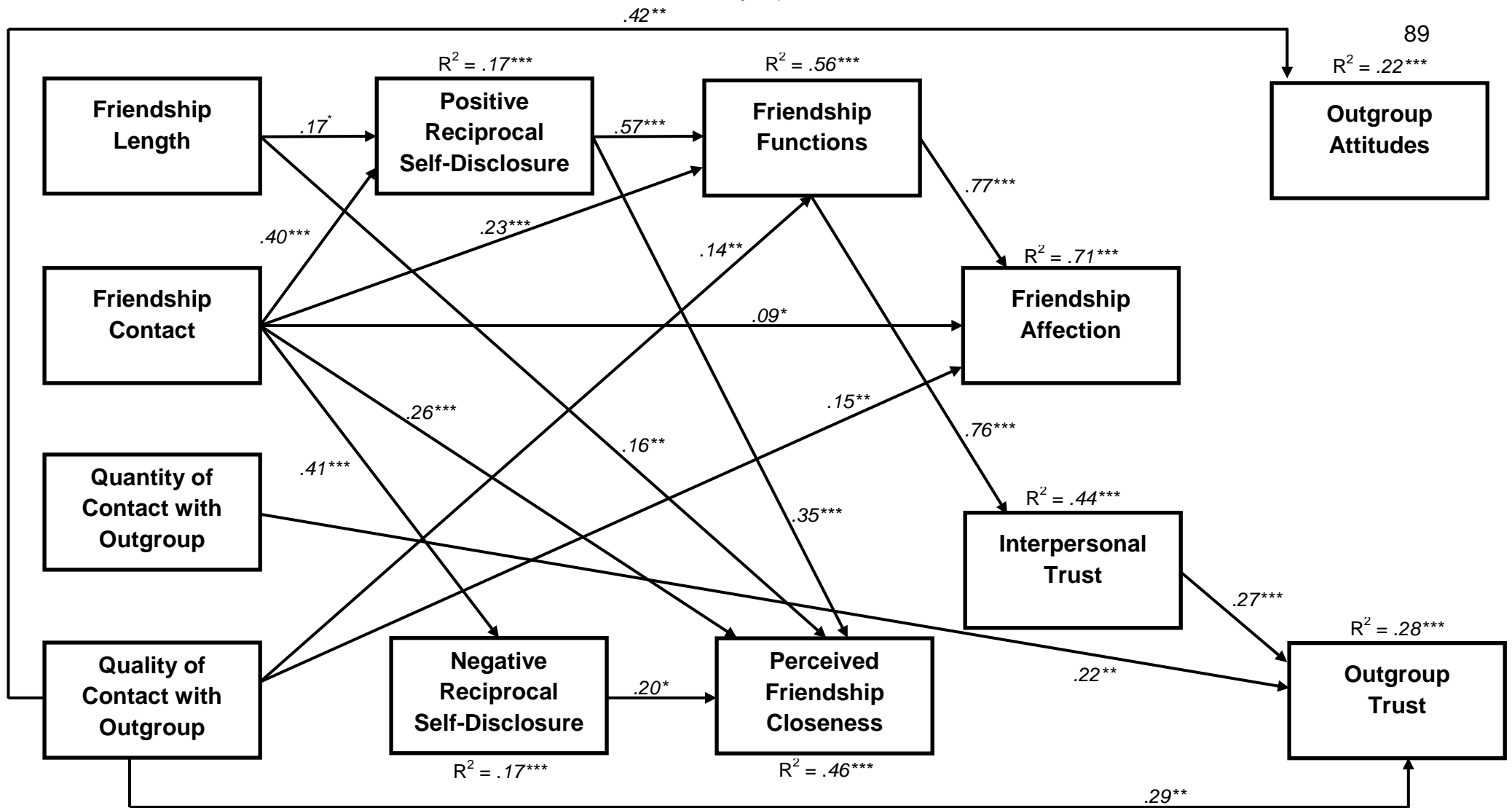


Figure 5: Path analytic model illustrating the generalisation of interpersonal trust towards a specific white South African friend to greater trust of the white South African outgroup in general amongst coloured South African students at Stellenbosch University (N = 145).

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; Bootstrapped standardised regression coefficients; only significant paths are shown. Covariances: Quantity of General Outgroup Contact-Quality of General Outgroup Contact: .39\*\*\*; Positive Reciprocal Self-Disclosure - Negative Reciprocal Self-Disclosure: .58\*\*\*; Friendship Functions - Perceived Friendship Closeness: .38\*\*\*; Friendship Affection-Interpersonal Trust: .33\*\*; Outgroup Attitudes-Outgroup Trust: .54\*\*\*.

were each significantly associated with outgroup trust. Bootstrapped mediation tests (1,000 re-samples; Preacher & Hayes, 2008) showed that interpersonal trust fully and significantly mediated the relationship between friendship functions and outgroup trust ( $b = .21, p < .01$ ), suggesting that friendship functions predict increased levels of trust toward the outgroup as a result of an increase in trust towards the outgroup friend. This model explained 22% of the variance ( $R^2$ ) in outgroup attitudes and 28% of the variance in outgroup trust.

### **Cross-group Friendships and Access to Broader Social Networks**

The final hypothesis sought to test the role played by having a cross-group friend in exposing ingroup members to a wider social network of outgroup members. A third path model (see Figure 6) was fit to explore whether time spent with one's closest cross-group friend was associated with increased exposure to a wider social network of outgroup members. Friendship contact was included as the proximal predictor variable and friendship closeness as the proximal mediator variable. Contact with the outgroup friend's same-group friends were added as the distal mediator variable and friendship with the outgroup friends' same-group friends was added as the distal outcome variable. Friendship length, general quality of contact with the outgroup and general quantity of contact with the outgroup were again included as control variables. This model achieved acceptable model fit on three of the four model fit indices,  $\chi^2(7) = 16.51, p < .05, \chi^2/df = 2.36; CFI = .94; RMSEA = .097; SRMR = .064$ .

Friendship length significantly predicted perceived friendship closeness ( $B = .26, p < .05$ ). Friendship contact was positively and significantly associated with perceived friendship closeness ( $B = .48, p < .001$ ) and contact with the outgroup friend's same-group friends ( $B = .25, p < .01$ ). General quality of contact with the

outgroup was significantly associated with friendship with the outgroup friend's same-group friend ( $B = .23, p < .01$ ). Perceived friendship closeness was positively and significantly associated with contact with the outgroup friend's same-group friends ( $B = .27, p < .01$ ), which was in turn significantly associated with friendship with the outgroup friend's same-group friends ( $B = .60, p < .001$ ).

Bootstrapped mediation tests (1,000 re-samples; Preacher & Hayes, 2008) showed that friendship contact significantly mediated with relationship between perceived friendship closeness and friendship with the outgroup friend's same-group friend ( $b = .11, p < .01$ ). This mediation effect suggests that perceived friendship closeness predicts greater numbers of friendships with the cross-group friend's same-group friends because of an increase in time spent with the cross-group friend's same-group friends.

Contact with the cross-group friend's same-group friend mediated the relationship between friendship contact and friendships with the cross-group friend's same-group friends ( $b = .15, p < .01$ ), which suggests that the amount of time spent with the cross-group friend predicts an increased number of friendships formed with the outgroup friend's same-group friend as a result of an increase in the amount of time spent with the cross-group friend's same-group friends.

Finally, perceived friendship closeness partially mediated the relationship between friendship contact and contact with the outgroup friend's same-group friends ( $b = .14, p < .01$ ) and fully mediated the relationship between friendship length and contact with the cross-group friend's same-group friends ( $b = .00, p < .05$ ). These mediation effects suggest that friendship contact and friendship length predict an increase in the time spent with the cross-group friend's same-group friends because of an increase in the perceived closeness between ingroup and

