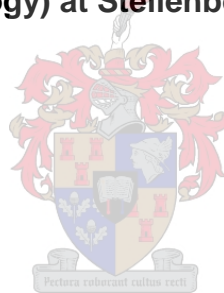


**THE SECONDARY TRANSFER EFFECT OF INTERGROUP CONTACT:
AN EXPERIMENTAL STUDY OF DIRECT AND EXTENDED CONTACT**

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**Thesis presented in fulfilment of the requirements for the degree of Master of
Arts (Psychology) at Stellenbosch University**



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March 2015

DECLARATION

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ABSTRACT

The contact hypothesis (Allport, 1954) provides an established theoretical framework for pursuing positive intergroup relationships (Hewstone & Swart, 2011; Pettigrew & Tropp, 2006) and stipulates certain optimal conditions under which contact reduces prejudice. The secondary transfer effect of contact describes a process whereby attitudes towards outgroups not encountered in the original intergroup encounter might also be improved (Pettigrew, 2009; Pettigrew & Tropp, 2006). A three-wave longitudinal experimental study amongst white South African students at Stellenbosch University (N = 58) was undertaken, using two experimental groups (direct and extended) and a control group. The present study investigated whether direct and extended contact with a black (African) confederate would not only improve attitudes towards black (African) South Africans in general, but also improve attitudes towards Indian South Africans, not involved in the contact situation (i.e., the secondary transfer effect). Findings show that the experimentally manipulated contact reduced intergroup anxiety (from baseline levels measured one week earlier) towards black (African) South Africans. These effects were, however, non-significant, and suggest the present study may have been under-powered. Moreover, the findings showed that experimentally manipulated contact significantly improved outgroup attitudes and outgroup trust (from baseline levels measured one week earlier) towards black (African) South Africans in the direct contact condition, as well as the extended contact condition (outgroup attitudes only). Finally, the present study found significant evidence for the operation of the secondary transfer effect via attitude generalisation. Positive intergroup contact with the black (African) South African confederate predicted a significant change in outgroup attitudes towards black (African) South Africans in general from Time 1 (baseline) to Time 2 (post-task), which in turn predicted more positive attitudes towards Indian South Africans in general at Time 2, controlling for prior quantity and quality of contact with Indian South Africans. The secondary transfer effect was not observed for outgroup trust. The present study contributes to the existing literature on the secondary transfer effect and replicates international findings within the South African context.

OPSOMMING

Die kontak hipotese (Allport, 1954) bied 'n gevestigde teoretiese raamwerk vir die voortsetting van positiewe intergroep verhoudings (Hewstone & Swart, 2011; Pettigrew & Tropp, 2006) en bepaal sekere optimale toestande waaronder kontak vooroordeel verminder. Die sekondêre oordrag effek van kontak beskryf 'n proses waardeur houdings teenoor buitengroepe wat nie gedurende die oorspronklike intergroep kontak teëgekomp is nie, ook verbeter word (Pettigrew, 2009; Pettigrew & Tropp, 2006). 'n Drie-golf longitudinale eksperimentele studie onder wit Suid-Afrikaanse studente verbonde aan die Universiteit van Stellenbosch (N = 58) is onderneem, met behulp van twee eksperimentele groepe (direkte en uitgebreide) en 'n kontrole groep (N = 16). Die huidige studie het ondersoek of direkte en uitgebreide kontak met 'n swart (Afrikaan) Suid-Afrikaner nie net houdings teenoor swart (Afrikaan) Suid-Afrikaners in die algemeen verbeter nie, maar ook houdings teenoor Indiër Suid-Afrikaners, wie nie by die oorspronklike kontak situasie betrokke was nie ook verbeter (d.w.s. die sekondêre oordrag effek). Resultate toon dat die eksperimenteel gemanipuleerde kontak intergroep angst teenoor swart (Afrikaan) Suid-Afrikaners verminder (vanaf basislyn vlakke gemeet een week tevore). Hierdie effek is egter nie beduidend nie, moontlik omdat die statistiese kragdoeltreffendheid van die studie onvoldoende was. Die resultate toon verder dat eksperimenteel gemanipuleerde kontak buitengroep houdings en buitengroep vertroue (vanaf basislyn vlakke gemeet een week tevore) teenoor swart (Afrikaan) Suid-Afrikaners beduidend verbeter in die direkte kontak groep, sowel as die uitgebreide kontak groep (slegs vir buitengroep houdings). Ten slotte, die huidige studie het beduidende bewyse gevind vir die werking van die sekondêre oordrag effek via houding veralgemening. Positiewe intergroep kontak met die swart (Afrikaan) Suid-Afrikaner voorspel 'n beduidende verbetering in die buitengroep houding teenoor swart (Afrikaan) Suid-Afrikaners in die algemeen van Tyd 1 (basislyn) tot Tyd 2 (na die eksperimentele manipulasie), wat op sy beurt meer positiewe houdings teenoor Indiër Suid-Afrikaners in die algemeen teen Tyd 2 voorspel, nadat daar vir beide kwaliteit en kwantiteit van vorige kontak met Indiër Suid-Afrikaners beheer is. Die sekondêre oordrag effek is nie vir buitengroep vertroue waargeneem nie. Die huidige studie dra by tot die bestaande literatuur oor die sekondêre effek van kontak en ondersteun soortgelyke internasionale bevindinge binne die Suid-Afrikaanse konteks.

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CONTENTS

ABSTRACT	ii
OPSOMMING	iii
ACKNOWLEDGEMENTS	iv
CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
APPENDICES	x
CHAPTER ONE	
An Introduction to Intergroup Contact in South Africa	1
The Introduction of Apartheid in South Africa	1
Legalising Intergroup Segregation during Apartheid	2
Intergroup Relations in South Africa Today	4
Contact Theory as a Theoretical Framework	6
The Present Study	6
Chapter Overview	7
CHAPTER TWO	
The Contact Hypothesis	9
Development of the Contact Hypothesis	9
Support for the Contact Hypothesis	10
Dimensions of Contact	13
Direct Contact	13
Interpersonal friendships	14
Cross-group friendships	15
Extended Contact	18
Mediators of the Contact-Prejudice Relationship	22
Intergroup Anxiety	23
Self-Disclosure	25
Achieving greater trust in intergroup relations	27
Summary	28

CHAPTER THREE

The Secondary Transfer Effect of Intergroup Contact	29
Attitude Generalisation and the Secondary Transfer Effect	29
Evidence of the Secondary Transfer Effect	30
Alternative Explanations for the Secondary Transfer Effect	33
Deprovincialisation	35
Empathy generalisation	36
Summary	38

CHAPTER FOUR

A Longitudinal Experimental Study of the Secondary Transfer Effect	39
The Present Study	39
Hypotheses	40
Method	41
Procedure	41
Direct and extended contact conditions	42
Control condition	43
Questionnaires	44
Participants	46
Results	46
Preliminary Data Analyses	46
Comparing participants along key measures across condition at Time 1	48
Main Analyses	52
Characteristics of the experimental task	52
Experimental changes in intergroup anxiety, outgroup attitudes and outgroup trust towards black (African) South Africans	52
Intergroup Anxiety	52
Outgroup Attitudes	55
Outgroup Trust	57
Testing the secondary transfer effect: The generalisation of outgroup attitudes and outgroup trust	61
Summary	63

CHAPTER FIVE

Discussion	64
Reducing Intergroup Anxiety via Direct and Extended Contact	65
Improving Outgroup Attitudes via Direct and Extended Contact	66
Promoting Outgroup Trust via Direct and Extended Contact	69
The Generalisation of Outgroup Attitudes and Trust across Groups	71
Limitations of the Present Study	73
Directions for Future Research	75
Conclusions	76
REFERENCES	78

LIST OF TABLES

Table 1	Intergroup Contact Effects (mean Pearson's Product-Moment Coefficient) for Different Types of Studies, Participant Groups and Geographical Areas.	12
Table 2	Composite Means, Standard Deviations, Reliability, and Explained Variance for all Constructs at Time 1, 2, and 3.	49
Table 3	Intraclass Correlations (ICC) between Direct and Extended Contact Conditions at Time 1, 2 and 3.	53

LIST OF FIGURES

Figure 1a	The imbalanced state in triadic relations according to Balance Theory.	20
Figure 1b	The balanced state in triadic relations resulting from extended contact according to Balance Theory.	21
Figure 2	The secondary transfer effect via partial empathy generalisation.	37
Figure 3	The secondary transfer effect via complete empathy generalisation.	37
Figure 4	Mean intergroup anxiety scores of participants in the direct, extended, and no contact (control) conditions at Time 1 (baseline) and Time 2 (post-task).	54
Figure 5	Change in mean intergroup anxiety scores (ΔM_{T2-T1}) from Time 1 (baseline) to Time 2 (post-task) across conditions.	55
Figure 6	Mean outgroup attitude scores of participants in the direct, extended, and no contact (control) conditions at Time 1 (baseline), Time 2 (post-task), and Time 3 (1-week post-task).	57
Figure 7	Change in mean outgroup attitude scores (ΔM_{T2-T1}) from Time 1 (baseline) to Time 2 (post-task) across conditions.	58
Figure 8	Mean outgroup trust scores of participants in the direct, extended, and no contact (control) conditions at Time 1 (baseline), Time 2 (post-task), and Time 3 (1-week post-task).	59
Figure 9	Change in mean outgroup trust scores (ΔM_{T2-T1}) from Time 1 (baseline) to Time 2 (post-task) across conditions.	60
Figure 10	Multiple regression model illustrating the longitudinal secondary transfer effect of no contact versus extended contact versus direct contact with a black (African) South African (primary outgroup member) and attitudes towards Indian South Africans (secondary outgroup) via attitude generalisation amongst white South Africans (N = 58).	62

APPENDICES

Appendix A	Overview of the Experimental Procedure.	91
Appendix B	Participant Recruitment Class Announcement.	95
Appendix C	Participant Informed Consent Form.	96
Appendix D	Online Questionnaire Presented at Time 1 (1-week Pre-task).	100
Appendix E	Pre- and Post-task State Anxiety Questionnaire.	107
Appendix F	Closeness Induction Task.	108
Appendix G	Online Questionnaire Presented at Time 2 (Post-task).	110
Appendix H	Online Questionnaire Presented at Time 3 (1-week Post-task).	117

CHAPTER ONE

An Introduction to Intergroup Contact in South Africa

Intergroup relations in post-Apartheid South Africa are strongly shaped by the lingering after-effects of more than four decades of Apartheid. Although racial segregation has been in existence long before the National Party came into power in 1948, it was in 1948 that the systematic legalisation of racial separation and discrimination known as Apartheid introduced the spatial construction of an ethnic divide to the South African context (Schensul & Heller, 2011). The first democratic elections in 1994 saw the inauguration of the African National Congress (ANC) as the majority political party in the South African government, and marked the final abolishment of Apartheid. The fall of the Apartheid system created expectations of desegregation, as well as expectations amongst South Africans of better intergroup contact, which would ultimately result in improved interracial relations (Bornman, 2011). However, evidence suggests that post-apartheid South Africa remains characterised by self-segregation (Alexander & Tredoux, 2010) and people of different ethnic backgrounds still cluster together in homogeneous groups in communities and schools (Dixon, Tredoux, Durrheim, Finchilescu, & Clack, 2008).

In this chapter the introduction of Apartheid will be discussed. This discussion is followed by a discussion of modern, post-Apartheid intergroup relations in South Africa, after which a brief introduction to intergroup contact theory is given. This chapter concludes with an introduction to the research comprising this thesis, and an overview of each of the chapters comprising this thesis.

The Introduction of Apartheid in South Africa

Strained intergroup relations in South Africa originated from a significant history of intergroup conflict between groups and individuals of diverse origins. The 17th century saw the first white settlers arriving in South Africa, introducing both Western and European customs and values. Even though black (African) farmers were the second group, next to the then indigenous Khoikhoi (San), to establish themselves in South Africa, their farmland was seized through various battles with the settlers. This added to the existing tension and in 1838 a Constitution was drawn up, in which the

superiority of white over black, as well as a racially formulated master over servant social order was established (Thompson, 2006).

Indians were contracted as workers in the sugar plantations of Kwazulu-Natal between 1860 and 1911 by the British. This resulted in the establishment of one of the largest Indian populations outside of India. The Natal Act No.14 (1859) enabled Indians to work in the sugar plantations for a period of five years with the option of extending this period for another five years, contributing to the rapid expansion of the Indian population. This provision however was withdrawn in 1891 discouraging further immigration (Thompson, 2006).

The Act of the Union of 1910 saw the coming together of diverse groups for the first time in South Africa (Worden, 2005), after which a legislative prejudice system, known as the Apartheid system, came into being under the National Party rule of D.F. Malan in 1948 (Beck, 2000). Under this system the amount and type of contact white South Africans had with black (African) -, coloured - and Indian South Africans were restricted. This was done in an effort to control intergroup relations, including marriages, and as a result the potential loss of a white South African identity.

The Apartheid system led to a forty-six year period of segregation, oppression and discrimination. In the midst of the Apartheid era and at the beginning of the American Civil Rights movement Allport (1954) argued that positive intergroup contact between white Americans and African-Americans would lead to improved intergroup relations. In South Africa, however, various strategies were employed to ensure that the amount of intergroup contact were limited, as the basis of the Apartheid ideology rested on the notion that limited intergroup contact would lead to less intergroup conflict, and with that improved intergroup relations (Foster & Finchilescu, 1986). Various strategies (Acts and Laws) were employed ensuring limited intergroup relations, which will now be discussed.