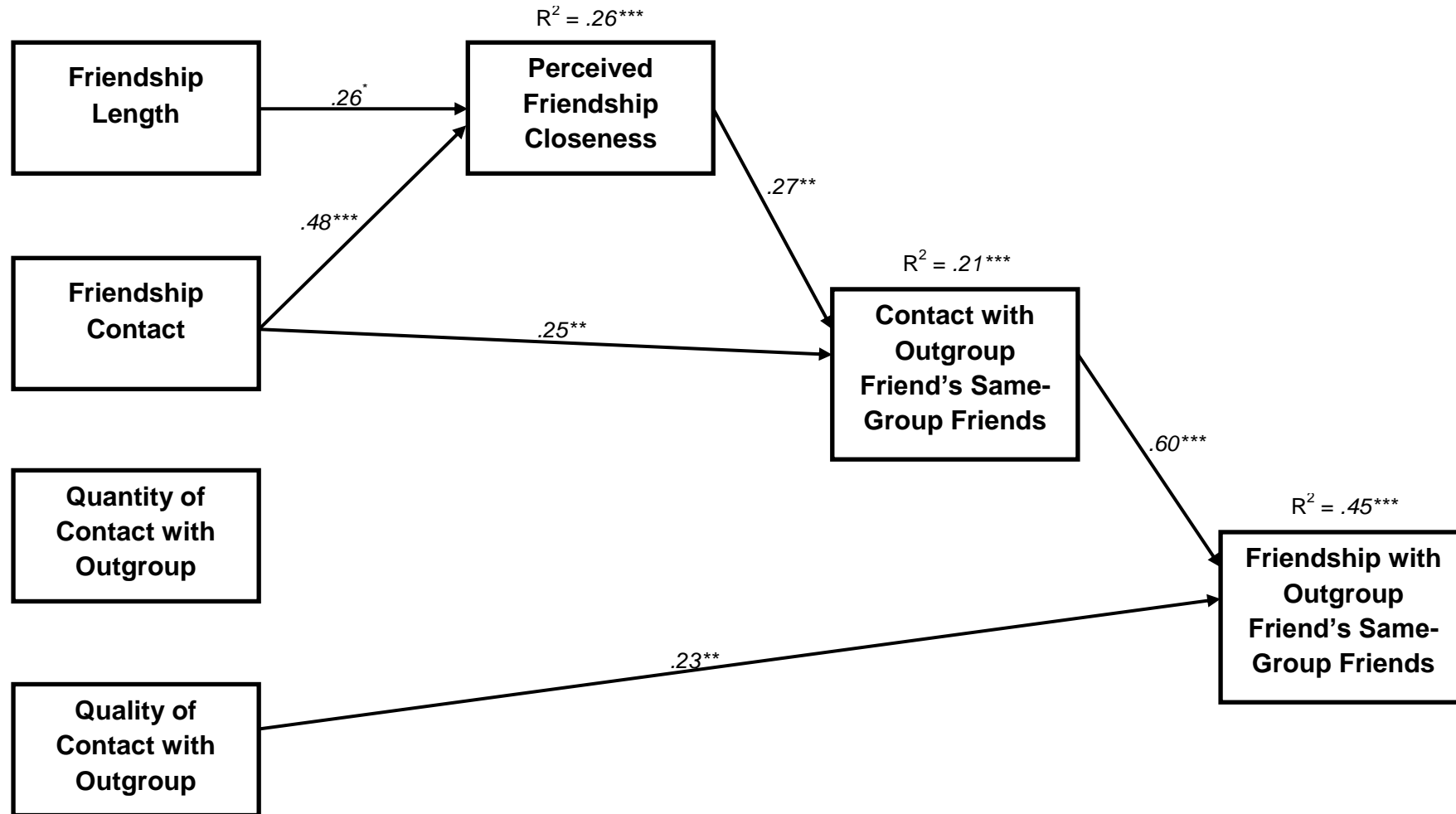


Figure 6: Path analytic model showing how a single outgroup friends is associated with greater exposure to broader social networks of outgroup members and the development of further outgroup friendships amongst coloured South African students at Stellenbosch University (N = 145).

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; Bootstrapped standardised regression coefficients; only significant paths are shown. Covariances: Quantity of General Outgroup Contact-Quality of General Outgroup Contact: .39<sup>\*\*\*</sup>



outgroup members. This model explained 26% of the variance ( $R^2$ ) in perceived friendship closeness, 21% of the variance in contact with the cross-group friend's same-group friends and 45% of the variance in friendship with the cross-group friend's same-group friends.

## Summary

The results of this research bare a strong resemblance to those found in Northern Ireland, England, Serbia, and amongst white South African students in South Africa. The first hypothesis received partial support: same-group friendships were characterised by significantly greater positive reciprocal self-disclosure, more friendship functions, interpersonal closeness, more positive affective feelings and greater quality of friendships even after controlling for friendship length, than cross-group friendships. However, there was no significant difference found between the amount of negative reciprocal self-disclosure shared between respondents across the two friendship conditions. The second hypothesis received full support: these significant differences along the interpersonal-level variables persisted across the two friendship conditions even after controlling for differences in friendship length. The third hypothesis received full support: female respondents rated their interpersonal friendships as being more intimate (along all the interpersonal-level variables) than males, irrespective of friendship condition.

The fourth hypothesis received partial support. Interpersonal-level variables mediated numerous relationships in both the same-group and cross-group friendship conditions. The fifth hypothesis received strong support: interpersonal trust was associated with greater outgroup trust, while general quality of contact with the outgroup was associated with improved outgroup attitudes. The last hypothesis also received strong support with increased contact with the cross-group friend

associated with more contact with the cross-group friend's same-group friends, which was in turn significantly associated with more friendships with the cross-group friend's same-group friends.

## CHAPTER FIVE

### Discussion

The present study aimed to compare same-group and cross-group friendships along several interpersonal-level variables amongst minority-status coloured South African students registered at Stellenbosch University. Results from the emerging literature contrasting interpersonal-level variables amongst same-group and cross-group friendships using between-subjects designs have consistently shown that same-group friendships are reported as being significantly more intimate than cross-group friendships (e.g., Brewer, 2009; Goosen, 2011; Loxton, 2009; Lukovic, 2010; Patterson, 2010). Notably, these studies were all conducted amongst majority-status participants. Given the findings reported by Pettigrew and Tropp (2005) that contact effects vary as a function of group-status, the present study aimed to replicate these consistent findings amongst minority-status participants.

Six hypotheses were tested in the current study, namely that (1) Same-group friendships will be characterised by significantly greater friendship length, and significantly greater mean-levels of friendship intimacy (as measured via the nature/type of the friendship), friendship contact, positive and negative reciprocal self-disclosure, friendship functions, interpersonal closeness (self-other overlap), positive affective feelings and interpersonal trust than same-gender, cross-group friendships; (2) the significant multivariate and univariate differences on the mean-level along these nine interpersonal-level variables will persist across the two friendship conditions even after controlling for differences in friendship length; (3) Female respondents will rate their same-gender interpersonal friendships significantly higher in terms of friendship intimacy, positive and negative reciprocal self-disclosure, friendship functions, and friendship affect than male respondents will

regarding their same-gender interpersonal friendships, irrespective of the friendship condition; (4) Positive and negative reciprocal self-disclosure (proximal mediators), and friendship functions and interpersonal closeness (distal mediators) will each mediate the relationship between friendship contact and both friendship affect and interpersonal trust for both same-group and cross-group friendships (after controlling for friendship length and, in the case of cross-group friendships, also controlling for the quality and quantity of contact with the outgroup in general). More specifically, friendship contact will be significantly positively associated with positive and negative reciprocal self-disclosure, both of which will in turn be significantly associated with greater friendship closeness, more friendship functions, greater friendship affection and increased levels of interpersonal trust for both friendship conditions.

Furthermore, friendship contact will be significantly positively associated with greater friendship closeness and more friendship functions, both of which will in turn be significantly positively associated with greater friendship affect and interpersonal trust for both friendship conditions; (5) Friendship affect towards a specific same-gender white South African friend in the cross-group friendship condition will be significantly positively associated with more positive outgroup attitudes towards white South Africans in general, even after controlling for prior general quantity and quality of contact with white South Africans; and (6) Contact with a specific white South African friend in the cross-group friendship condition (i.e., contact with one's closest white South African friend) will be significantly associated with more contact with this white South African friend's other white South African friends, which will in turn be significantly associated with more friendships with the white South African's white South African friends. This hypothesis sought to test the role played by having a cross-group friend in exposing ingroup members to a wider social network of

outgroup members. Overall, the results obtained from the present study were consistent with the findings from the emerging literature and also supported each of the above mentioned hypotheses.

In this chapter, the results of the present study are discussed in relation to each of the specific research questions that were explored. I will begin with a discussion of the mean-level differences found between the nine interpersonal-level variables across the two friendship conditions. I will then discuss the differences in these interpersonal-level variables as they relate to the gender differences found amongst respondents. The discussion of these interpersonal-level variables concludes with a focus on the differences in the structural relationships reported by respondents in the same-group and cross-group friendship conditions.

After discussing the various comparisons that were undertaken in the same-group and cross-group friendship conditions, I move on to discuss the broader benefits associated with having a cross-group friend, including that of improved attitudes towards the outgroup as a whole and the exposure to a broader social network of outgroup members. I conclude this chapter with a consideration of the contributions made by the present study to the emerging literature, the limitations of the present study, as well as suggestions for future research.

### **Same-Group and Cross-Group Friendships**

Comparisons between respondents within the two groups revealed same-group friendships were rated significantly higher than cross-group friendships along several of the interpersonal-level variables. Firstly, same-group friendships (mean = 73.17 months) were reported as significantly longer in duration than cross-group friendships (mean = 55.29 months). One possible explanation for this finding is that the same-group friendships that were reported on were formed by respondents

prior to the start of their university careers (e.g., in their home neighbourhoods or schools). Research suggests that neighbourhoods and schools in South Africa remain largely homogenous (Dixon & Durrheim, 2003; Tredoux & Dixon, 2009). In contrast, it is likely that many of the cross-group friendships that were reported on were only formed once the respondents were exposed to a more racially diverse student body at university. Unfortunately, the present study did not explore where these friendships were first established.

On a related note, respondents in the same-group condition reported their closest same-gender, same-group friend to be characterised as one of their closest friends, whereas respondents in the cross-group condition were more likely to characterise their closest same-gender, cross-group friend as just a friend or a close friend. These responses relate to the nature of these friendships and indicate that same-group friendships were characterised by greater levels of intimacy within the friendship than that of cross-group friendships. The data suggest two possible explanations for this difference across the two conditions.

Firstly, it is possible that friendships only become more intimate as the duration of the friendship length increases. In other words, same-group friendships were more likely to be rated as more intimate because they were longer in duration than cross-group friendships. Secondly, friendship intimacy could also be influenced by the amount of time spent with one's friend. Respondents in the same-group friendship condition reported spending a significantly greater amount of time per week with their closest friend than respondents in the cross-group condition. Dindia and Emmer-Sommer (2006) found same-group friendships to last longer than that of cross-group friendships. Lack of closeness within a friendship may also indicate a lack of similarity between the two individuals engaging in the friendship.

Respondents in the same-group condition reported engaging in significantly more reciprocal self-disclosure than those in the cross-group friendship condition. Increased levels of reciprocal self-disclosure between individuals have been shown to bring about greater affective feelings and levels of perceived closeness between the individuals within a friendship (Laurenceau et al., 1998). Cross-group friendships reported lower mean-levels of negative reciprocal self-disclosure than same-group friendships. Although this result was non-significant, these differences may be explained through the challenges of disclosing with a friend in a conversation characterised by dealing with unpleasant experiences, opinions and feelings.

With regards to the interpersonal-level variables of friendship functions friendship closeness, and friendship affection, the above mentioned hypothesis was once again confirmed, with respondents in the same-group condition reporting greater levels of all three these variables than respondents in the cross-group friendship condition. Friendship closeness has been found to determine the maintenance potential within the friendship, as increased levels of friendship closeness indicate greater levels of effort from individuals to ensure the continuation of the friendship (Hays, 1988).

Friendship functions can be used as a measure of the quality of the friendships (Ingersoll, 1989). Respondents in the same-group condition indicated their closest friend to fulfil significantly more functions than respondents in the cross-group condition. Neither the differences in interpersonal closeness (self-other overlap) nor friendship functions across the two friendship conditions can be ascribed to the significant differences in friendship length reported earlier. The differences in the levels of friendship closeness and friendship functions persisted even after controlling for friendship length. Same-group respondents also scored

higher on levels of friendship affection than respondents in the cross-group condition.

The differences found between same-group and cross-group friendships suggests that it *matters* whether individuals within a friendship share group membership or not. Although scores for each of the nine interpersonal-level variables were high in both conditions and therefore equally important in describing both same-group and cross-group friendship, same-group friendships still reported significantly greater levels of friendship intimacy than cross-group friendships.

These differences also remained after controlling for friendship length, therefore the differences between the two friendship conditions cannot be explained by same-group friendships being reported as significantly longer than cross-group friendships. Therefore, the only difference between the two groups was that of group membership. It is this shared identity that is most important in determining increased levels of intimacy within a friendship.

Social Identity Theory (Tajfel & Turner, 1979) may be able to account for these differences based on group membership, as this theory suggests that individuals actively strive towards improving their self-concept. This is manifested through seeking to improve their social identity and group membership. This social identity is developed within the groups that an individual identifies themselves with, which is distinct from other outgroups. This distinction creates an ingroup bias, whereby the individual will hold more favourable attitudes towards other individuals sharing their group membership. This explains the greater levels of intimacy in same-group friendships compared to cross-group friendships.



Moreover, this has specific implications for contact interventions. As friendships are more intimate when the two individuals engaging in the friendship identify with a common group membership, these interventions should specifically focus on a shared identity between the individuals within the cross-group friendships and not on their differing racial categorizations. When individuals are able to identify with something that they have in common, this super ordinate identity will result in the friendship developing through the same mechanisms as a same-group friendship (based on their shared super ordinate identity), instead of as a cross-group friendship (based on the individuals identifying with different racial groups).

These findings comparing same-group and cross-group friendships have been consistent with those found in the emerging literature discussed previously, especially that of Goosen (2011), which found significant differences between the same-group and cross-group friendship conditions along each of the seven interpersonal-level variables. Specifically, these results suggest that even for minority-status respondents, there are significant mean-level differences. As the results reported in the present study replicate the patterns reported amongst majority-status respondents, this could suggest that same-group and cross-group friendships differ significantly irrespective of group status.

### **Gender Differences**

The literature exploring gender differences has consistently shown friendships between females to be characterized as more intimate than friendships between males. Where women's friendships are centred on communication and self-disclosure (Wright, 1982), men's friendships are primarily activity orientated (Bell, 1981; Wellman, 1992). The emerging literature comparing same-group and cross-group friendships consistently reported female friendships reporting significantly

greater levels of positive and negative reciprocal self-disclosure, friendship functions and friendship affection than friendship between males. Given these earlier findings, and the literature comparing male and female friendships, it was hypothesised that female respondents would rate their interpersonal friendships more favourably than males along the interpersonal-level variables, irrespective of the friendship condition.

In this study, female respondents reported significantly greater levels of friendship intimacy (as measured via friendship type), positive reciprocal self-disclosure, friendship functions, friendship closeness, friendship affection, and interpersonal trust, than male respondents. No significant gender differences were found for friendship contact or negative reciprocal self-disclosure. These findings are remarkably similar to those reported amongst majority-status respondents in Northern Ireland, England, Serbia, and South Africa (e.g., Brewer, 2009; Goosen, 2011; Loxton, 2009; Lukovic, 2010; Patterson, 2010). Moreover, these findings are consistent with the existing literature that female friendships are characterised by greater levels of sharing, and are considered to be more intimate in nature than male friendships (Wright, 1982).

Research exploring the differences between male and female friendships has indicated that although female friendships may appear to be closer than that of male friendships, both males and females report similar perceptions relating to intimacy and closeness within their friendship, although they are experienced through different means (Dindia & Allen, 1992; Reis, Senchak, & Solomon, 1985). The gender differences found in the present study may be as a result of the type of variables measured. These interpersonal-level variables may be more suited towards female friendships. This may be because the variables measuring friendship intimacy resemble characteristics which are more important in female friendships

than male's friendships, leading to a bias within the reported results. Future research should also include further friendship activity variables more specific to male friendships. This would allow for a more balanced comparison of male and female friendships.

### **The Structural Relationships between the Interpersonal-level Variables**

The fourth hypothesis related to the structural relationships between the interpersonal-level variables amongst the same-group and cross-group friendship conditions. Within the emerging literature, Goosen (2011) found positive and negative reciprocal self-disclosure to mediate the relationship between friendship contact and friendship functions as well as between friendship contact and friendship closeness amongst white South African university students reporting on their closest friendships with coloured South Africans. Friendship functions and friendship closeness were also shown to mediate the relationships between positive and negative reciprocal self-disclosure and friendship affection.

Within the present study, and consistent with its hypotheses, interpersonal-level variables mediated numerous relationships in both the same-group and cross-group friendship conditions. Friendship length was significantly positively associated with negative reciprocal self-disclosure. Friendship contact was positively associated with friendship functions, friendship affection and positive and negative reciprocal self-disclosure. Positive reciprocal self-disclosure was associated with friendship functions, while friendship functions were positively associated with friendship affection and interpersonal trust. These findings suggest that the role of mediators is significantly more important in developing more intimate friendships between individuals than simply increasing the amount of contact between individuals.

Following, the similar results reported in same-group and cross-group friendship conditions are important when developing future contact interventions that promote cross-group friendships. It is important for these interventions to foster increased levels of intimacy between groups (through perceived friendship closeness), which could be achieved thorough specifically promoting contact and positive and negative reciprocal self-disclosure between groups.

### **Attitude Generalisation**

The present study considered whether friendship affection towards a particular white South African would be significantly positively associated with more positive outgroup attitudes towards white South Africans in general, even after controlling for prior general quantity and quality of contact with white South Africans. Attitude generalisation from the cross-group friend to the entire outgroup has a significant benefit in improving greater amounts of prejudice between groups. Individuals need not engage in contact with the entire outgroup for attitudes towards the outgroup to improve.