Legalising Intergroup Segregation during Apartheid

The first strategy employed in South Africa was the introduction of the Population Registration Act of 1950. The Act enforced the classification of all people into four distinct racial categories: White, coloured, Indian and black (African). The Act laid the foundation for more legislation to follow and the Group Areas Act (1950) was introduced. Under the Group Areas Act (1950) the above four ethnic groups (white, coloured, Indian and black (African)) were residentially separated and in some

instances, especially in the cities, people were forcefully removed and cleared from their homes (Worden, 2005). The four ethnic groups were assigned to homogeneous residential areas, ensuring distance from one another and more specifically, from the white community (Beck, 2000).

The Pass Laws (1952) ensured freedom of movement in white areas for white South Africans, whilst black (African) South Africans were thereby forced to carry identification documents at all times and were not allowed free movement in any white areas. This was followed by the Natives Resettlement Act of 1954. This Act provided the state with the overarching power (over local municipalities) to forcibly remove black (African) South Africans from the cities and relocate them in separate townships. The Surplus People Project estimates that over three million residents were removed from their homes between 1960 and 1983 (Thompson, 2006). The Reservation of Separate Amenities Act (1953) imposed further social division, introducing separate public transport, separate beaches, separate sports grounds, and so forth. Apartheid strategies impacted on the Education system as well and educational apartheid was enforced in schools (in 1953), technical colleges (in 1955) and universities (in 1959). Schooling for white South Africans was compulsory and without cost, whilst black (African) pupils were not compelled to attend school and had to pay for their own education.

The above strategies and Acts criminalised intergroup contact between white and non-white South African population groups, and the Prohibition of Marriages Act of 1949/1968 ensured that segregation and intimate contact were managed by the state. Families and close friendships were disrupted and in some instances criminalised, which led to the breaking down of these intergroup relationships. As a result, the segregation strategies that were devised as a means of reducing intergroup conflict, instead, led to further intergroup conflict and a deterioration of intergroup relations, as evidenced in the various uprisings against Apartheid and the white South African government.

The Sharpeville massacre of 1960 took place as police opened fire on unarmed African demonstrators who were marching against the Pass Laws (1952). Sixty nine demonstrators were killed and 180 were injured. This led to the state declaring a State of Emergency as strikes took place throughout the country (Worden, 2005). The ANC and PAC leaders were detained and both organisations were banned. Calls were made at the United Nations for economic sanctions against South Africa,

whose economy was growing (and increasingly benefitting white South Africans) on the back of ethnic oppression (Thompson, 2006). The growing South African economy created the need for more skilled employees, and the South African government realised that literacy amongst black (African) South Africans needed to improve in order to provide in the demand for skilled workers (Thompson, 2006).

By the 1970's more black (African) youths attended schools despite the lack of equipment and sufficient state funding. However, in 1976, when government announced that half the curriculum in black (African) schools would be taught in Afrikaans a protest involving 15,000 schoolchildren ensued in Soweto. The Soweto uprising was met with a Police force who shot at and killed 451 schoolchildren, injuring 3,907. The country was very close to a civil war by the time the then President of South Africa, F.W. de Klerk unbanned the ANC and released its president, Nelson Mandela, from prison in 1990.

Intergroup Relations in South Africa Today

Today South Africa has 52 million inhabitants from divergent cultural, religious and historic experiences (Statistics South Africa, 2011), and with 11 official languages. According to our constitutional rights, all ethnic groups share the resources of the country and have equal rights. The South African government attempted to bridge the cultural, linguistic, and socio-historical divide amongst South Africa's various population groups with its nation-building initiatives, hoping to create an overarching South African identity (Eaton, 2002). The optimism that this "new" South Africa would bring unity, peace and reconciliation within a deeply segregated nation (Moller, Dickow, & Harris, 1999) is shared in The Constitution of the Republic of South Africa (1996), which promises all South Africans equal rights.

In reality, however, twenty years into its democracy, South Africans remain self-segregated and engage in limited direct, face-to-face intergroup interactions (Lefko-Everett, 2009). The Institute for Justice and Reconciliation (IJR) recently undertook a national survey amongst representative probability samples across the four main South African population groups. Their results suggest that social change in South Africa has been rather slow. For example, they found that only 44.00% of the 10,230 participants agreed that intergroup relations in South Africa have improved since democracy, whilst 17.40% indicated that relations have worsened (IJR, 2013).

Evidence suggests that although South Africans are free to choose where to live and attend school, social segregation still remains, leaving limited opportunities for positive and constructive intergroup contact (Lefko-Everett, 2009). Against this backdrop, it is perhaps not surprising that the amount of daily interactions amongst members of different ethnic groups in South Africa is limited, with only 13.40% of South Africans participating in a nationally representative survey on intergroup relations undertaken by the Institute for Justice and Reconciliation (IJR) indicating that they engage in daily intergroup interactions (IJR, 2013), while only 8.20% of South Africans indicating that they engage in intergroup socialising daily (IJR, 2013). At closer inspection, a relationship was found between interracial contact and material exclusion, as measured by the Living Standards Measure (LSM; IJR, 2013). LSM groups one to five (representing low socio-economic standard of living) are almost exclusively made up of black (African) South Africans (60.00%). The report found that lower levels of LSM predicted lower levels of intergroup contact or socialisation, and higher levels (levels 6 to 10) of LSM (comprised predominantly of white South Africans; 95.00%) predicted higher levels of intergroup contact. These findings imply two things: (1) that more daily intergroup contact being reported by white South Africans as compared to black (African) South Africans, and (2) that more daily intergroup contact is being reported by individuals with higher socio-economic status than those with lower socio-economic status.

Encouragingly, there seems to be some level of desire to improve cross-group relationships amongst South Africans, with 40.40% of black (African) South Africans, and 27.30% white South Africans indicating that they want to learn more about the customs of other ethnic groups. Of particular relevance to the present study, 20.10% of black (African) South Africans and 11.70% of white South Africans reported a willingness to engage in conversation with outgroup members.

Higher education institutions like Stellenbosch University arguably provide opportunities for regular, face-to-face intergroup contact because they bring students from different backgrounds into closer proximity to one another on campus, in classes, and in residence. As such, the utilisation of these opportunities for intergroup contact could potentially prepare students from different backgrounds for life in a more diverse South African context, including the workplace (Erasmus & Ferreira, 2006).

Contact Theory as a Theoretical Framework

The intergroup contact theory (Hewstone & Swart, 2011), developed around Gordon Allport's (1954) contact hypothesis, offers a firmly established theoretical framework for pursuing positive intergroup relationships (Pettigrew & Tropp, 2006). The main premise of the contact hypothesis is that prejudice and conflict between different groups can be reduced by bringing members of these groups into direct, face-to-face contact with one another under certain 'optimal' conditions, including intergroup equality, working together toward common goals, and support from authorities. Pettigrew (1997) further suggested that such intergroup encounters should offer opportunities for friendship development, as friendships invoke many of Allport's (1954) 'optimal' conditions. Moreover, it has been shown that more vicarious forms of intergroup contact, such as extended contact (e.g., Wright, Aron, McLaughlin-Volpe, & Ropp, 1997) and imagined contact (e.g., Crisp & Turner, 2009), are also capable of reducing outgroup prejudice.

More recently, evidence has emerged to suggest that positive intergroup contact experiences not only improve attitudes toward the outgroup being engaged with, but also towards other outgroups that may not yet have been encountered (Lolliot et al., 2013; Pettigrew, 2009; Pettigrew & Tropp, 2006). This effect is known as the *secondary transfer effect* (STE) of intergroup contact.

The Present Study

The present study used an experimental design to explore whether the reduction in prejudice through different types of contact (direct and extended contact) generalises to secondary outgroups not involved in the contact situations at Stellenbosch University (total student population in 2013 of 28,156; Stellenbosch University, 2013). More specifically, the study explored the effects of direct and extended intergroup contact with black (African) South Africans (who constitute a minority-group of 4,597 – 16.33% -registered students at Stellenbosch University; Stellenbosch University, 2013) on attitudes towards black (African) South Africans in general amongst white South African participants (who constitute a majority-group of 18,424 – 64.75% - of registered students at Stellenbosch University; Stellenbosch University, 2013). The secondary transfer effect was investigated by exploring whether contact with a 'primary' outgroup (i.e., a black (African) South African confederate) would improve attitudes towards Indian South Africans in general (the

secondary outgroup, whose members comprise a very small minority of 643 – 2.28% -registered students at Stellenbosch University; Stellenbosch University, 2013).

White South African female friendship pairs were recruited and randomly assigned to either the experimental condition (direct or extended contact) or the control condition (no contact). The participants in the experimental condition were asked to either engage in an experimental task with a black (African) South African confederate (direct condition) or observe their friend engaging in this interaction (extended condition). Participants in the control condition did not engage in intergroup contact with black (African) South Africans. Data were collected at three time points. The first time point (Time 1), comprising an online survey, served as a baseline measurement for contact with, and attitudes towards, both the primary and secondary outgroups. The second time point (Time 2) included the experimental task of direct or extended contact with a black (African) South African confederate, followed by the completion of an online survey. The third time point (Time 3) of data collection, comprising another online survey, provided data relating to whether any changes in outgroup attitudes that may have resulted from the experimental task were able to last beyond the experimentally manipulated contact encounter.

Chapter Overview

Chapter one has provided a brief overview of South African intergroup relations and intergroup attitudes, both during and after Apartheid. It has also provided a brief overview of the research comprising this thesis, and has introduced the theoretical framework within which the present study was undertaken.

Chapter two provides a detailed overview of the development of the contact hypothesis of Allport (1954). The various dimensions (direct and extended) of intergroup contact that have been shown to reduce prejudice will be highlighted, with a particular focus on the importance of cross-group friendships. Mediators of the contact-prejudice relationship are also discussed, focusing on those mediating variables that are particularly relevant to the present study, namely intergroup anxiety and self-disclosure.

Chapter three takes a closer look at one of the recent advances in the intergroup contact literature, namely the secondary transfer effect (STE). This chapter considers some of the earliest evidence for the secondary transfer effect in the literature, along with alternative explanations that might undermine the legitimacy

of the secondary transfer effect. It concludes with a detailed discussion on the mediators of the STE.

Chapter four provides an overview of the present study. It includes a discussion of the rationale, aims and objectives, hypotheses and methods associated with the present study, as well as a presentation of the results.

Chapter five concludes this thesis with a discussion of the results of the present study. This discussion places the findings and contributions of the present study within the context of the existing intergroup contact literature on the secondary transfer effect, and offers suggestions for future research.

CHAPTER TWO

The Contact Hypothesis

According to Foster and Finchilescu (1986), Apartheid South Africa could be described as a 'non-contact' society, as the only type of contact that was allowed ensured the dominance of the white majority group. Even now, post-apartheid South Africa still faces many challenges regarding the reduction of prejudice in order to improve intergroup relations. As an ethnically and culturally diverse country, and more specifically because of this long history of segregation and oppression, promoting positive intergroup contact seems to be one of the most important challenges faced in South Africa today. It is suggested that intergroup contact, though difficult to initiate because of experiences such as intergroup anxiety (Stephen & Stephen, 1985), can facilitate the social reconciliation process in South Africa. The literature on the benefits of intergroup contact for improving intergroup relations within post-conflict societies (Brown & Hewstone, 2005; Pettigrew & Tropp, 2006) suggests that positive intergroup contact is an important component of achieving social reconciliation.

This Chapter provides an overview of the development of the contact hypothesis proposed by Allport (1954) over the past sixty years. Various dimensions of intergroup contact that have been shown to reduce outgroup prejudice, including both direct and extended contact will be discussed, with a particular focus on the importance of cross-group friendships as a dimension of direct contact. This Chapter also considers the mediators of the contact-prejudice relationship and I begin with an overview of the development of Allport's (1954) contact hypothesis.

Development of the Contact Hypothesis

Positive intergroup relations are important for social harmony, and intergroup contact seems a promising means of fostering positive intergroup relationships (Pettigrew & Tropp, 2006). Gordon Allport (1954) formulated and derived his 'contact hypothesis' from early field research on intergroup relations within the American context. The main premise of the contact hypothesis is that prejudice and conflict between opposing groups can be reduced when repeated favourable contact between them occurs under certain 'optimal' conditions. These optimal conditions

include a sense of equal status between the group members engaged in the contact situation, the pursuit of common goals and common interests, and the support of organisational authorities for such intergroup contact. Pettigrew (1997) added friendship potential as an additional 'optimal' condition associated with the contact setting, because cross-group friendships generally invoke three of Allport's (1954) four optimal conditions (namely, equal status contact, common interests, and cooperation).

Allport (1954) placed great emphasis on the ability of contact under these 'optimal' conditions to promote greater knowledge about the outgroup, and that an increase in outgroup knowledge would promote reduced prejudice. He proposed that negative outgroup attitudes can be ascribed to a lack of knowledge about the outgroup, and that contact can negate this lack of knowledge by providing the opportunity for members of different groups to learn more about each other. Knowledge of the outgroup can highlight similarities between ingroup and outgroup members, leading to greater outgroup acceptance and liking, informing alternative behaviour towards outgroup members, and establishing more positive norms towards intergroup contact (Pettigrew, 1998). Increased knowledge about the outgroup can also act to reduce anxiety about interacting with outgroup members (which will be discussed in more detail below; Stephan & Stephan, 1985). Receiving information about injustices done in the past against an outgroup, could inform the ingroup members and could assist in the reconciliation process, thereby improving attitudes towards the outgroup (e.g., Stephan & Stephan, 1984).