Results reported in the present study supported this hypothesis and were consistent with those reported by Goosen (2011), who found that interacting with a cross-group friend is able to result in improved attitudes towards the individual as well as towards the entire outgroup. Moreover, Pettigrew's (1997) ideas regarding attitude generalisation were supported in so far as interpersonal trust towards the cross-group friend generalised to include outgroup trust towards the outgroup in general. Therefore, contact with the cross-group friend encouraged greater outgroup trust towards the outgroup as a whole (via interpersonal trust). However, the generalisation effect from interpersonal affection to outgroup attitudes was not observed. When compared with the results reported by Goosen (2011), it is clear

that attitude generalisation (in the present study, in terms of trust only) from a cross-group friend to the entire outgroup is significant for both majority- and minority-status group members. Therefore, interventions focused on improving outgroup attitudes should specifically focus on the development of cross-group friends, irrespective of group status.

Mediation tests indicated that interpersonal trust fully mediated the relationship between friendship functions and outgroup trust. These findings suggest that the increased role the cross-group friend plays in the individuals life helps to establish greater trust towards the cross-group friend, which is then able to encourage greater trust towards the outgroup as a whole.

Brown and Hewstone (2005) argue that increased category salience is important for the generalisation of attitudes from the outgroup exemplar to the outgroup as a whole. Ingroup members are more likely to develop improved attitudes towards the outgroup as a whole if the group membership of the outgroup exemplar is sufficiently salient (i.e., if the outgroup exemplar is considered to be a sufficiently typical representative of the outgroup). If the outgroup exemplar is viewed an 'exception to the rule,' then it will inhibit the generalisation of attitudes. Aron et al. (1992) offer an alternative explanation for the generalisation of attitudes from the outgroup exemplar to the outgroup as a whole. They argue that this generalisation effect is more likely to take place under conditions of greater self-other overlap (i.e., when the ingroup member perceives greater levels of similarity between themselves and the outgroup member).

Future studies should include a measure of category salience and its moderating effects on attitude generalisation as the present study was unable to account for the effects of increased category salience levels on the ability for positive

attitudes to generalise (Brown & Hewstone, 2005). Contact interventions should focus on promoting intergroup relations in the form of cross-group friendships, instead of focusing on improving relations between groups. By specifically encouraging cross-group friendships, attitudes towards entire outgroups will improve as a result.

### **Exposure to Broader Social Networks**

The final hypothesis sought to test the role played by having a cross-group friend in exposing ingroup members to a wider social network of outgroup members. The present study considered whether contact with one's closest white South African friend in the cross-group friendship condition would be significantly associated with more contact with the particular cross-group friendship's same-group (i.e., other white South African) friends, which would in turn be significantly associated with more friendships with the particular cross-group friend's same-group friends. Results from the path analysis confirmed this hypothesis.

Bootstrapped mediation tests showed that perceived friendship closeness is a significant mediator of the relationship between both the length of the friendship and the amount of time spent with the outgroup friend as well as the amount of contact with the outgroup friend's same-group friends. These results suggest that even a single cross-group friendship has the potential for subsequent cross-group friendships to develop, in order to improve intergroup attitudes amongst a greater number of individuals. Contact with the outgroup friend's same-group friends also mediated the relationship between the amount of time spent with the cross-group friend and friendships with the outgroup friend's same-group friends. These results are consistent with those obtained by Goosen (2011) amongst majority-status respondents. These findings suggest that contact with a single outgroup friend is

important because it creates opportunities for the ingroup member to spend time with, and get to know, other outgroup members (in the form of their outgroup friend's same-group friends). The data suggests that this would encourage the development of further friendships with outgroup members.

Interventions could focus on promoting cross-group friendships amongst smaller groups of individuals, such as individuals within a specific residence (as individuals would base their common identity on their shared residence), which could extend to the development of further cross-group friendships with individuals outside of the residence (basing their common identity as having a friendship with the outgroup exemplar and perhaps also as Stellenbosch University students). Specific interventions within residences have the potential to improve attitudes across campus.

The findings of the present study provide important contributions to the emerging literature comparing same-group and cross-group friendships. Where previous research has focused on comparing the same-group and cross-group friendships of majority group-status respondents, the present study compared same-group and cross-group friendships amongst minority-status respondents.

### **Limitations**

The present study has provided numerous contributions to intergroup relations research. Nevertheless, there are a number of limitations associated with the present study. Firstly, the present study, along with the previous five studies comparing same-group and cross-group friendships, suffers the limitation of being a between-subjects study. Therefore, same-group and cross-group friendships of the same participant could not be compared. Despite this shortcoming, there remains confidence in the results of the present study as (a) the participants were randomly

assigned to each friendship condition and, (b) there were no significant differences between participants in terms of their biographical details.

Secondly, owing to the cross-sectional nature of the present study's design, casual inferences (as implied by the path models that were tested) can strictly not be made. Causal inferences can only be made from experimental studies, where the effects of third variables can be controlled for. However, an alternative would be to explore the interrelations between these variables over time, using longitudinal designs, which would provide greater scope (if still limited) for considering causal inferences.

Thirdly, the present study was not able to consider all the relevant variables relating to interpersonal friendships, as seen in the unexplained variance in a number of the interpersonal-level outcome measures. However, it would not be feasible to even attempt to study all the variables operating within interpersonal friendships simultaneously as it would increase the length of the surveys to the extent that it would discourage respondents from completing the survey. As such, it was decided to only include those variables that would allow for a meaningful comparison of the present study with the five previous studies that were undertaken amongst majority-status respondents (Goosen, 2011).

Finally, it is not clear to what extent the present findings may be able to generalise beyond the sample (or friendship pairings) that were studied. For example, would the present findings generalise to older South African populations who may not have experienced or been influenced by the effects of education in diverse settings due to the nature of segregated education during Apartheid? In spite of this concern, it is encouraging that the present findings so closely resemble those found amongst majority-status respondents in Northern Ireland, England, Serbia,



and South Africa, suggesting that the results may indeed be generalizable beyond the current sample.

### **Directions for Future Research**

The limitations of the present study presented above offer ideas for future studies comparing same-group and cross-group friendships. Firstly, an improvement in this research design is the use of a within-subjects design, which would aid in comparing specific differences between the friendship conditions with greater confidence.

Secondly, future studies comparing same-group and cross-group friendships could be improved with an experimental or longitudinal model design which would be better equipped to test causal relationships. Using an experimental design, the researchers would be able to observe the effects of interpersonal-level variables on same-group and cross-group friendships within a controlled environment. This design would make it possible to test whether one variable causes a change in another variable, since it would be possible to control for the influence of third variables. Although an experimental design offers an improvement over the present study's cross-sectional design by increasing the internal validity of the data, a significant limitation of any experimental design is its poor levels of external validity. Experimental conditions are often so artificial, that their results may not generalise strongly to real-world conditions.

Longitudinal survey designs (that may suffer somewhat in internal validity, but have greater external validity than experimental designs) may offer a solution to this problem. A longitudinal design allows one to measure the interpersonal-level variables at various intervals and to observe the changes in these variables, and

their interrelationships, over time. Such a longitudinal design would also offer greater insight into the maintenance of same-group and cross-group friendships over time.

Thirdly, when considering the interpersonal-level variables measured in the present study, another future direction would be to consider measuring the typicality of an outgroup friend and to explore whether the level of typicality has any effect on the ability of positive outgroup attitudes to generalise to the entire outgroup. Additional variables should also be measured within future research comparing same-group and cross-group friendships in order to gain greater confidence in the results obtained.

Intergroup anxiety is an important variable to include, as it has been shown to affect majority-status group members' behaviours within intergroup contact situations, and has affected minority-status group members' willingness to engage in intergroup contact. It would also be beneficial to include the moderating effects of category salience on the ability of contact effects to generalise to an entire outgroup. Greater levels of category salience would increase the strength of the generalising effects (Brown & Hewstone, 2005). In considering gender differences, future research should include variables that may better relate to the expression of intimacy within friendships between men.

Fourthly and most importantly, this study should be replicated amongst other minority-status respondents as well as minority-status participants in other post-conflict societies. Results collected in the present study have been obtained from a minority-status group specific to the population of students at Stellenbosch University. These results may not necessarily generalise to the South African population at large, or other minority-status groups whose status may have been previously devalued by different means.

Collectively, results from studies in several post-conflict societies would be able to indicate whether the patterns that have been reported in this study are general or specific to the history of the region. These results could provide great insight into the different ways these groups experience intergroup and interpersonal friendships and whether these friendships are able to compare to those of majority-status individuals. Moreover, these results could inform interventions and policies globally to promote cross-group friendships and improve intergroup relations.

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## **APPENDIX A**

### **Electronic Survey Invitation**

Dear Sir/Madam

I am a Masters student in Psychology at Stellenbosch University. I will be conducting an electronic (online) survey on student friendships amongst Stellenbosch University students. Participants who submit a completed survey will be entered into a cash prize draw for R500.00.

To access the survey and further information related to it, please go to the following link by moving your mouse arrow onto the link and then double clicking with the left mouse button.

[URL to be specified]

Your participation is voluntary, anonymous, and confidential.

I look forward to your participation in this study.

Best wishes,  
Cindy Lisa Lewis

Dr. Hermann Swart (Supervisor)  
Department of Psychology  
Stellenbosch University

office: +27 21 808 9061  
[hswart@sun.ac.za](mailto:hswart@sun.ac.za)

## APPENDIX B

### Informed Consent Form

Dear Sir/Madam

You are asked to participate in this survey on **student friendships at Stellenbosch University**, conducted by Cindy Lisa Lewis, a Masters student in the Department of Psychology (under the supervision of Dr. Hermann Swart).

You have been selected as a prospective participant because you are a registered South African student at Stellenbosch University.

The purpose of this study is to gather information from Stellenbosch University students about their friendships, how these friendships are formed, and how they are maintained.

This survey forms part of the fulfillment of a Masters degree in Psychology. Your participation in this survey will make a valuable contribution to our understanding of the nature of friendship development and maintenance amongst University students within the South African context.

Should you agree to participate in this survey, you will be asked to read through and answer a range of questions relating to particular social relationships, experiences and opinions. In order to submit the survey, all the questions that are posed to the participants require an answer. Should you feel that there is a question that you do not wish to answer, you are free to withdraw your participation (see below). It should not take you longer than thirty minutes to complete the survey, and you can complete this survey anywhere and at any time so long as you have access to a computer and an internet connection. This survey will run for the next four weeks.

Before proceeding to the survey, a number of important points should be made regarding the terms and conditions of this survey. Please read through each point carefully. Should you agree with these terms and conditions, please select the '**I Agree**' icon below. In doing so, you will be giving your consent to participate in this

study, and you will then be directed to the survey. Should you not agree with the terms and conditions, please select the '**I do not Agree**' icon below, and you will be exited from this portal. Please note the following:

1. **YOUR PARTICIPATION IS COMPLETELY CONFIDENTIAL.** No other person, other than the researchers, will have access to your responses.
2. **YOUR PARTICIPATION IS COMPLETELY ANONYMOUS.** No personal or identifying information will be attached to your survey. Each survey will be assigned with a unique identifier that will not be traceable to the personal identity of any one participant. Please feel free, therefore, to be completely honest and candid in your responses.
3. **YOU MAY WITHDRAW YOUR CONSENT AND PARTICIPATION AT ANY TIME DURING THE SURVEY WITHOUT PENALTY.** You are not waiving any legal claims, rights or remedies because of your participation in this research study. There is a '**Quit**' button on each page that will allow you to exit the survey at any point during the survey. If you have questions regarding your rights as a research subject, contact Ms MaléneFouché (mfouche@sun.ac.za; 021 808 4622) at the Division for Research Development, Stellenbosch University
4. Once you have completed the survey, you will have the opportunity to be entered into a **Cash Prize Draw to the value of R500**. If you wish to be entered into this draw, you will be asked to provide a valid cellphone number where you might be contact in the event that you are the winner of the cash prize.
5. Only completed surveys that are submitted will be considered for the Cash Prize Draw. In the event that the participant drawn has not provided a valid cellphone number where they may be contacted, a re-draw will take place until such time as a participant is drawn who has provided a valid cellphone number where they can be contacted and informed that they are the winner.
6. All cellphone numbers provided will be erased from the study's database subsequent to the completion of the Cash Prize Draw and the notification of the winner.
7. The investigators may withdraw you from this research if circumstances arise which warrant doing so.



8. Should you have any questions regarding this study, feel free to contact Cindy Lisa Lewis ([cindylisalewis@gmail.com](mailto:cindylisalewis@gmail.com)) or Dr. Hermann Swart ([hswart@sun.ac.za](mailto:hswart@sun.ac.za) / 021-8089061) who will gladly assist you as far as possible.
9. Once the results of the study are ready, they will be made available on the Psychology Department's webpage ([www.sun.ac.za/psychology](http://www.sun.ac.za/psychology)) for all interested parties.

Having read the terms and conditions above, please select one of the two options below to indicate whether you wish to give your consent to participate or not.

Best Wishes,  
Cindy Lisa Lewis

Dr. Hermann Swart (Supervisor)  
Department of Psychology  
Stellenbosch University

I have read the terms and conditions above, and I understand them and **AGREE** to participate in the survey. Please take me to the survey.

I have read the terms and conditions above and **DO NOT AGREE** to participate in this survey. Please exit me from this portal.

## APPENDIX C

## Biographical and Demographic Questionnaire

Please complete the following questions honestly.

\* Please indicate your age in years: \_\_\_\_\_

\* Please indicate your gender:

Female  
0

Male  
1

\* Please indicate your home language:

Afrikaans  
0

English  
1

\* Please indicate the type of accommodation you reside in:

Res  
3

Student Housing  
2

Private on-campus  
1

Do not live on  
campus  
0

\* How many years (including this year) have you been studying at the University of Stellenbosch? "In total, this is my...":

1<sup>st</sup> year  
1

2<sup>nd</sup> year  
2

3<sup>rd</sup> year  
3

4<sup>th</sup> year  
4

5<sup>th</sup> year or more  
5

\* Please indicate your relationship status:

Single  
0

In a relationship  
1

Married  
2

\* Please indicate which of the categories below describes you best (see disclaimer below):

White South African  
3

Black South African  
2

Coloured South  
African  
1

Indian South African  
0

**Disclaimer:** Reference to artificial racial labels (e.g., Black South African, White South African Coloured South African and Indian South African) occur throughout this survey. The Department of Psychology does not acknowledge or endorse the legitimacy of these artificial categories, and accepts that individuals might categorize themselves in a number of different ways over-and-above or other than just ethnicity. This survey, however, aims to compare the points of view and experiences of individuals across these ethnic groups on campus, and it is therefore important that an individual's responses can be located within a given ethnic group. This does not mean that the individual identifies with or endorses the category rather that it provides a context for understanding his/her point of view or experience.

## APPENDIX D1

## Same-group Questionnaire

**Make sure that you understand each question before circling the correct answer.**

Please answer ALL questions honestly, by indicating the first correct response that comes to mind.

Please think of your **CLOSEST** relationship (eg., acquaintance, friend, or best friend) with your best **SAME GENDER** friend who belongs to the **SAME** ethnic group as yourself. In the space provided below, please write down in the initials of his/her first name and surname only to help you keep them in mind (i.e., if your friend's name is John Peter Smith, only type in JS). **All questions that follow must be answered with this particular person in mind and no one else.**

\* *Approximately how old is this friend in years:* \_\_\_\_\_

\* *What is this friend's gender?*

Female  
0

Male  
1

\* *Approximately how long have you been friends?*

Please enter the year you became friends: \_\_\_\_\_

\* *Approximately how long have you been friends?*

Please indicate the month you became friends: \_\_\_\_\_

\* *What is the PRIMARY reason for spending time with this friend?*

Education  
0

Work (eg.  
Colleagues)  
1

Common activity  
2

Common  
friendship group  
3

Choice  
4

\* *What is the nature of your friendship?*

An acquaintance  
1

Just a friend  
2

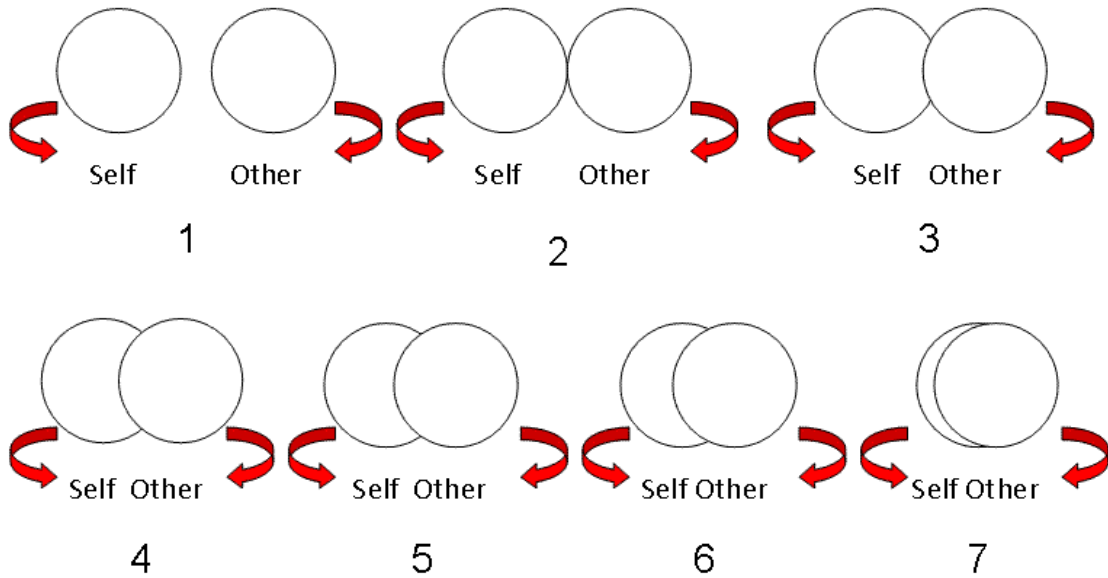
A very close  
friend  
3

One of my  
closest  
friends  
4

My best  
friend  
5

I am in a  
romantic  
relationship  
with this  
peron  
6

The picture below contains seven images that represent your relationship with this friend. The closer the circles are to one another and the more they overlap with each other, the closer the relationship between you and your friend is. Please look at the picture and choose that image that best represents your relationship with this friend.