Support for the Contact Hypothesis

Early studies on the relationship between intergroup contact and outgroup prejudice showed general support for the underlying hypothesis, indicating that intergroup contact indeed reduces outgroup prejudice (Cook, 1984; Pettigrew, 1971). However, there were some studies that reported conflicting results. For example, Amir (1976) found that while intergroup contact did reduce prejudice under the optimal conditions set out by Allport (1954), these effects (of reduced prejudice towards the outgroup members encountered) did not generalise to include reduced prejudice towards the outgroup as a whole (see also Hewstone & Brown, 1986). Given the conflicting nature of the findings from early contact studies, there were researchers who were very critical of the contact hypothesis, arguing that more

research was needed in order to determine whether positive intergroup contact is indeed associated with the reduction of prejudice (e.g., Ford, 1986; McClendon 1974).

Researchers in the field answered this call, and studies were undertaken exploring the relationship between contact and prejudice across a variety of groups, settings and cultures, focusing on groups as diverse as the elderly (e.g. Bousfield, & Hutchinson, 2010), mentally ill (e.g. Couture, & Penn, 2003), and homosexuals (e.g. Collier, Bos, & Sandfort, 2013). As these studies became more rigorous, the inverse relationship between positive intergroup contact and outgroup prejudice became more regularly apparent. Though these studies yielded strong support for the benefits of positive intergroup contact, the most important contribution towards establishing the robust negative relationship between intergroup contact and outgroup prejudice was made by the meta-analysis undertaken by Pettigrew and Tropp (2006).

Pettigrew and Tropp (2006) undertook a meta-analysis of over 500 independent contact studies undertaken between 1940 and 2000 (including more than 700 independent samples) on the contact-prejudice relationship. In an attempt to overcome the methodological shortcomings of previous reviews of the contact literature, including incomplete samples, the absence of strict selection criteria and the non-quantitative assessments of the contact effects, Pettigrew and Tropp (2006) selected studies for inclusion in their meta-analysis on the basis of four strict criteria. Firstly, they only included studies where intergroup contact acted as the independent variable and intergroup prejudice acted as the dependent variable. Secondly, they only selected studies investigating contact between distinctly separate groups. This ensured that relational (interpersonal) outcomes were limited and intergroup outcomes are examined. Thirdly, they only included studies that reported on directly observed interactions, reported by participants, or on interactions reported by participants from environments (such as a class room) where direct intergroup contact over an extended period of time would be unavoidable. Finally, their meta-analysis only included studies that collected data on the dependent variable (prejudice) from individuals rather than using combined or aggregated scores. In summary, their meta-analysis only included contact situations that included actual, face-to-face interactions between members of different groups.

The results of Pettigrew and Tropp's (2006) meta-analysis showed that intergroup contact was significantly associated with reduced levels of prejudice (mean $r = -.22$, $p < .001$) across 94% of the studies (see Table 1 below), even in the absence of Allport's (1954) optimal conditions (mean $r = -.21$, $p < .001$). In those studies where Allport's (1954) optimal conditions were present in the contact setting (19% of the samples), the effect of intergroup contact on prejudice was even more profound (mean $r = -.29$, $p < .001$). Together, these findings suggest that Allport's (1954) 'optimal' conditions may be facilitating rather than essential for the reduction of prejudice. Importantly, Pettigrew and Tropp (2006) also found that high quality intergroup contact experiences (especially in the form of cross-group friendships) had a significantly stronger effect on prejudice (mean $r = -.29$, $p < .001$) than did general, more casual contact (see also Davies, Tropp, Aron, Pettigrew, & Wright, 2011).

Table 1

Intergroup Contact Effects (mean Pearson's Product-Moment Coefficient) for Different Types of Studies, Participant Groups and Geographical Areas (summarised from Pettigrew & Tropp, 2006, pp. 763-765)

Type of Study	<i>R</i>	Participants	<i>r</i>	Geographical Area	<i>r</i>
Surveys and Field Studies	-.22	Children	-.24	USA	-.22
Quasi-Experimental Studies	-.21	Adolescents	-.21	Europe	-.22
Experimental Studies	-.22	College Students	-.23	Israel	-.20
		Adults	-.20	Canada	-.23
		Females	-.21	Australia and New Zealand	-.26
		Males	-.19	Africa, Asia, Latin America	-.21

Note: all p 's < .001

Dimensions of Contact

Over the past twenty years or so, the contact literature has moved beyond studying whether intergroup contact does indeed reduce outgroup prejudice, towards identifying different dimensions of intergroup contact that might be associated with reduced prejudice. This research has shown that both direct, face-to-face intergroup encounters, as well as more indirect (or extended) intergroup contact are reliably associated with reduced prejudice (Brown & Hewstone, 2005; Hewstone & Swart, 2011; Tausch, Hewstone, Schmid, Hughes, & Cairns, 2011; Turner, Hewstone, Voci, Paolini, & Christ, 2007b). Each of these two broad dimensions of contact is discussed in more detail below.

Direct Contact

One of the earliest distinctions made in the field between different dimensions of contact relates to that between the quality of contact versus the quantity of contact. Islam and Hewstone (1993) investigated how these two different dimensions of contact impacted on outgroup attitudes amongst 66 Muslim (majority group) and 65 Hindu (minority group) students from the University of Bangladesh (each group answered questions related to their interactions with and attitudes towards the other group). They found that both of these dimensions of contact (quality and quantity) were significantly related to reduced intergroup prejudice towards the outgroup. The quality component of contact, however, showed a stronger relationship with reduced prejudice ($\beta = .48, p < .001$) than the quantity component of contact ($\beta = .12, p < .05$). These results have been replicated in numerous subsequent studies, across numerous target groups, including South Asians in England (e.g., Prestwich, Kenworthy, Wilson, & Kwan-Tat, 2008) and the Elderly (e.g., Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; for a more detailed review see Hodson, Hewstone, & Swart, 2013).

This pattern of results, contrasting the effects of contact quality and contact quantity on prejudice, was also observed in the meta-analysis undertaken by Pettigrew and Tropp (2006). They found that the 154 tests that included contact quality as the measure of contact had a significantly ($p < .05$) stronger inverse association with prejudice (mean $r = -.25, p < .001$) than the 1,211 tests measuring contact using contact quantity (mean $r = -.21, p < .001$). Together, these findings suggest that the quality of direct, face-to-face intergroup encounters is of more

importance for the reduction of prejudice than the frequency (quantity) of such encounters per se.

One type of direct intergroup contact that is especially high in quality is thought to be that between friends of different ethnic groups (cross-group friendships). However, before taking a closer look at the importance of cross-group friendships for the reduction of outgroup prejudice, it is relevant within the context of the present study to first consider the development of interpersonal friendships in general.

Interpersonal friendships.

Hayes (1988) conceptualised interpersonal friendship as a “highly flexible, dynamic, multidimensional process, the structure and functioning of which will vary depending on characteristics of the individuals involved, the environmental context, and the developmental stage of the friendship.” (p. 391). Baumeister and Leary (1995) developed their ‘Belongingness’ hypothesis to explain the development and maintenance of interpersonal friendships. They argued that people have a prevailing, innate drive to develop and maintain at least a minimum amount of lasting, positive and significant interpersonal relationships. In satisfying this drive, a person requires regular, affectively pleasant contact with another individual. Moreover, these interactions should take place in a manner that allows for the development of reciprocal concern for one another’s general wellbeing. Importantly, the belongingness hypothesis does not imply mere social contact, but instead refers to a desire to form relationships with others. Interpersonal friendships fulfil this desire and develop along a continuum of intimacy, from mere acquaintanceship, to casual friendship and then finally to best friends.

The self-expansion model developed by Aron, Aron, and Norman (2001) provides another lens through which interpersonal friendships can be considered. According to this model, individuals form and preserve relationships because of a desire to expand the self. This self-expansion allows an individual to develop their own self-efficacy by enhancing their physical and social resources. This occurs through inclusion of the other in the self (via perceptions of increased similarity; Hays, 1988), as well as by associating expansion with the other, thus gaining increasing access to social resources, perspectives and identities. Through this process, the person (self) gains access to important resources of the other, and also develops important interpersonal skills.

Friendships offer an important form of intimacy in a person's life. Fehr (2004) found the following to be important concepts relating to intimacy between friends: emotional expression, unconditional support, nonsexual contact, reciprocal appreciation and happiness and trust. Fehr (2004) defines intimacy by the presence of reciprocal self-disclosure, emotional support and loyalty within the friendship. According to Kudo and Simkin (2003), self-disclosure (which includes the process of sharing personal information with another person) can be regarded as one of the basic essential elements for friendship formation across many cultures.

Self-disclosure is an important determinant of friendship quality, as it is arguably a reflection of the level of intimacy, interpersonal trust and sharing amongst two individuals (Fehr, 1996). The extent of self-disclosure between two individuals is impacted by their relationship intimacy, cultural norms and personal values (Schwartz, Galliher, & Rodriguez, 2011). When self-disclosure is used as a measure of the degree, depth and breadth of intimacy regarding the sharing of information, it can be considered an important part of healthy emotional development (Schwartz et al., 2011).

Friendships also differ on the basis of topics that are discussed; women are more likely to discuss feelings, emotions and relationship issues, whilst men generally focus more on topics relating to cars, sports and work (Fehr, 1996). Gender differences in activities engaged in by same-sex friends are well documented and this has led to the debate over where male-male or female-female friendships are more intimate. Fehr (1996) conducted a study and tried to clarify this controversy relating to friendship and same-sex intimacy. In her view, men and woman agree that intimacy is attained through self-disclosure, although women are more willing participants in the act of self-disclosure than men. Her study, however, did not indicate that same-sex friendships among women were more intimate than same-sex friendships among men.

Cross-group friendships.

As is the case with interpersonal friendships in general, cross-group friendships (i.e., friendships between individuals from different social groups) involve repeated, equal status contact over a period of time and across various situations, as well as cooperation towards achieving common goals (Pettigrew, Tropp, Wagner, & Christ, 2011). While similarity is regarded as important in friendship formation in general

(Hays, 1988), and certainly plays a role in the development of cross-group friendship, perceived similarity can provide a challenge for the formation of cross-group friendships, as people may be excluded as potential friends on the basis of being perceived as dissimilar along dimensions of group membership.

As mentioned above, intimacy is a defining feature of interpersonal friendships. The role of intimacy in reducing prejudice has long been stressed by contact theorists (Allport, 1954; Pettigrew et al., 2011), and intimate cross-group friendships could potentially lead to strong positive outgroup attitudes (Brown & Hewstone, 2005; Davies et al., 2011; Pettigrew & Tropp, 2006). As is the case in interpersonal friendships, reciprocal self-disclosure is an important mechanism, by which intimacy is developed within cross-group friendships. The role of self-disclosure as a mediator in the relationship between cross-group friendships and prejudice reduction is described in more detail below.

Cross-group friendships have become a central feature of contact theory (Hewstone & Swart, 2011). Notably, while most contact studies undertaken have reported positive contact effects, even in situations where Allport's (1954) optimal conditions were not met, the contact literature has shown that cross-group friendships are an especially important dimension of intergroup contact (Pettigrew, 1997; Pettigrew & Tropp, 2006).

Pettigrew (1997) studied the relationship between various forms of intergroup contact, including cross-group friendships, amongst more than 3,800 participants, drawn from seven probability samples across France, Great Britain, the Netherlands and West Germany. His main findings, when comparing the relationship between cross-group friendships and prejudice with other forms of contact (neighbours, work colleagues) and prejudice, showed that cross-group friendships had a significantly stronger inverse relationship with prejudice ($r = -.22$, $p < 0.001$) than did contact between co-workers (mean $r = -.03$, $p < 0.001$) or contact between neighbours (mean $r = -.01$, $p < 0.001$). Pettigrew (1997) explained these results with the observation that cross-group friendships related more to long-term, high-quality, or intimate interactions (e.g., Fehr, 1996), than did the more casual contact experiences between neighbours or work colleagues (see also Hamberger & Hewstone, 1997).

Turner, Hewstone, and Voci, (2007a, study 1) conducted a study amongst 60 white British school children between eight and ten years of age. The outgroup were South Asians (a minority group in England) and the participants were asked to

engage in five tasks. In the first task the participants were asked to place cartoon faces into two categories, namely positive or negative. In the second task, they were shown pictures of different faces and asked to classify them as either Asian or white. The third task involved both cartoon faces and photographs and the participants were asked to categorise them as either 1) white or positive or 2) Asian or negative. The fourth task involved a variation on the second task, and the fifth and final task was a variation on the third. Across each of these studies they found that cross-group friendships with South Asians were reliably associated with reduced prejudice towards South Asians (see also Christ et al., 2010; Page-Gould, Mendoza-Denton, & Tropp, 2008).