\* Please indicate which image best represents your relationship with your friend:

	Image 1 1	Image 2 2	Image 3 3	Image 4 4	Image 5 5	Image 6 6	Image 7 7	
				None	One to two hours	Two to five hours	Five to ten hours	More than ten hours
* How many hours per week do you spend with this friend at YOUR house/flat/residence?	0	1	2	3	4			
* How many hours per week do you spend with this friend at THEIR house/flat/residence?	0	1	2	3	4			
* How many hours per week do you spend with this friend in total?	0	1	2	3	4			

**Please answer the following questions regarding this friend. Indicate how often this friend is or does what the item says.**

	Never	Rarely	Sometimes	Often	Always
* <i>This friend helps me when I need it</i>	0	1	2	3	4
* <i>This friend is someone whom I can tell private things to</i>	0	1	2	3	4
* <i>This friend makes me feel smart</i>	0	1	2	3	4
* <i>This friend makes me laugh</i>	0	1	2	3	4
* <i>This friend knows when I'm upset</i>	0	1	2	3	4
* <i>This friend points out things that I'm good at</i>	0	1	2	3	4
* <i>This friend would be good to have around if I were frightened</i>	0	1	2	3	4
* <i>This friend lends me things that I need</i>	0	1	2	3	4
* <i>This friend would make me feel better if I were worried</i>	0	1	2	3	4
* <i>This friend is someone I can tell secrets to</i>	0	1	2	3	4
* <i>This friend would stay my friend even if other people criticized me</i>	0	1	2	3	4
* <i>This friend is exciting to talk to</i>	0	1	2	3	4
* <i>This friend makes me feel special</i>	0	1	2	3	4
* <i>This friend would stay my friend even if other people did not like me</i>	0	1	2	3	4
* <i>This friend would still want to be my friend even if we argued</i>	0	1	2	3	4
* <i>This friend is exciting to be with</i>	0	1	2	3	4
* <i>This friend shows me how to do things better</i>	0	1	2	3	4
* <i>This friend makes me feel better when I'm upset</i>	0	1	2	3	4

**Indicate how much you agree or disagree to the following statements regarding your feelings towards this friend.**

	Disagree completely	Disagree somewhat	Unsure	Agree somewhat	Agree Completely
<i>* I am happy with our friendship</i>	1	2	3	4	5
<i>* I care about this friend</i>	1	2	3	4	5
<i>* I like this friend a lot</i>	1	2	3	4	5
<i>* I feel our friendship is a great one</i>	1	2	3	4	5
<i>* I am satisfied with our friendship</i>	1	2	3	4	5
<i>* I feel close to this friend</i>	1	2	3	4	5
<i>* I feel our friendship is strong</i>	1	2	3	4	5
<i>* I enjoy having this friend as a friend</i>	1	2	3	4	5

**Please indicate how often you do or feel what the statement says regarding your friendship.**

	Never	Rarely	Sometimes	Frequently	All the time
<i>* In your interactions with this friend, how often do you feel that the two of you can be regarded as equals?</i>	0	1	2	3	4
<i>* How often are your interactions with this friend characterized by common interests (or motivations/goals)?</i>	0	1	2	3	4
<i>* How often do you and this friend cooperate with one another in order to achieve a given task?</i>	0	1	2	3	4
<i>* How often do your friends and family support your friendship with this friend?</i>	0	1	2	3	4
<i>* How often do you think this friend's friends and family support your friendship?</i>	0	1	2	3	4

**Indicate how much you agree or disagree to the following statements regarding your feelings towards this friend.**

	Disagree completely	Disagree somewhat	Unsure	Agree somewhat	Agree completely
<i>* This friend is often only concerned with his/her own well-being, and cannot be relied upon to look out for my best interests</i>	5	4	3	2	1
<i>* I can trust this friend to keep my secrets that I have shared with him/her</i>	5	4	3	2	1
<i>* I have learned through experience that, as much as I like this friend, I cannot really trust him/her</i>	5	4	3	2	1

**Please think about the most POSITIVE and ENJOYABLE conversation you had in the past year with this friend. During this conversation:**

	Very little	Only a bit	Some	Quite a bit	A great deal
<i>* How much did YOU express your feelings?</i>	1	2	3	4	5
<i>* How much personal information did YOU share?</i>	1	2	3	4	5
<i>* How personal was the information YOU shared?</i>	1	2	3	4	5
<i>* How much did THIS FRIEND express HIS/HER feelings?</i>	1	2	3	4	5
<i>* How much personal information did THIS FRIEND share with you?</i>	1	2	3	4	5
<i>* How personal was the information HE/SHE shared?</i>	1	2	3	4	5

**Please think about the most NEGATIVE and UNPLEASANT conversation you had in the past year with this friend. During this conversation:**

	Very little 1	Only a bit 2	Some 3	Quite a bit 4	A great deal 5
* <i>How much did YOU express your feelings?</i>					
* <i>How much personal information did YOU share?</i>	1	2	3	4	5
* <i>How personal was the information YOU shared?</i>	1	2	3	4	5
* <i>How much did THIS FRIEND express HIS/HER feelings?</i>	1	2	3	4	5
* <i>How much personal information did THIS FRIEND share with you?</i>	1	2	3	4	5
* <i>How personal was the information HE/SHE shared?</i>	1	2	3	4	5

**Please answer the following questions with regard to your friendship.**

\* *When you interact with this friend, just how aware are you that you are from the same ethnic group?*

Not at all aware 0	Vaguely aware 1	Somewhat aware 2	Quite aware 3	Completely aware 4
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\* *Would you say this friend is a typical representative of your ethnic group?*

Not at all typical 0	Vaguely typical 1	Somewhat typical 2	Quite typical 3	Completely typical 4
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\* *How often during conversations with this friend do you discuss or mention that you are from the same ethnic group?*

Never 0	Rarely 1	Sometimes 2	Quite often 3	Always 4
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In each question below, substitute this friend's name into each question where you see an open line like this: " \_\_\_\_\_ "

	Never	Hardly ever	Every now and then	Quite often	All the time
	1	2	3	4	5

\* How often do you spend time with \_\_\_\_\_'s **coloured South African friends** at \_\_\_\_\_'s house/flat/res?

	None	Hardly any	A few	Quite a few	Many (more than 10)
	1	2	3	4	5

\* How many of \_\_\_\_\_'s **coloured South African friends** are also your friends?

Please read the questions below and **ANSWER EACH ONE** of them as **HONESTLY AS POSSIBLE**. Do not think too long on the answers - rather give the first answer that you think of. There are no right or wrong answers. We are only interested in your personal opinion.

	None	One	Two to three	Four to five	More than five
	0	1	2	3	4

\* How many white South African friends do you have on campus?

	0	1	2	3	4
--	---	---	---	---	---

\* How many of your coloured South African friends have one or more white South African friends?

	0	1	2	3	4
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\* How many members of your family (including parents, siblings, uncles, aunts etc.) have one or more white South African friends?

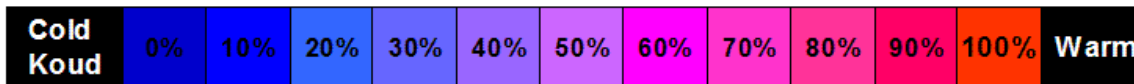
\* How often do you spend time with your white South African friend(s) in general?