These cross-sectional findings have also been replicated longitudinally. For example Levin, Van Laar and Sidanius (2003) undertook a longitudinal study amongst more than 2,000 white (32%), Asian-American (36%), Latino (18%) and African American (6%) first year students at the University of California Los Angeles (UCLA). Data were collected at five different time periods between 1996 and 2000. They found that students who reported more cross-group friendships in their second and third year in college were less biased in favour of their ingroup at the end of their fourth year. They also found that these results were reciprocal and that those students with fewer cross-group friends at the end of their first year in college were more biased in favour of their ingroup at the end of their fourth year.

More recently, Binder et al. (2009) undertook a two-wave longitudinal study amongst 3,667 participants from Belgium, England and Germany. They found that although both quantity and quality of cross-group friendships were important in the reduction of prejudice, the self-reported quality of cross-group friendships played a more important role than quantity of cross-group friendships in the reduction of prejudice than the frequency of contact between cross-group friends.

Cross-group friendships as a form of direct contact have also been shown to be significantly associated with lower prejudice in South Africa. Swart, Hewstone, Christ, and Voci (2010) conducted two cross-sectional studies amongst majority-status white and minority-status coloured South African high school students. The samples consisted of $N = 186$ white and $N = 196$ coloured South African students in study 1, and $N = 171$ white and $N = 191$ coloured South African students in study 2. In study 1 they found a direct significant positive relationship between cross-group friendships with, and attitudes towards black (African) South Africans for both the

white ($b = .30, p < .05$) and coloured South African participants ($b = .25, p < .01$). In study 2, Swart et al. (2010) found that cross-group friendships with coloured South Africans were significantly associated with more positive attitudes towards coloured South Africans ($b = .23, p < .05$) amongst the white South African participants, while cross-group friendships with white South Africans were significantly associated with more positive attitudes towards white South Africans ($b = .11, p < .05$) amongst the coloured South African participants.

Similar results were reported by Dixon et al. (2010). They conducted a study where black (African) South African participants ($N = 596$) were randomly selected and invited telephonically to participate in a study about ethnic groups and the transformation in South Africa. They found that the quality of contact these participants reported to have with white South Africans were significantly negatively associated with prejudice towards white South Africans in general ($\beta = -.36, p < .01$).

These findings, supporting the inverse relationship between cross-group friendships and prejudice in South Africa have also been observed longitudinally. Swart, Hewstone, Christ, and Voci (2011a) collected data at three time points (spaced at six-month intervals) amongst more than three hundred coloured South African high school students. The participants were asked about their contact with and attitudes towards the white South African outgroup. Swart et al. (2011a) found that cross-group friendship with white South Africans at Time 1 was significantly associated with positive outgroup attitudes and reduced prejudice towards white South Africans at Time 3. These longitudinal effects were mediated by intergroup anxiety and affective empathy at Time 2, which is discussed in more detail below.

Extended Contact

Research over the past ten years or so has found that other, more indirect forms of intergroup contact are also able to reduce outgroup prejudice. For example, Wright et al. (1997) took the contact hypothesis a step further when they introduced their extended contact hypothesis.

The extended contact hypothesis proposes that the mere knowledge (or observation) of an ingroup member having positive intergroup encounters with members of the outgroup has the potential to influence the intergroup attitudes of the ingroup observer more favourably. Wright et al. (1997) suggest that the extended contact experience serves to (a) reduce intergroup anxiety (the anxiety associated

with the anticipation of future intergroup encounters; Stephan & Stephan, 1985) in the observer of the intergroup contact, (b) alter the perceived ingroup and outgroup norms relating to intergroup contact, and (c) promote greater psychological overlap between the 'other' (members of the outgroup) and the 'self', thereby reducing prejudice held towards members of the outgroup and the outgroup as a whole. One potential benefit of extended contact effects is that they are not dependent on face-to-face contact. In other words, individuals living in communities where segregation is prominent, and face-to-face contact opportunities limited, could benefit from extended contact, enhancing intergroup relations (Turner et al., 2007a; Turner, Hewstone, Voci, & Vonofakou, 2008).

The extended contact hypothesis has been linked to two other, more general psychological theories. Firstly, it is closely related to the Social Learning Theory of Albert Bandura (1977). He proposed that people engage in a process called observational learning, in which they learn a great deal of their behaviour from observing the behaviour of others. He proposes that these observations, in turn, lower their own fear and inhibitions in participating in those actions that could be seen as intimidating. By observing the positive interactions of others, their own perceived self-efficacy might be increased. Participants in a direct intergroup contact situation could be regarded as the actor of appropriate intergroup behaviour and the observer could learn about how to engage in a positive intergroup encounter from a safe distance.

Secondly, Heider's (1958) Balance Theory proposes that relationships among related entities should function in harmony. Heider (1958) further proposed that the lack of balance would create psychological tension, and this, in turn, would lead to renewed efforts to reinstate the desired balance. Heider's (1958) Balance Theory is easily applied to the realm of extended contact within the context of an interpersonal friendship between ingroup member A and ingroup member B, where ingroup member A is engaging in positive intergroup contact with outgroup member C (see Figure 1a below).

For the purposes of illustration, let's assume that ingroup member B is not as open towards interacting with the outgroup as compared to ingroup member A and is not aware of the positive relationship between their friend, ingroup member A, and outgroup member C. This creates an imbalanced state according to Heider's (1958)

Balance Theory (see Figure 1a below). Now consider a scenario where ingroup member B experiences extended contact via the observation of ingroup member A

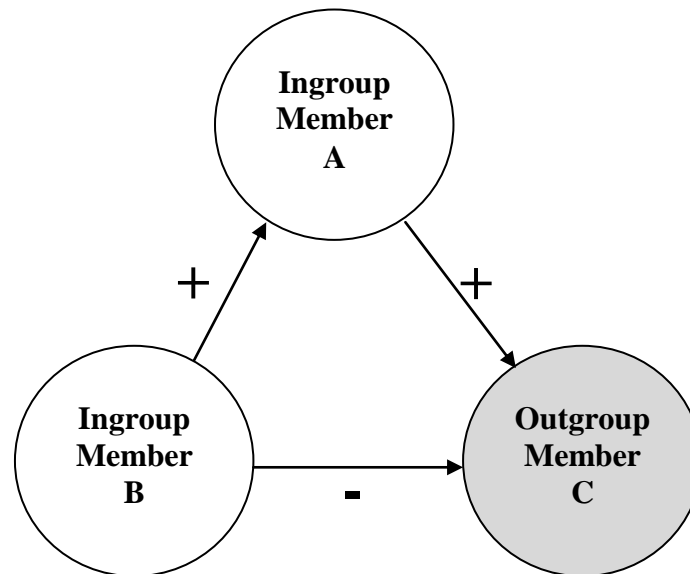


Figure 1a. The imbalanced state in triadic relations according to Balance Theory (Heider, 1958). Adapted from “Reducing Prejudice via Direct and Extended Cross-group Friendship,” by R. N. Turner, M. Hewstone, A. Voci, S. Paolini, and O. Christ, 2007b, *European Review of Social Psychology*, 22, p. 218. Copyright 2007 by Psychology Press.

(their friend) having positive contact with outgroup member C. Ingroup member B is likely to experience an imbalance (from the perspective of Balance Theory) when observing their friend (ingroup member A) engaging in positive contact with outgroup member C, given that they themselves are not open towards direct contact with the outgroup. Within the framework of Balance Theory, the imbalanced state would be defined by a positive relationship between the ingroup member A and ingroup member B, a positive relationship between ingroup member A and outgroup member C, and a negative relationship between the ingroup member B and outgroup member C.

The resolution of this imbalance could occur in numerous ways, including that ingroup member B (who is observing this positive intergroup contact, or who comes to learn of this positive intergroup contact) reassess their attitude toward the outgroup and contact with the outgroup. Should their attitude toward the outgroup

change and become more positive, the balance within this triad would be restored, with positive relationships within each dyad (see Figure 1b below).

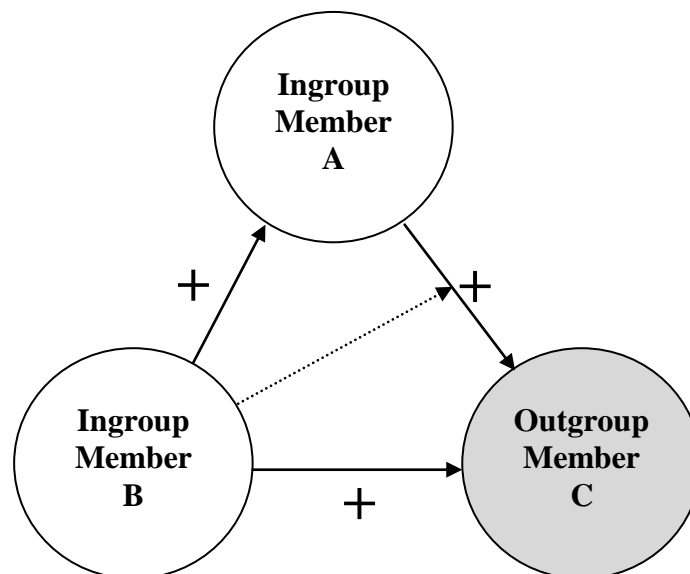


Figure 1b. The balanced state in triadic relations resulting from extended contact according to Balance Theory (Heider, 1958). Adapted from “Reducing Prejudice via Direct and Extended Cross-group Friendship,” by R. N. Turner, M. Hewstone, A. Voci, S. Paolini, and O. Christ, 2007b, *European Review of Social Psychology*, 22, p. 218. Copyright 2007 by Psychology Press.

Wright et al. (1997) conducted four studies investigating the reduction of prejudice using extended contact. In the first two studies, Wright et al. (1997) investigated the association between knowledge that an ingroup friend had cross-group friends and prejudice amongst white students (majority group) from the State University of New York. In each study they found that the knowledge that an ingroup friend had cross-group friendships was negatively associated with prejudice, while a greater perceived self-other overlap between the ingroup friend and their outgroup friend on the part of the participant was also negatively associated with prejudice. These results were subsequently replicated experimentally by Wright et al. (1997) in their third study (using an experimentally constructed conflict situation), and offered strong support for the causal relationship between knowledge of a cross-group friendship and reduced prejudice. The fourth study investigated extended contact using an experimental design. Participants were asked to observe an ingroup member and an outgroup member (confederate) trying to solve a puzzle task. This

relationship between the puzzle builders appeared to the observers as either one of friends, strangers or disliking one another. The researchers found less ingroup outgroup prejudice after observing the interaction between the friends as compared to that between the strangers or disliked group.

The extended contact hypothesis has received robust empirical support over the past fifteen years (e.g., Turner et al., 2007b; Turner et al., 2008). Cameron and Rutland (2006) conducted a longitudinal study implementing a story-reading intervention in a British primary school. The participants $N = 67$ ($M_{age} = 8$ years, $SD = 9.36$ months) were non-disabled and the intervention consisted of a story being told to them relating a friendship between a non-disabled and a disabled character. The intervention took place once a week for a total of six consecutive weeks. Outgroup attitudes were measured and the researchers found that positive outgroup attitudes, post-intervention, were significantly higher ($M = 4.38$, $SD = 3.64$) than pre-intervention ($M = 3.24$, $SD = 3.60$).

The contact literature shows robust evidence in favour of the ability of direct and extended intergroup contact to reduce prejudice towards an outgroup. More recently, the contact literature has shifted its focus from identifying which forms of contact are likely to reduce prejudice towards understanding those variables that explain *how* or *why* direct and extended contact are able to reduce prejudice (i.e., the mediators of the contact-prejudice relationship).

Mediators of the Contact-Prejudice Relationship

Understanding the way, in which these different dimensions of contact reduce prejudice is important for the structuring of intergroup contact situations and the development of more effective interventions aimed at improving intergroup relations. So far a number of potential mediators of the contact-prejudice relationship have been identified (for reviews see Brown, & Hewstone, 2005; Hewstone & Swart, 2011; Hodson et al., 2013; Pettigrew & Tropp, 2008). These mediators offer clarity on how or why positive intergroup contact is reliably associated with reduced prejudice. Two potential mediators of the contact-prejudice relationship that are most relevant to the present study are discussed in more detail below, namely intergroup anxiety and self-disclosure.

Intergroup Anxiety

According to Stephan and Stephan (1985), intergroup anxiety is defined as the affective arousal that take place within a person when you have negative expectations about an upcoming intergroup contact situation. Stephan and Stephan (1985) identified five possible reasons for the activation of intergroup anxiety, including (1) a fear of feeling out of control within the contact setting, disorganised, experiencing a lack of competence, and expectations of uneasiness and distress; (2) a fear of acting in a prejudice way resulting in offending the outgroup members; (3) a fear of domination, being exploited or taken advantage of; (4) a fear of rejection or being evaluated in a negative way by the outgroup; and (5) fear of rejection and disapproval of the ingroup members, who do not approve of intergroup interactions, when engaging with outgroup members. Thus, intergroup anxiety is a negative affective state that occurs in anticipation of the intergroup contact situation as a result of the expected negative consequences of the contact, including embarrassment or rejection. This negative state could be enhanced by a history of prejudice, such as in the case of South Africa, or even a high number of outgroup members involved in the contact situation (Stephan & Stephan, 1985).

High levels of intergroup anxiety could lead not only to avoidance of the contact situation (Shelton & Richeson, 2005), but if the participant chooses to participate in the contact situation, it could lead to an awkward and unpleasant experience (Shelton, 2003). By encouraging the avoidance of intergroup contact opportunities, intergroup anxiety serves to limit the opportunities for individuals to interact with outgroup members and establish cross-group acquaintances and friendships, and also increases prejudice towards the outgroup.

A number of studies have shown that both direct (e.g., Islam & Hewstone, 1993; Turner et al., 2007b; Voci & Hewstone, 2003) and extended intergroup contact (e.g., De Tezanos-Pinto, Bratt, & Brown, 2010; Gómez, Tropp, & Fernández, 2011; Hutchison & Rosenthal, 2010) are reliably linked to reduced intergroup anxiety. For example, Voci and Hewstone (2003) conducted two studies investigating intergroup contact effects in Italy. In their second study they evaluated intergroup anxiety and group salience during contact among 94 hospital workers, working with immigrant co-workers from outside the European Union. They found that contact had a direct positive effect on the attitudes of the Italian workers towards their co-workers as a group, as well as, the immigrant rights of these co-workers. Moreover, contact was

negatively associated with intergroup anxiety in the workplace, which significantly mediated the relationship between contact and attitudes.

Turner et al. (2007a) explored the mediation effect of intergroup anxiety in the relationship between both direct and extended contact and prejudice across three cross-sectional studies. Each study focused on the relationship between white British participants and South Asians in the United Kingdom. Their first study was conducted amongst 60 white British primary school children, aged between seven and eleven years, and focused on the relationship between cross-group friendships with South Asians and attitudes towards South Asians. Turner et al. (2007a, study 1) found that participants who spent more time with South Asian friends reported more positive attitudes towards South Asians in general. As expected, this relationship was significantly mediated by intergroup anxiety; cross-group friendships with South Asians were significantly negatively associated with intergroup anxiety towards South Asians in general. Intergroup anxiety was, in turn, significantly negatively associated with explicit positive attitudes towards South Asians in general.

The second study undertaken by Turner et al. (2007a) was conducted amongst 96 British secondary school children from Bradford, England. White school children (N = 48) were asked about the Asian outgroup and Asian school children (N = 48) were asked about the white British outgroup. Turner et al. (2007a, study 2) found amongst both samples that extended contact was indirectly associated with more positive attitudes toward the respective outgroup, an effect significantly mediated by reduced intergroup anxiety towards the outgroup. Turner et al. (2007a, study 3) replicated these findings amongst 164 white British secondary school children.

Two South African cross-sectional studies undertaken by Swart et al. (2010) investigated the effects of cross-group friendship on prejudice (described earlier in the chapter in the discussion on cross-group friendships), and the affective mediators (including anxiety) underlying this relationship. They found that intergroup anxiety significantly mediated the relationship between cross-group friendships with, and outgroup attitudes towards black (African) South Africans amongst both the white and coloured South African participants. This pattern of results was replicated amongst the white South African participants in their second study. Swart et al. (2010, study 2) found that intergroup anxiety significantly mediated the relationship between cross-group friendship with, and attitudes towards coloured South Africans.

There also exists compelling meta-analytic evidence supporting the important role intergroup anxiety plays as a mediator of the contact-prejudice relationship. Pettigrew and Tropp (2008) conducted a meta-analysis comparing the mediation effects of the three most studied mediators in the contact literature, namely enhancing knowledge of the outgroup, reducing anxiety about the intergroup contact, and increasing empathy. While all three constructs were significant mediators of the contact-prejudice relationship, intergroup anxiety yielded the strongest mediation effects.

Direct and extended intergroup contact does not only reduce prejudice via the reduction of negative (or contact-inhibiting) factors such as intergroup anxiety. Their value lies in the fact that they are also each associated with enhancing positive (or contact-facilitating) factors (Pettigrew, 1998), including greater reciprocal self-disclosure.

Self-disclosure

Self-disclosure can be defined as the voluntary sharing of personal information to another person (Miller, 2002) and is a central feature of interpersonal friendships in general. However, self-disclosure is also thought to play an especially important role in the improvement of attitudes within intergroup contact situations. This is achieved by stimulating greater interpersonal attraction and intimacy, by establishing a positive emotional orientation towards outgroup members, and by reducing the stereotypical beliefs of the ingroup members (Brewer & Gaertner, 2001; Reis & Shaver, 1988). It has been shown that once people start disclosing personal information with another person, they not only feel more attracted to the other person, but the receiver of this personal information is also more inclined to disclose information in return, leading to increased mutual interpersonal attraction (Berg & Wright-Buckley, 1988; Worthy, Gary, & Kahn, 1969). Having established that self-disclosure is an important component in interpersonal friendships, it is necessary to understand how it mediates the relationship between cross-group friendship and prejudice.

Firstly, self-disclosure facilitates a more positive evaluation of the outgroup in the contact situation and the outgroup as a whole by generating greater empathy and perspective-taking towards the outgroup (Stephan & Finlay, 1999). Empathy is an intrinsic emotional state, initiated by seeing the world 'through the eyes' of

another, and understanding the thoughts and feelings of others (Stephan & Finlay, 1999). It is suggested that self-disclosure will only lead to intimacy if the listener provides evidence of understanding, appreciation and acceptance of what has been said and responds appropriately (Reis & Shaver, 1988).

Secondly, self-disclosure should be associated by reduced prejudice by increasing the perceived importance of the cross-group friendship, allowing for the achievement of common goals (Van Dick et al., 2004), the development of important skills, and enhancement of self-efficacy (Aron, Aron, & Norman, 2001). Finally, Miller (2002) suggests that a reduction in prejudice is possible through self-disclosure if reciprocal trust is promoted. Trust is seen as an expression of confidence that the other person or persons will not put you at risk or harm you by their actions (Dovidio, Gaertner, Kawakami, & Hodson, 2002).

In their series of cross-sectional studies exploring intergroup relations between white British and South Asians, Turner et al. (2007a, study 1) found that participants who spent more time with South Asian friends reported more positive attitudes towards South Asians in general, an effect that was significantly mediated by self-disclosure. Specifically, cross-group friendships with South Asians were positively associated with an increased willingness to engage in reciprocal self-disclosure with outgroup members, which was, in turn, significantly positively associated with more positive attitudes towards South Asians in general. In their second study, Turner et al. (2007a, study 2) found that both direct and extended contact promoted more positive explicit outgroup attitudes via the mediation of self-disclosure. These mediation effects were observed for both white British and South Asian participants. Turner et al. (2007a, study 3) replicated these findings amongst white British secondary school children.

Encouraging greater self-disclosure between in- and outgroup members may be especially important in post-conflict societies, where intergroup relations are often characterised by high levels of distrust (as is the case in South Africa; IJR, 2013). The more we learn about others through their self-disclosure, the more convinced we are about their intentions and future actions in more critical situations (e.g., Kerr, Stattin, & Trost, 1999), facilitating the development of greater trust. For example, Turner et al. (2007a, study 4) found that self-disclosure significantly mediated the relationship between cross-group friendships with South Asians and intergroup trust towards South Asians in general amongst white British undergraduate students.

Greater trust towards South Asians, in turn, predicted more positive explicit attitudes towards South Asians in general. As such, self-disclosure between ingroup and outgroup members offers an important means for developing trust within the context of intergroup relations.

Achieving greater trust in intergroup relations.

Outgroup trust is important if societies characterised by great diversity are to function effectively, because the development and maintenance of both intergroup and interpersonal relationships are dependent on our ability to trust each other (Rotenberg, 1991). According to Hayashi, Ostrom, Walker and Yamagishi (1999) trust enhances cooperation, sharing of information, communication and problem-solving, which in turn are likely to enhance relations between members of different groups.

Trust can be seen as the manifestation of confidence that another person will not put you at risk or harm you by their actions (Dovidio et al., 2002). As such, outgroup trust has also been recognised as a necessary part of reconciliation strategies aiming to improve community interactions, especially in the aftermath of intergroup conflicts. Reconciliation requires that people take a risk and make themselves vulnerable to conciliatory initiatives of the other party, which requires sufficient trust that they will not be exploited (Dovidio et al., 2002). In this regard, dialogue (reciprocal self-disclosure) is an important feature of reconciliation strategies in post-conflict societies, because the more we learn about someone through their self-disclosure, the more comfortable we are about their intentions (Tam et al., 2008). For example Turner et al. (2007a, Study 4) conducted their study amongst white British students (N = 142) relating their cross-group interactions with South Asians in Britain and found that self-disclosure predicted greater outgroup trust towards South Asians, which in turn predicted more positive attitudes towards South Asians in general.

Dhont and Van Hiel (2011) conducted a study amongst Dutch participants (N = 1,238) investigating contact with and attitudes towards the Muslim community (outgroup) in the Netherlands. The researchers investigated the mediational effects of trust and threat on the moderators of direct and extended contact (i.e., mediated moderation). The researchers found that both trust ($\beta = -.56, p < .001$) and threat

($\beta = -.55, p < .001$) reduced the direct and extended contact interaction effect ($\beta = .09, p < .001$).

Positive intergroup contact has been identified as an important means for promoting greater trust in post-conflict societies. For example Tam, Hewstone, Kenworthy, and Cairns (2009) conducted two studies in Northern Ireland investigating the relationship between trust and intergroup behaviour as well as the ability of intergroup contact to establish trust. The first study was conducted amongst Protestant and Catholic university students ($N = 59$) who were asked to complete a survey on intergroup relations with the respective ethno religious outgroup (either Catholic or Protestant). They found that participants who reported higher levels of intergroup contact trusted the outgroup more and their behaviour towards the outgroup was more positive. In the second study, conducted amongst Protestants ($N = 82$) and Catholics ($N = 93$) from three universities in Northern Ireland, Tam et al. (2009) investigated the role of both trust and attitudes in both direct and extended contact. They found that trust mediated both direct and extended contact, whilst outgroup attitudes only marginally mediated direct contact effects.

Summary

The literature review above has aimed to establish intergroup anxiety and self-disclosure as important mechanisms for understanding how and why direct and extended contact are associated with reduced prejudice. Of particular relevance to the present study, contact effects have been shown to generalise well beyond the outgroup encountered in the original contact setting. Specifically, contact with members of one outgroup have been shown to not only reduce prejudice towards that particular outgroup as a whole, but also to reduce prejudice towards other (potentially unencountered) outgroups as well (even after controlling for prior contact with members of these other outgroups; see Lolliot et al., 2013; Pettigrew, 2009; Pettigrew & Tropp, 2006). In other words, it has been shown that intergroup contact brings about a generalised reduction in prejudice towards outgroups. This has led to substantial contemporary advances in contact theory (Hewstone & Swart, 2011; Lolliot et al., 2013), to which I now turn in the following chapter.

CHAPTER THREE

The Secondary Transfer Effect of Intergroup Contact

In order for intergroup contact to have the largest impact on promoting positive intergroup relations, it is important that the positive effects of intergroup contact are able to extend beyond the outgroup exemplar being encountered, and the setting in which they are being encountered (Pettigrew, 1998). In other words, it is important that contact effects are able to generalise more broadly. Encouragingly, it is now well established that the benefits of positive intergroup contact are not only limited to the particular contact setting or to more positive attitudes towards the outgroup exemplar being encountered. Pettigrew and Tropp (2006) found evidence of significant situational generalisation of contact effects (i.e., the generalisation of positive contact effects across situations; mean $r = -.24$, $p < .001$) and individual-to-group generalisation of contact effects (mean $r = -.21$, $p < .001$) in their rigorous meta-analysis of the contact literature.

A more ambitious form of generalisation of contact effects relates to the generalisation of the positive effects of intergroup contact from the (primary) outgroup encountered in the contact setting to other (secondary) outgroups not present in the contact setting. In other words, this type of generalisation describes to the generalisation of positive attitudes held towards one outgroup (as a consequence of having engaged in positive intergroup contact with members of that outgroup) to include positive attitudes towards other, possibly unencountered outgroups. This form of attitude generalisation is known as the *secondary transfer effect* (STE) of intergroup contact (Lolliot et al., 2013; Pettigrew, 2009). Various possible explanations explain how or why the secondary transfer effect occurs have been put forward in recent years (see Lolliot et al., 2013; Pettigrew, 2009; Tausch et al., 2010). The most popular of these is that of attitude generalisation.

Attitude Generalisation and the Secondary Transfer Effect

Attitude generalisation is a well-known psychological phenomenon, and refers to a process through which our attitudes towards something or someone generalise to include similar attitudes towards other objects or persons (Shook, Fazio, & Eiser, 2007). Several studies have shown that objects that appear similar to one another

elicit stronger attitude generalisation effects than objects that appear to be dissimilar. These studies cover a broad array of empirical paradigms, including mere subliminal exposure effects (e.g., Monahan, Murphey, & Zajonc, 2000), attitude generalisation from a single group member to the outgroup as a whole (e.g., Brown & Hewstone, 2005), immediate implicit attitude generalisation vs. gradual explicit attitude generalisation (e.g., Ranganath & Nosek, 2008), group entitativity (e.g., Crawford, Sherman, & Hamilton, 2002), and computer game objects (e.g., Shook et al., 2007).

Interestingly, Allport (1954) alluded to such attitude generalisation within the context of intergroup relations sixty years ago. Hartley (cited in Allport, 1954) undertook a study, in which participants were asked about their attitudes towards 35 nations and ethnic groups. Among these groups, Hartley (cited in Allport, 1954) included three fictitious ethnic groups. The results were surprising; not only did attitudes towards the 32 real groups correlate highly, but the correlations between the attitudes towards the real and the fictitious groups were also significant. Interestingly, although participants admitted to not knowing any of the three fictitious groups, they were still prejudiced towards them. These, somewhat pessimistic findings supported Allport's (1954) notion that if a person is prejudiced towards one outgroup, they are likely to be prejudiced towards other outgroups as well.