Never	Rarely	Every now and then	Very often	All the time
0	1	2	3	4

**Please indicate how much you agree or disagree with the following statements. There are no right or wrong answers. We are only interested in YOUR honest opinion.**

	Disagree completely	Disagree somewhat	Unsure	Agree somewhat	Agree completely
<i>* White South Africans are only concerned with their own well-being, and cannot be relied upon to look out for my best interests</i>	1	2	3	4	5
<i>* I am often suspicious when I am in the company of white South Africans, and keep my wits about me</i>	1	2	3	4	5

**We now want you to rate how you feel about white South Africans in general. Please take a moment to consider how you feel about them in general. Don't focus on specific individuals. The thermometer below runs from zero (0) to a hundred (100). The higher the number, the warmer or more favourable you feel towards them. The lower the number, the colder or less favourable you feel.**



*\* Please indicate how warm or cold you feel towards white South Africans in general. If you feel neither warm nor cold, please rate them at 50.*

0	10	20	30	40	50	60	70	80	90	100
0	1	2	3	4	5	6	7	8	9	10

**Please indicate how much you agree or disagree to the following statements. There are no right or wrong answers. We are only interested in YOUR honest opinion.**

	Disagree completely	Disagree somewhat	Unsure	Agree somewhat	Agree completely
<i>* I feel negative towards white South Africans</i>	1	2	3	4	5
<i>* I respect white South Africans</i>	1	2	3	4	5
<i>* I admire white South Africans</i>	1	2	3	4	5

**Please think about white South Africans in general. Don't focus on specific individuals.**

*\* How friendly do you think coloured South Africans are towards white South Africans?*

Very unfriendly	Somewhat unfriendly	Unsure	Somewhat friendly	Very friendly
1	2	3	4	5

*\* How happy do you think your coloured South African friends would be if YOU dated/married a person white South African?*

Very unhappy	Somewhat unhappy	Unsure	Somewhat happy	Very happy
1	2	3	4	5

*\* In general, how much do you think coloured South Africans like white South Africans?*

Dislike them very much	Dislike them somewhat	Unsure	Like them somewhat	Like them very much
1	2	3	4	5

*\* In general, how happy do you think coloured South Africans would be to be friends with white South Africans?*

Very unhappy	Somewhat unhappy	Unsure	Somewhat happy	Very happy
1	2	3	4	5

**When you think about white South Africans in general, to what extent would you like to:**

	Not at all	A little	Unsure	Quite a lot	Completely
<i>* Avoid them?</i>	1	2	3	4	5
<i>* Make friends with them?</i>	1	2	3	4	5
<i>* Keep them at a distance?</i>	1	2	3	4	5
<i>* Have nothing to do with them?</i>	1	2	3	4	5
<i>* Get to know them better?</i>	1	2	3	4	5
<i>* Spend time with them?</i>	1	2	3	4	5

## APPENDIX D2

## Cross-group Questionnaire

**Make sure that you understand each question before circling the correct answer.**

Please answer ALL questions honestly, by indicating the first correct response that comes to mind.

Please think of your **CLOSEST** relationship (eg., acquaintance, friend, or best friend) with a **white South African** of the **SAME GENDER** as yourself. In the space provided below, please write down in the initials of his/her first name and surname only to help you keep them in mind (i.e., if your friend's name is John Peter Smith, only type in JS). **All questions that follow must be answered with this particular person in mind and no one else.**

\* *Approximately how old is this friend in years:* \_\_\_\_\_

\* *What is this friend's gender?*

Female  
0

Male  
1

\* *Approximately how long have you been friends?*

Please enter the year you became friends: \_\_\_\_\_

\* *Approximately how long have you been friends?*

Please indicate the month you became friends: \_\_\_\_\_

\* *What is the PRIMARY reason for spending time with this friend?*

Education  
0

Work (eg.  
Colleagues)  
1

Common activity  
2

Common  
friendship group  
3

Choice  
4

\* *What is the nature of your friendship?*

An acquaintance

Just a friend

A very close  
friend

One of my  
closest  
friends

My best  
friend

I am in a  
romantic  
relationship  
with this  
peron

1

2

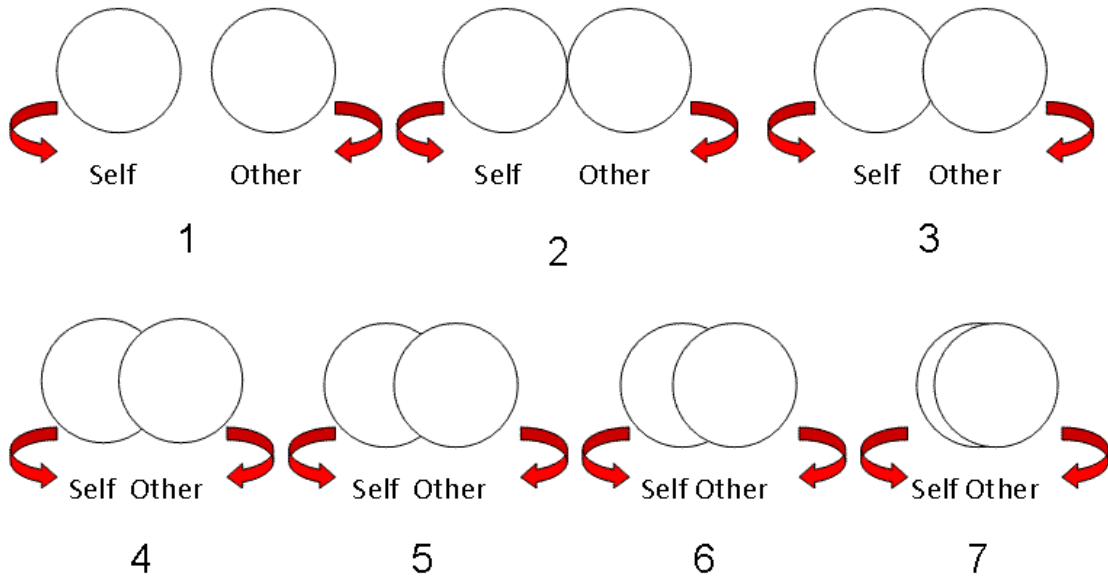
3

4

5

6

The picture below contains seven images that represent your relationship with this friend. The closer the circles are to one another and the more they overlap with each other, the closer the relationship between you and your friend is. Please look at the picture and choose that image that best represents your relationship with this friend.



\* Please indicate which image best represents your relationship with your friend:

Image 1 1	Image 2 2	Image 3 3	Image 4 4	Image 5 5	Image 6 6	Image 7 7		
				None	One to two hours	Two to five hours	Five to ten hours	More than ten hours
				0	1	2	3	4
				0	1	2	3	4
				0	1	2	3	4

\* How many hours per week do you spend with this friend at YOUR house/flat/residence?

\* How many hours per week do you spend with this friend at THEIR house/flat/residence?

\* How many hours per week do you spend with this friend in total?

**Please answer the following questions regarding this friend. Indicate how often this friend is or does what the item says.**

	Never	Rarely	Sometimes	Often	Always
* <i>This friend helps me when I need it</i>	0	1	2	3	4
* <i>This friend is someone whom I can tell private things to</i>	0	1	2	3	4
* <i>This friend makes me feel smart</i>	0	1	2	3	4
* <i>This friend makes me laugh</i>	0	1	2	3	4
* <i>This friend knows when I'm upset</i>	0	1	2	3	4
* <i>This friend points out things that I'm good at</i>	0	1	2	3	4
* <i>This friend would be good to have around if I were frightened</i>	0	1	2	3	4
* <i>This friend lends me things that I need</i>	0	1	2	3	4
* <i>This friend would make me feel better if I were worried</i>	0	1	2	3	4
* <i>This friend is someone I can tell secrets to</i>	0	1	2	3	4
* <i>This friend would stay my friend even if other people criticized me</i>	0	1	2	3	4
* <i>This friend is exciting to talk to</i>	0	1	2	3	4
* <i>This friend makes me feel special</i>	0	1	2	3	4
* <i>This friend would stay my friend even if other people did not like me</i>	0	1	2	3	4
* <i>This friend would still want to be my friend even if we argued</i>	0	1	2	3	4
* <i>This friend is exciting to be with</i>	0	1	2	3	4
* <i>This friend shows me how to do things better</i>	0	1	2	3	4
* <i>This friend makes me feel better when I'm upset</i>	0	1	2	3	4

**Indicate how much you agree or disagree to the following statements regarding your feelings towards this friend.**

	Disagree completely	Disagree somewhat	Unsure	Agree somewhat	Agree Completely
<i>* I am happy with our friendship</i>	1	2	3	4	5
<i>* I care about this friend</i>	1	2	3	4	5
<i>* I like this friend a lot</i>	1	2	3	4	5
<i>* I feel our friendship is a great one</i>	1	2	3	4	5
<i>* I am satisfied with our friendship</i>	1	2	3	4	5
<i>* I feel close to this friend</i>	1	2	3	4	5
<i>* I feel our friendship is strong</i>	1	2	3	4	5
<i>* I enjoy having this friend as a friend</i>	1	2	3	4	5