This begs the question: if our attitudes are as interrelated as Allport (1954) suggested, then if we manage to improve our attitudes towards one outgroup, would that improve our attitudes towards other outgroups as well? There is now an emerging body of research that suggests that this is indeed the case - that the benefits of positive intergroup encounters may extend beyond the outgroup encountered in the original contact setting to include more positive attitudes towards other, possibly unencountered (or less frequently encountered) outgroups.

Evidence of the Secondary Transfer Effect

Early support for the secondary transfer effect of contact can be found in the literature dating as far back as the 1970s. Weigert (1976) conducted a survey study amongst 454 African-American soldiers stationed in West Germany, focusing on their contact with, and attitudes towards Caucasian-American soldiers and white German civilians. Controlling for various background variables (including demographics, political orientation and prior contact with Germans), Weigert (1976) found that those participants who reported having Caucasian-American friends in the

military reported reduced prejudice towards Caucasian-American soldiers in general, and also towards white German civilians. Clément, Gardner, and Smyth (1977) found similar evidence in their study of Canadian Anglophones' attitudes towards French Quebecers and the Continental French. Canadian Anglophones who enjoyed more contact with French Quebecers on an excursion whilst visiting Quebec, reported less prejudice towards the French Quebecers, and showed more interest in learning French than Canadian Anglophones who did not participate in the excursion.

Pettigrew (1997) analysed data collected from 3,806 participants across France, Great Britain, the Netherlands and West Germany. He found that cross-group friendships with immigrants living in their country positively predicted more favourable attitudes towards these immigrants, as well as foreigners living outside of their country. This suggested that the reduction of prejudice generalised from native outgroups to foreign outgroups.

More recently, Pettigrew (2009) analysed telephonic survey data collected from German adults in 2002 and 2004 and found that positive contact with foreigners was significantly negatively associated with prejudice towards a variety of outgroups. The generalisation of contact effects across outgroups differed according to the outgroup in question, with stronger generalisation effects from the foreigners (primary outgroup) towards Muslims, the homeless, and homosexuals (secondary outgroups).

The secondary transfer effect of contact has also been observed longitudinally. For example, Eller and Abrams (2004, study 1) conducted a two-wave longitudinal study amongst English university students attending the University of Kent. A total of 34 students participated in both waves of data collection. Eller and Abrams (2004) found that those participants with more French friends at Time 1 reported reduced prejudice towards the French in general, and also towards Algerians at Time 2 (six months later).

Van Laar, Levin, Sinclair, and Sindanius (2005) conducted a five-wave longitudinal study among over 2,100 students attending the University of California, Los Angeles (UCLA) over a five-year period. They examined the effects of living with a different ethnic group (white, Latino, African-American and Asian-American) roommate on attitudes towards these outgroups. They found that participants who were randomly assigned to room with a Latino roommate during their second and third year at university were less prejudiced towards Latinos in their fourth year, and

also exhibited less prejudice towards African-Americans. Students who were assigned to an African-American roommate during their second and third year not only exhibited more positive attitudes towards African-Americans in their fourth-year, but also held more positive attitudes towards Latinos in their fourth-year.

Experimental evidence for the existence of the secondary transfer effect is provided by Harwood, Paolini, Joyce, Rubin, and Arroyo (2011). Using a between-subjects design, they instructed 128 participants to imagine one of three scenarios: (1) a positive contact with an unfamiliar illegal immigrant, (2) negative contact with an unfamiliar illegal immigrant, or (3) an outdoor scene (control group). After the 'imagination' task the participants including those in the control group were asked to elaborate on their experience with open-ended responses. Participants also had to rate their experience in terms of how pleasant or unpleasant the experience was. Thereafter the participants rated their feelings towards various outgroups including illegal immigrants. Harwood et al. (2011) found that those participants who had imagined themselves engaging in positive intergroup contact with an illegal immigrant also reported more positive attitudes towards other (secondary) outgroups (e.g., Mexican Americans, legal immigrants, Asian-Americans, the homeless, etcetera.)

Finally, there is encouraging meta-analytic evidence in support of the secondary transfer effect via attitude generalisation. Pettigrew and Tropp (2006) found 18 samples that had tested contact effects on prejudice towards the outgroups not involved in the contact situation. These tests yielded small, but significant effect sizes (mean $r = -.19$, $p < .001$), supporting the operation of attitude generalisation across groups. However, there were two notable short-comings associated with the samples included in their analyses. Firstly, 14 of the 18 samples included were found to be loosely-controlled, opening the door for alternative explanations for this generalisation effect (see Pettigrew, 2009). Secondly, these studies did not provide an adequate alternative explanations for *how* or *why* these generalisation effects occurred - in other words, they did not shed light on any other potential mediators of the secondary transfer effect (beyond that of primary outgroup attitudes as a mediator of the relationship between primary outgroup contact and secondary outgroup attitudes). Subsequent research in the field has begun to address this question (e.g., Pettigrew 2009; for a recent review of this emerging literature see Lolliot et al., 2013).

Alternative Explanations for the Secondary Transfer Effect

Tausch et al. (2010) explored a number of alternative possible explanations for the secondary transfer effect. These include (1) the possibility that contact with one outgroup might be associated with more positive attitudes toward secondary outgroups, because participants who engage in more intergroup contact with one outgroup might also have more intergroup contact with other outgroups; (2) the possibility that the secondary transfer effect is largely a consequence of social desirability responding – that participants are inclined to respond to questions on contact with, and attitudes towards any number of outgroups in a similarly socially desirable manner; and (3) the ‘causal sequence’ problem that results from the fact that the majority of research on the secondary transfer effect is based on cross-sectional data, which is inadequate in design to establish the causal link between contact with a primary outgroup and attitudes towards a secondary outgroup.

Tausch et al. (2010) conducted three cross-sectional studies and one longitudinal study to provide evidence for the secondary transfer effect over-and-above these aforementioned alternative explanations. Their studies were conducted in countries that each had a long history of intergroup conflict including Cyprus, Northern Ireland and the United States of America. The first study was conducted in Cyprus amongst Greek ($N = 800$) and Turkish ($N = 853$) Cypriots. The participants were individually interviewed and asked questions about their respective outgroups (Greek Cypriots for the Turkish participants and Turkish Cypriots for the Greek participants) examining if the amount of intergroup contact predicted attitudes towards the broader outgroups involved in the intergroup conflict (Greeks from Greece for Turkish Cypriots and Turks from Turkey for Greek Cypriots).

Tausch et al. (2010, Study 1) found support for the secondary transfer effect. Contact with the respective Cypriot (primary) outgroup (either Turkish or Greek Cypriots) predicted more positive attitudes towards the respective Cypriot (primary) outgroup ($B = 9.99$, $SE = 1.14$, $\beta = .22$, $p < .001$). Moreover, contact with the Cypriot (primary) outgroup significantly predicted more positive attitudes towards the broader (secondary) outgroup (Greeks or Turks; $B = 5.56$, $SE = 0.99$, $\beta = .14$, $p < .001$). Their first study, however, did not control for prior contact with the secondary outgroup (a possible alternative explanation for their STE findings). However, they went on to control for secondary outgroup contact in their next studies.

Tausch et al. (2010, Study 2) collected data from Catholic (N = 983) and Protestant (N = 990) participants in Northern Ireland. Data were collected including measures of contact with the Catholic or Protestant (primary) outgroup, contact with minority (secondary) outgroup members and attitudes towards the primary and secondary outgroups. Once again they found support for the STE. Contact with the Catholic or Protestant (primary) outgroup significantly predicted more positive attitudes towards ethnic minorities (secondary outgroup), including Asians and Africans ($B = 2.49$, $SE = 0.50$, $\beta = .11$, $p < .001$), controlling for prior contact with the ethnic minority (secondary) outgroup. These findings were able to rule out secondary outgroup contact as an alternative explanation for the STE.

In their third study, Tausch et al. (2010) collected data amongst white (N = 199) and black (Afro-American; N = 76) students studying at the University of Texas at Arlington. Data were collected by means of an online survey and included questions on cross-group friendships and outgroup attitudes. The primary outgroup were Hispanics and the secondary outgroups were Vietnamese/Asian Indian. Moreover, they included measures of social desirability, which they included as a control variable in their analyses. Tausch et al. (2010, Study 3) found evidence in support of the STE, controlling for the number of friends from the secondary outgroup and socially desirable responding. These results support the STE and negate the alternative explanation relating to the social desirability problem.

Tausch et al. (2010, Study 4) followed these three cross-sectional studies up with a two wave longitudinal study in Northern Ireland. This longitudinal study was designed to address the causal sequence problem relating to the STE. Data were collected from participants in Belfast between March and July 2006 (wave 1) and May and August 2007 (wave 2). A total of 411 participants (N = 185 Catholics and N = 226 Protestants) completed the surveys at both time points. Measures included contact with the Catholic/Protestant (primary) outgroup, contact with minority (secondary) outgroup members, and outgroup attitudes towards both the primary and secondary outgroups. Tausch et al. (2010, Study 4) found longitudinal support for the STE. Contact with the Catholic/Protestant (primary) outgroup at Time 1 significantly predicted more positive attitudes towards the minority (secondary) outgroups at Time 2.

These studies have gone a long way towards establishing the secondary transfer effect as a legitimate effect, eliminating the possibility that it is merely an

artefact of generalised outgroup contact, social desirability, or selection bias. As such, researchers have recently begun to investigate the underlying mediators that explain how or why contact with a primary outgroup improves attitudes towards other, secondary outgroups as well. Research has centred on explanations beyond attitude generalisation (described earlier), including deprovincialisation and empathy generalisation. Each is discussed in turn below.

Deprovincialisation.

Deprovincialisation was first offered as an explanation for the secondary transfer effect by Pettigrew (1997). Pettigrew (1997) suggested that one of the explanations for the generalised reduction in prejudice reported by the participants in his large European study was the reappraisal of the ingroup, or deprovincialisation. He suggested that intergroup contact (particularly cross-group friendships) leads to the ingroup having to realise that they are not the only measure by which to judge the social world. This broadens the ingroup member's perspective and they are able to reappraise and look beyond their own (ingroup) norms, culture and lifestyle. Intergroup contact, therefore, functions to humanise the outgroup members, and prompts ingroup members to distance themselves somewhat from their ingroup (e.g., Verkuyten, Thijs, & Bekhuis, 2010), leaving ingroup members with a less regional view of the world.

Pettigrew (2009) investigated this deprovincialisation hypothesis amongst a German national probability sample using telephonic surveys. He found that participants who had experienced positive contact with immigrants showed lower national identification with Germany, which in turn was associated with improved secondary outgroup attitudes towards the homeless, German immigrants and homosexuals. Lowered national identification with Germany significantly mediated the relationship between contact with the primary outgroup (immigrants) and attitudes towards each of the secondary outgroups.

Tausch et al. (2010, Study 1) also found support for the deprovincialisation hypothesis amongst Greek and Turkish Cypriots in Cyprus. For participants from both of these groups, ingroup attitudes mediated the relationship between contact with the target outgroup (Cypriots) and attitudes towards mainland Turks/Greeks (Turks in Turkey and Greeks in Greece). Notably, contact with the primary outgroup (Cypriots) predicted lower collective self-esteem (one's social or collective identity)

amongst individual participants, which, in turn, predicted more positive attitudes towards the secondary outgroup (mainland Turks/Greeks).

Empathy generalisation.

The empathic response refers to both the cognitive ability of a person to engage in a process of assuming another person's psychological point of view (e.g., perspective-taking), as well as a person's aptitude for experiencing emotional reactions from observing others (e.g., affective empathy; Davis, 1994). Both the cognitive and affective empathic response is associated with various positive outcomes in interpersonal, as well as intergroup relations (e.g., Finlay & Stephan, 2000; Galinsky & Moskowitz, 2000), including pro-social behaviour (Batson, Chang, Orr, & Rowland, 2002). Empathic responding is thought to reduce prejudice because it is capable of directly addressing the main evaluative element of the attitude, rather than focusing on the available information (Batson et al., 1997), while it is also capable of evoking altruistic motivation (Batson, 1991), providing a motivational counterbalance to the egoistic desire to avoid personal cost and maintain relative advantage.

Intergroup contact, and specifically cross-group friendships, has been positively associated with empathy, which, in turn, is negatively associated with prejudice (e.g., Aberson & Haag, 2007; Pagotto, Voci, & Maculan, 2010; Tam et al., 2006). Affective empathy has also been shown to be a significant mediator of the contact-prejudice relationship in the South African context, both cross-sectionally (Swart et al., 2010) and longitudinally (Swart et al., 2011a). Moreover, meta-analytic findings across 14 samples confirm that empathy is a significant mediator of the contact-prejudice relationship (Pettigrew & Tropp, 2008). Lolliot et al. (2013) suggest that empathy generalisation may be an important mediator of the secondary transfer effect. They propose two routes through which this mediation might occur.

Firstly, since it has been established that (a) empathy is a significant mediator of the contact-prejudice relationship, and (b) that there exists strong evidence that attitudes towards a primary outgroup generalise to include attitudes towards a secondary outgroup. Empathy towards the primary outgroup is able to impact on attitudes towards the secondary outgroup via the mediation of attitudes towards the primary outgroup (this partial empathy generalisation is illustrated in Figure 2 below). Lolliot, Schmid, Hewstone, Swart, and Tausch (2013) found evidence to support this

double-mediated, partial empathy generalisation effect. They found that cross-group friendships amongst Catholic and Protestant university students with the respective

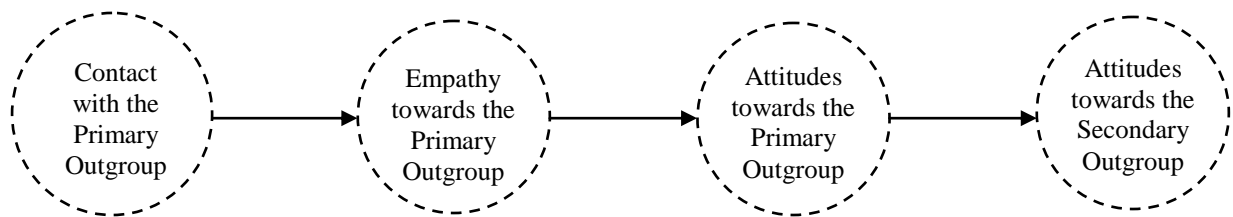


Figure 2. The secondary transfer effect via partial empathy generalisation. Adapted from “Generalized Effects of Intergroup Contact: The Secondary Transfer Effect,” by S. Lolliot, K. Schmid, M. Hewstone, A. Al Ramiah, N. Tausch, and H. Swart, 2008, In “Advances in Intergroup Contact” (pp. 81-112) , by G. Hodson and M. Hewstone (Eds.), London, UK: Psychology Press. Copyright 2013 by Psychology Press.

ethno-religious (primary) outgroup predicted greater empathy towards the respective ethno-religious (primary) outgroup as a whole. This, in turn, predicted more positive attitudes towards the respective ethno-religious (primary) outgroup. Finally, more positive attitudes towards the respective ethno-religious (primary) outgroup predicted more positive attitudes towards the secondary outgroups (ethnic minorities and homosexual men; controlling for prior contact with these secondary outgroups).

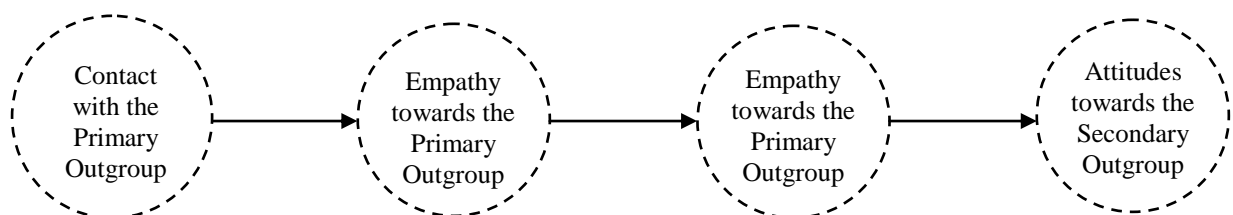


Figure 3. The secondary transfer effect via complete empathy generalisation. Adapted from “Generalized Effects of Intergroup Contact: The Secondary Transfer Effect,” by S. Lolliot, K. Schmid, M. Hewstone, A. Al Ramiah, N. Tausch, and H. Swart, 2008, In “Advances in Intergroup Contact” (pp. 81-112) , by G. Hodson and M. Hewstone (Eds.), London, UK: Psychology Press. Copyright 2013 by Psychology Press.

Secondly, Lolliot et al. (2013) propose a mechanism of full empathy generalisation underlying the secondary transfer effect. In this model, contact with the primary outgroup promotes greater empathy towards the primary outgroup, which in turn generalises towards greater empathy towards the secondary outgroup as well. Greater empathy towards the secondary outgroup, in turn, predicts more positive attitudes towards the secondary outgroup. This sequence is illustrated in Figure 3 above. Support for this model has been reported by Vezzali and Giovannini (2012) amongst Italian high school students.

Summary

The reduction of prejudice and the improvement of intergroup relations remains an important objective in societies that are becoming increasingly diverse (even 'super-diverse'; Vertovec, 2007), as is the case in South Africa. It has been well established that intergroup attitudes (prejudice) can be improved through positive intergroup contact (e.g., Pettigrew & Tropp, 2006), and that reduced intergroup anxiety, increased reciprocal self-disclosure, and greater empathy are able to facilitate this.

Attitude generalisation and the secondary transfer effect (STE) are at the forefront of the contemporary theoretical developments of contact research (see Lolliot et al., 2013). The STE provides a potentially powerful process, through which positive contact encounters with even a few outgroup members might lead to a reduction in prejudice toward that particular outgroup as well as a range of other outgroups not involved in the original encounter.

The present study used an experimental design to explore whether the reduction in prejudice through different types of contact (direct and extended contact) generalises to secondary outgroups not involved in the contact situations, using a three-wave longitudinal, experimental design. The present research aimed to not only contribute to the emerging literature on the secondary transfer effect, but to also generate results that might benefit Stellenbosch University in the development of interventions and policies aimed at promoting positive intergroup relations at the University. The rationale, methodology, and results of the present study are described in more detail in the following chapter.

CHAPTER FOUR

A Longitudinal Experimental Study of the Secondary Transfer Effect

The Present Study

The present study used an experimental design to explore whether the reduction in prejudice through different types of contact (direct and extended contact) generalises to secondary outgroups not involved in the contact situation. More specifically, the present study aimed to explore the effects of direct and extended intergroup contact with black (African) South Africans (who constitute a minority-group at Stellenbosch University) on attitudes towards black (African) South Africans amongst white South African participants (who constitute a majority-group at Stellenbosch University). The secondary transfer effect was tested by investigating whether contact with a 'primary' outgroup (i.e., black (African) South Africans) improves attitudes towards a 'secondary' outgroup as well, namely Indian South Africans.

Given the relative lack of longitudinal research on the STE (but see Tausch et al., 2010, Study 4; Van Laar et al., 2005), data were collected at three time points in the present study. The first time point served as a baseline measurement for contact with, and attitudes towards, both the primary and the secondary outgroups. The second time point included the experimental manipulation of direct or extended contact with black (African) South Africans, and the third time point provided data relating to whether any changes in outgroup attitudes that might have resulted from the experimental manipulation of contact were able to last beyond the experimentally manipulated contact encounter.

The main objective of the present study was to use an experimental design (with two experimental groups – direct and extended contact –, and one control group – no contact) to manipulate intergroup contact between white South African students and a black (African) South African confederate, and to measure whether these experimental manipulations in contact resulted in any changes in attitudes towards the primary (encountered) and secondary (unencountered) outgroups. The specific methodology associated with achieving these objectives is described in more detail below (see also Appendix A).

Participants in the direct contact condition engaged in a positive direct, face-to-face interaction with a black (African) South African confederate. Participants in the

extended contact condition observed this positive interaction via CCTV camera. Self-report measures of contact with, and attitudes towards, the primary and secondary outgroups were measured one week prior to the experimental manipulation (Time 1), immediately following the experimental manipulation (Time 2), and one week after the experimental manipulation (Time 3). Participants in the control condition were not asked to participate in any manipulations of intergroup contact and were only asked to complete the three self-report surveys at each of the three time points. The following hypotheses were associated with the aforementioned aims and objectives:

Hypotheses

The first hypothesis that was tested relates to reducing intergroup anxiety towards the primary outgroup via positive intergroup contact. Specifically, Hypothesis (1a) after the relevant experimental manipulation of intergroup contact with a black (African) South African (confederate), participants in the direct contact condition and participants in the extended contact condition will each report significantly lower intergroup anxiety towards black (African) South Africans in general, relative to their baseline scores (measured at Time 1, one week prior to the experimental/control manipulations) and after controlling for self-reported contact with black (African) South Africans in general (measured at Time 1); Hypothesis (1b) participants in the direct contact condition will report significantly lower intergroup anxiety towards black (African) South Africans in general after the experimental manipulation than participants in the extended contact, or no contact (control) conditions; and Hypothesis (1c) participants in the extended contact condition will report significantly lower intergroup anxiety towards black (African) South Africans in general after the experimental manipulation than participants in the no contact (control) condition.

The second hypothesis that was tested relates to changing attitudes towards the primary outgroup via positive intergroup contact. Specifically, Hypothesis (2a) after the relevant experimental manipulation of intergroup contact with a black (African) South African (confederate), participants in the direct contact condition and participants in the extended contact condition will each report significantly more positive attitudes and trust towards black (African) South Africans in general, relative to their baseline scores (measured at Time 1, one week prior to the experimental/control manipulations) and after controlling for self-reported contact with black (African) South Africans in general (measured at Time 1); Hypothesis (2b)

participants in the direct contact condition will report significantly more positive attitudes and trust towards black (African) South Africans in general after the experimental manipulation than participants in the extended contact, or no contact (control) conditions; and Hypothesis (2c) participants in the extended contact condition will report significantly more positive attitudes and more trust towards black (African) South Africans in general after the experimental manipulation than participants in the no contact (control) condition.

The third hypothesis relates to the improvement of attitudes and trust towards a secondary outgroup via positive intergroup contact with a primary outgroup (i.e., the STE). Specifically, Hypothesis (3) after the relevant experimental manipulation of intergroup contact with a black (African) South African (confederate), participants in the direct contact condition and participants in the extended contact condition will each report significantly more positive attitudes and more trust towards Indian South Africans in general at Time 2 (post-manipulation), controlling for self-reported prior contact with and attitudes and trust towards Indian South Africans (measured at Time 1).

Method

Procedure

Data-collection took place in the first semester of the 2013 academic year at Stellenbosch University. Consent was obtained from both the Research Ethics Committee (Humanities; REC: 050411-032), as well as the Registrar of Stellenbosch University, after which participants were recruited using a class announcement (Appendix B). White South African female students were recruited in friendship pairs (i.e., white female students who were already friends with one another).

Prospective female participants met with the researcher in their friendship pairs, where the study was discussed in more detail. In this meeting, the various rights of the prospective participants, including anonymity, confidentiality, and their right to withdraw their participation from the study at any time without penalty at any time was explained to them. Prospective participants were encouraged to ask any questions they had and, if they were willing to participate, written consent (Appendix C) was secured (participants were reminded at each stage of the study that they were free to withdraw their participation, without prejudice). Once recruited, the friendship pair was asked to schedule a date and time for participation in the

experimental/control manipulation. The participants were contacted via email one week prior to the selected date and time, and asked to complete the first online questionnaire (Appendix D). This questionnaire had to be completed within 48 hours of receiving the email notification.

Participants who had completed the first online questionnaire (pre-test, Time 1) within the 48 hour time limit were instructed to come to the Department of Educational Psychology to participate in the experimental/control manipulation. The participants in the friendship pairs were randomly assigned to one of the three conditions (direct contact, extended contact, no contact) by the researcher. The experimental manipulation took place according to the following steps:

Direct and extended contact conditions.

Step 1: Participants were welcomed upon arrival at the front entrance to the Educational Psychology Department.

Step 2a: The participant, randomly assigned to the extended contact condition was led into an observation room, which included a television connected to a closed-circuit camera in the adjoining, activity room, and was briefed on the activity. She was then asked to complete the measure of State Anxiety (Appendix E).

Step 2b: The participant, randomly assigned to the direct contact condition, was then collected from the front entrance and led to a waiting area (already occupied by a female black (African) South African confederate) and asked to take a seat while final preparations were made. Both the participant and black (African) South African confederate were then led into the activity room (adjoining the observation room) and briefed on the Closeness Induction Task activity they would be participating in. They were each asked to complete the measure of State Anxiety (Appendix E).

Step 3: The Closeness Induction Task (Appendix F) was described to the direct contact participant and black (African) South African confederate and they then proceeded to engage in the Closeness Induction Task. The Closeness Induction Task comprised three lists of questions, where each list of questions relates to progressively more intimate information. For example, questions on the first list included 'What is your name?' and 'How old are you?'; questions on the second list included 'What do you enjoy doing in your spare time?'; and questions on the third list included 'What is your happiest early childhood memory?'

The participant in the direct contact condition and the confederate were given one minute to ask one another questions off the first list of questions, three minutes to ask one another questions off the second list of questions, and five minutes to ask one another questions off the third list of questions. The researcher instructed the participant and the confederate to move onto the next list after the given time had elapsed.

During this phase, the participant in the extended contact condition (the observation room) observed this Closeness Induction Task (Appendix F) activity via a closed circuit television (CCTV) feed. At this point her friend, who was interacting with the black (African) South African confederate in the direct contact condition, was not aware that they were being observed.

Step 4a: Once the Closeness Induction Task (Appendix F) had been completed, participants in both contact conditions were asked to complete a measure of their State Anxiety (Appendix E). The participant in the extended contact condition was then led to a computer room where she completed the second online survey (Appendix G; Time 2).

Step 4b: Once the extended contact participant had begun with her second online survey (Appendix G), the direct contact participant and the black (African) South African confederate were collected and taken to another computer room where the direct contact participant completed the second online survey (Appendix G) and the black (African) South African confederate pretended to complete an online survey as well.