**Please indicate how often you do or feel what the statement says regarding your friendship.**

	Never	Rarely	Sometimes	Frequently	All the time
<i>* In your interactions with this friend, how often do you feel that the two of you can be regarded as equals?</i>	0	1	2	3	4
<i>* How often are your interactions with this friend characterized by common interests (or motivations/goals)?</i>	0	1	2	3	4
<i>* How often do you and this friend cooperate with one another in order to achieve a given task?</i>	0	1	2	3	4
<i>* How often do your friends and family support your friendship with this friend?</i>	0	1	2	3	4
<i>* How often do you think this friend's friends and family support your friendship?</i>	0	1	2	3	4

**Indicate how much you agree or disagree to the following statements regarding your feelings towards this friend.**

	Disagree completely	Disagree somewhat	Unsure	Agree somewhat	Agree completely
<i>* This friend is often only concerned with his/her own well-being, and cannot be relied upon to look out for my best interests</i>	5	4	3	2	1
<i>* I can trust this friend to keep my secrets that I have shared with him/her</i>	5	4	3	2	1
<i>* I have learned through experience that, as much as I like this friend, I cannot really trust him/her</i>	5	4	3	2	1

**Please think about the most POSITIVE and ENJOYABLE conversation you had in the past year with this friend. During this conversation:**

	Very little	Only a bit	Some	Quite a bit	A great deal
<i>* How much did YOU express your feelings?</i>	1	2	3	4	5
<i>* How much personal information did YOU share?</i>	1	2	3	4	5
<i>* How personal was the information YOU shared?</i>	1	2	3	4	5
<i>* How much did THIS FRIEND express HIS/HER feelings?</i>	1	2	3	4	5
<i>* How much personal information did THIS FRIEND share with you?</i>	1	2	3	4	5
<i>* How personal was the information HE/SHE shared?</i>	1	2	3	4	5



**Please think about the most NEGATIVE and UNPLEASANT conversation you had in the past year with this friend. During this conversation:**

	Very little 1	Only a bit 2	Some 3	Quite a bit 4	A great deal 5
* <i>How much did YOU express your feelings?</i>					
* <i>How much personal information did YOU share?</i>	1	2	3	4	5
* <i>How personal was the information YOU shared?</i>	1	2	3	4	5
* <i>How much did THIS FRIEND express HIS/HER feelings?</i>	1	2	3	4	5
* <i>How much personal information did THIS FRIEND share with you?</i>	1	2	3	4	5
* <i>How personal was the information HE/SHE shared?</i>	1	2	3	4	5

**Please answer the following questions with regard to your friendship.**

\* *When you interact with this friend, just how aware are you that you are from different ethnic groups?*

Not at all aware 0	Vaguely aware 1	Somewhat aware 2	Quite aware 3	Completely aware 4
-----------------------	--------------------	---------------------	------------------	-----------------------

\* *Would you say this friend is a typical representative of his/her ethnic group?*

Not at all typical 0	Vaguely typical 1	Somewhat typical 2	Quite typical 3	Completely typical 4
-------------------------	----------------------	-----------------------	--------------------	-------------------------

\* *How often during conversations with this friend do you discuss or mention that you are from different ethnic groups?*

Never 0	Rarely 1	Sometimes 2	Quite often 3	Always 4
------------	-------------	----------------	------------------	-------------

In each question below, substitute this friend's name into each question where you see an open line like this: " \_\_\_\_\_ "

	Never	Hardly ever	Every now and then	Quite often	All the time
* How often do you spend time with _____'s <b>white South African friends</b> at _____'s house/flat/res?	1	2	3	4	5

	None	Hardly any	A few	Quite a few	Many (more than 10)
* How many of _____'s <b>white South African friends</b> are also your friends?	1	2	3	4	5

Please read the questions below and **ANSWER EACH ONE** of them as **HONESTLY AS POSSIBLE**. Do not think too long on the answers - rather give the first answer that you think of. There are no right or wrong answers. We are only interested in your personal opinion.

	None	One	Two to three	Four to five	More than five
* How many white South African friends do you have on campus?	0	1	2	3	4

* How many of your coloured South African friends have one or more white South African friends?	0	1	2	3	4
---	---	---	---	---	---

* How many members of your family (including parents, siblings, uncles, aunts etc.) have one or more white South African friends?	0	1	2	3	4
---	---	---	---	---	---

\* How often do you spend time with your white South African friend(s) in general?

Never	Rarely	Every now and then	Very often	All the time
0	1	2	3	4

**The following set of questions relate to your interactions with white South Africans in general.**

	Never	Rarely	Every now and then	Very often	All the time
<i>* How regularly do you have direct, face-to-face interactions in SOCIAL SETTINGS with white South Africans in general?</i>	0	1	2	3	4
<i>* How regularly do you have direct, face-to-face interactions with white South Africans in general as part of the same SPORTS TEAM/SOCIAL CLUB/CAMPUS SOCIETY?</i>	0	1	2	3	4
<i>* How regularly do you have direct, face-to-face interactions with white South Africans in general during LECTURES, PRACTICALS, and/or TUTORIALS?</i>	0	1	2	3	4

*\* In general, when you interact with white South Africans, do you find this interaction to be pleasant or unpleasant?*

Very unpleasant	Somewhat unpleasant	Neither pleasant or unpleasant	Somewhat pleasant	Very pleasant
1	2	3	4	5

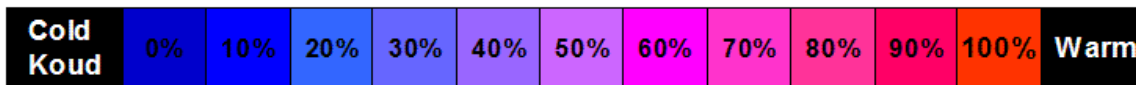
*\* In general, when you interact with white South Africans, do you find this interaction to be positive or negative?*

Very negative	Somewhat negative	Neither positive or negative	Somewhat positive	Very positive
1	2	3	4	5

**Please indicate how much you agree or disagree with the following statements. There are no right or wrong answers. We are only interested in YOUR honest opinion.**

	Disagree completely	Disagree somewhat	Unsure	Agree somewhat	Agree completely
<i>* White South Africans are only concerned with their own well-being, and cannot be relied upon to look out for my best interests</i>	1	2	3	4	5
<i>* I am often suspicious when I am in the company of white South Africans, and keep my wits about me</i>	1	2	3	4	5

**We now want you to rate how you feel about white South Africans in general. Please take a moment to really consider how you feel about them in general. Don't focus on specific individuals. The thermometer below runs from zero (0) to a hundred (100). The higher the number, the warmer or more favourable you feel towards them. The lower the number, the colder or less favourable you feel.**



*\* Please indicate how warm or cold you feel towards white South Africans in general. If you feel neither warm nor cold, please rate them at 50.*

0	10	20	30	40	50	60	70	80	90	100
0	1	2	3	4	5	6	7	8	9	10

**Please indicate how much you agree or disagree to the following statements. There are no right or wrong answers. We are only interested in YOUR honest opinion.**

	Disagree completely	Disagree somewhat	Unsure	Agree somewhat	Agree completely
<i>* I feel negative towards white South Africans</i>	1	2	3	4	5
<i>* I respect white South Africans</i>	1	2	3	4	5
<i>* I admire white South Africans</i>	1	2	3	4	5

**Please think about white South Africans in general. Don't focus on specific individuals.**

*\* How friendly do you think coloured South Africans are towards white South Africans?*

Very unfriendly	Somewhat unfriendly	Unsure	Somewhat friendly	Very friendly
1	2	3	4	5

*\* How happy do you think your coloured South African friends would be if YOU dated/married a person white South African?*

Very unhappy	Somewhat unhappy	Unsure	Somewhat happy	Very happy
1	2	3	4	5

*\* In general, how much do you think coloured South Africans like white South Africans?*

Dislike them very much	Dislike them somewhat	Unsure	Like them somewhat	Like them very much
1	2	3	4	5

*\* In general, how happy do you think coloured South Africans would be to be friends with white South Africans?*

Very unhappy	Somewhat unhappy	Unsure	Somewhat happy	Very happy
1	2	3	4	5

**When you think about white South Africans in general, to what extent would you like to:**

	Not at all	A little	Unsure	Quite a lot	Completely
<i>* Avoid them?</i>	1	2	3	4	5
<i>* Make friends with them?</i>	1	2	3	4	5
<i>* Keep them at a distance?</i>	1	2	3	4	5
<i>* Have nothing to do with them?</i>	1	2	3	4	5
<i>* Get to know them better?</i>	1	2	3	4	5
<i>* Spend time with them?</i>	1	2	3	4	5