Step 5: After the completion of the second online survey (Appendix G), both participants were debriefed in the company of the black (African) South African confederate. The direct contact participant was informed that her friend observed her interaction with the black (African) South African confederate in the Closeness Induction Task (Appendix F). However, neither participants were informed at this point that the black (African) South African 'participant' was a confederate. This deception was maintained until the third and final online survey (Appendix H; Time 3) of the final participant was received at the conclusion of the study.

Control condition.

Step 1: Participants were welcomed upon arrival at the front entrance to the Department of Educational Psychology.

Step 2: Participants were led, one at a time, to separate computer rooms, where they completed the second online survey (Appendix G; Time 2).

Step 3: After the completion of the second online survey, both participants were thanked and led out of the building.

Questionnaires

All participants were requested to complete three online questionnaires (Appendices D, G, and H) during the course of the present study. The first, pre-test, online questionnaire (Appendix D) was completed one week prior to the experimental manipulation (Time 1). The following demographic questions were included in this first survey: the participant's age, home language, nationality, ethnicity, year of study at Stellenbosch University, and type of accommodation. Questions relating to their friendship with their fellow participant in the survey included: their friendship closeness, friendship type and friendship length. Participants were then asked to create a unique code that was used to match up their questionnaires over the duration of the study. This code was made up of the last four digits of their student number and the day of the month, on which their birthday falls (e.g., 298416).

The primary constructs of interest in this first survey completed by participants at Time 1 included: Cross-group friendships with black (African) South Africans (primary target outgroup; 4 items), Contact Quantity with Indian South Africans (secondary target outgroup; 1 item), Contact Quality with Indian South Africans (2 items), Extended Contact with black (African) South Africans (2 items), Extended Contact with Indian South Africans (2 items), Intergroup Anxiety towards black (African) South Africans in general (3 items), Feeling Thermometer measuring attitudes towards black (African) South Africans in general (1 item), Feeling Thermometer measuring attitudes towards Indian South Africans in general (1 item), Outgroup Trust towards black (African) South Africans in general (3 items), and Outgroup Trust towards Indian South Africans in general (3 items; see Appendix D for details on the wording of items for each construct, as well as the origin of each construct).

Participants in the two experimental conditions were also asked to complete a three-item measure of their State Anxiety (Appendix E) immediately before and immediately after the experimental manipulation (but before completing the second,

post-experimental, online survey described above). Immediately following the experimental manipulation the participants completed a second, post-test, online questionnaire (Time 2; Appendix G). The demographic question included in the second survey related to the participants' ethnicity. This question was included to further prime the intergroup nature of the survey questions. The primary constructs of interest in the second survey included: Intergroup Anxiety towards black (African) South Africans in general (3 items), Feeling Thermometer measuring attitudes towards black (African) South Africans in general (1 item), Feeling Thermometer measuring attitudes towards Indian South Africans in general (1 item), Outgroup Trust towards black (African) South Africans in general (3 items), Outgroup Trust towards Indian South Africans in general (3 items), Task Success (asked only of participants in the direct and extended contact conditions; 1 item), Category Salience (asked only of participants in the direct and extended contact conditions; 3 items), Feeling Thermometer measuring attitudes towards the confederate (asked only of participants in the direct and extended contact conditions; 1 item), and Reciprocal Self-Disclosure (asked only of participants in the direct and extended contact conditions; 1 item; see Appendix G for details on the wording of items for each construct, as well as the origin of each construct).

The third online survey (Appendix H) was administered one week after the experimental manipulations (Time 3). The demographic question included in the second survey related to the participants' ethnicity. This question was once again included to prime the intergroup nature of the survey questions. The primary constructs of interest in the third survey included: Feeling Thermometer measuring attitudes towards black (African) South Africans in general (1 item), Feeling Thermometer measuring attitudes towards Indian South Africans in general (1 item), Outgroup Trust towards African South Africans in general (3 items), and Outgroup Trust towards Indian South Africans in general (3 items; see Appendix H for details on the wording and scaling of items for each construct, as well as the origin of each construct).

Participants in the control condition completed the same online surveys (unless otherwise indicated) at each of the three time points as those completed by participants in each of the two experimental conditions.

Participants

A number of participants were excluded from the final data set. These participants included all of those who did not complete either online survey one or online survey three within the stipulated 48 hours of having received it ($N = 2$), participants who reported that they felt like they were being observed by the experimenter during the Closeness Induction Task ($N = 4$), participants who completed the first online survey but did not arrive for the experimental manipulation ($N = 4$), participants who had to reschedule their appointment for the experimental manipulation, resulting in a time-lag of greater than one week between Time 1 and Time 2 ($N = 6$), participants who did not indicate their ethnicity as being white South African ($N = 4$), and participants who were not South Africans citizens ($N = 4$). The final sample comprised of 58 participants that were allocated into one of the three conditions, namely the Direct Contact condition ($N = 21$), the Extended contact condition ($N = 21$), and the Control condition ($N = 16$).

All participants were white South African female students between 18 and 26 years of age ($M_{age} = 19.66$ years, $SD = 1.56$ years). The sample included 22 participants (37.90%) who indicated English as their home language and 36 participants (62.10%) who indicated Afrikaans as their home language. Participants indicated having spent an average of 1.90 years ($SD = 0.79$ years) studying at Stellenbosch University. Participants were evenly divided amongst those living in University accommodation ($n = 28$; 48.30%) and those living in private accommodation ($n = 30$; 51.70%). An evaluation of the descriptive statistics describing the nature of the friendship pairs along Friendship Closeness ($M = 5.33$, $SD = 1.41$), Friendship Type ($M = 4.12$, $SD = 0.80$), and Friendship Length ($M = 53.76$ months, $SD = 64.35$ months) confirmed that the participants in each of the friendship pairs were engaged in an intimate friendship of considerable duration, as opposed to being more casual acquaintances.

Results

Preliminary Data Analyses

Preliminary data analyses were conducted using the Statistical Package for the Social Sciences (SPSS). Multivariate data analytic procedures were used in the analysis of the data (including exploratory factor analysis, within- and between-subjects univariate and multivariate analysis of variance). These procedures are built

on a number of parametric assumptions, including the normal distribution of item responses and the independence of observations (data points). These assumptions were tested against the data via an inspection of skewness and kurtosis scores on the item level at each time point, as well as an analysis of intra-class correlations between constructs measured amongst the participants in the direct and extended contact experimental conditions respectively.

Indicators of skewness and kurtosis were used to assess the normality of item-distributions for each of the main constructs of interest, using the upper and lower limits recommended by West, Finch, and Curran (1995) – values of skewness between -2.00 and +2.00 and values of kurtosis between -7.00 and +7.00. Items with values of skewness and kurtosis within these upper and lower limits were considered to be sufficiently normally distributed to warrant inclusion in the analyses below.

Each of the items at each time point yielded estimates of skewness and kurtosis that suggested the data were sufficiently normally distributed at each time point: Time 1:

$M_{skewness} = 0.29$, $SD = 0.31$, $Min_{skewness} = -0.79$, $Max_{skewness} = 1.85$, $M_{kurtosis} = -0.01$, $SD = 0.62$, $Min_{kurtosis} = -1.33$, $Max_{kurtosis} = 4.30$; Time 2: $M_{skewness} = -0.03$, $SD = 0.31$, $Min_{skewness} = -0.61$, $Max_{skewness} = 0.97$, $M_{kurtosis} = -0.63$, $SD = 0.62$, $Min_{kurtosis} = -1.17$, $Max_{kurtosis} = 0.14$; Time 3: $M_{skewness} = 0.01$, $SD = 0.31$, $Min_{skewness} = -0.48$, $Max_{skewness} = 0.58$, $M_{kurtosis} = -0.42$, $SD = 0.62$, $Min_{kurtosis} = -1.26$, $Max_{kurtosis} = 0.71$.

Exploratory factor analyses (EFA) were conducted, where necessary, to confirm the unidimensionality of each multi-item measured construct at each time point. These EFAs were undertaken using a maximum likelihood (ML) estimator and direct oblimin rotation on each scale. The minimum acceptable factor loading was set at .40, as suggested by Field (2009). Any item that loaded onto a factor with a factor loading of less than .40 was excluded from all further analyses. The results from these factor analyses showed that each of the multi-item scales was unidimensional at each time point.

Where necessary, reliability coefficients were computed using Cronbach's alpha, which indicated acceptable construct reliability for each construct at each of the three time points (i.e., $\alpha \geq .70$). Bivariate correlations (Pearson's product-moment correlations) were calculated to estimate the internal consistency of two-item measures. Mean-level composite measures were created by computing the mean of each scale (averaged across the scale's items) in each condition and at each time point. The composite measure means, standard deviations, bivariate

correlation, construct reliabilities, and percentages of variance explained for each construct at each time point are summarised in Table 2 below.

Comparing participants along key measures across condition at Time 1.

As indicated above, friendship pairs were randomly assigned to either the experimental or the control condition after completing the first online survey (Time 1). Participants in the friendship pairs assigned to the experimental condition were, in turn, randomly assigned to either the direct contact condition (engaging in the closeness induction task with the black (African) South African confederate) or the extended contact condition (observing the aforementioned closeness induction task).

A multivariate analysis of variance (MANOVA) with planned contrasts was run to investigate whether the participants assigned to each of the three conditions were statistically comparable to one another along the variables measured at Time 1. These variables included the biographic and demographic information (age, home language, and years of study at Stellenbosch University), variables describing the nature of the friendship pair (perceived friendship closeness, friendship type, and friendship length), and the key variables relating to the main hypotheses of this research (direct and extended contact with black (African) and Indian South Africans, intergroup anxiety towards black (African) South Africans, and measures of positive attitudes and trust towards black (African) and Indian South Africans. Results showed that there were no overall multivariate differences across these three groups, Pillai's Trace = .30, $F(34, 80) = .422$, $p = .99$, $\eta^2_{\text{partial}} = .15$. The planned pairwise contrasts showed no significant univariate differences between the participants in the control condition and the participants in the experimental condition (all p 's > .20), and no significant univariate differences between participants in the direct condition and participants in the extended contact condition (all p 's > .10). These findings confirm that there were no significant differences between those friendship pairs and individuals assigned to the various conditions at Time 1.

Table 2

Composite Means, Standard Deviations, Reliability and Explained Variance for all Constructs at Time 1, 2 and 3

	Condition Mean (SD)				Combined Sample (N = 58)	
	DC (N = 21)	EC (N = 21)	Control (N = 16)	Combined Sample (N = 58)	Reliability (α)	Variance Explained (%)
Time 1						
Cross-group Friendships (Africans) (4 items)	2.01 (1.47)	1.73 (1.48)	1.92 (1.47)	1.91 (1.45)	.81	65.19
Extended Contact (Africans) (2 items)	2.64 (1.77)	2.21 (1.66)	1.84 (0.81)	2.27 (1.53)	.69**†	84.47
Intergroup Anxiety (Africans) (3 items)	3.73 (1.20)	3.75 (1.05)	3.44 (1.98)	3.66 (1.39)	.76	67.16
Outgroup Attitudes (Africans) (1 item)	5.86 (1.96)	6.10 (1.48)	6.13 (2.03)	6.02 (1.79)	-	-
Outgroup Trust (African) (3 items)	3.25 (0.81)	3.46 (0.77)	3.06 (1.03)	3.28 (0.86)	.66	59.66
Contact Quantity (Indians) (1 item)	1.95 (1.66)	2.24 (1.95)	2.75 (2.11)	2.28 (1.89)	-	-
Contact Quality (Indians) (2 items)	3.79 (0.96)	3.76 (0.70)	3.84 (0.68)	3.79 (0.78)	.62**†	80.76
Extended Contact (Indians) (2 items)	2.93 (1.54)	2.62 (1.01)	2.66 (0.91)	2.74 (1.20)	.56**†	77.73
Outgroup Attitudes (Indians) (1 item)	6.52 (1.83)	6.76 (1.61)	6.63 (1.78)	6.64 (1.71)	-	-
Outgroup Trust (Indians) (3 items)	3.53 (0.79)	3.94 (0.76)	3.73 (0.74)	3.74 (0.77)	.76	67.86

DC = Direct contact condition; EC = Extended contact condition; * $p < .05$, ** $p < .01$, *** $p < .001$

Notes: ^a combined statistics calculated for participants in the direct and extended contact conditions only (N = 42);

† Internal consistency evaluated calculating the Pearson product-moment bivariate correlation between two-items; all scales calibrated such that higher mean values denote higher levels of a particular construct. Cross-group friendships, Contact Quantity, Contact Quality, and Extended Contact were scaled from 0 to 6; Intergroup Anxiety was scaled from 1 to 7; Outgroup Attitudes and Attitudes towards the confederate were scaled from 0 to 10; Outgroup Trust, Task Success, Self-Disclosure, and Category Salience was scaled from 1 to 5.

Table 2

Composite Means, Standard Deviations, Reliability and Explained Variance for all Constructs at Time 1, 2 and 3 (Continued).

	Condition Mean (SD)				Combined Sample (N = 58)	
	DC (N = 21)	EC (N = 21)	Control (N = 16)	Combined Sample (N = 58)	Reliability (α)	Variance Explained (%)
Time 2						
Pre-Task Anxiety (State) (3 items)	1.81 (0.68)	1.67 (0.56)	-	1.74 (0.62) ^a	.70 ^a	62.53 ^a
Post-Task Anxiety (State) (3 items)	1.10 (0.15)	1.38 (0.49)	-	1.24 (0.38) ^a	.26 ^a	46.25
Closeness Induction Task Success (1 item)	4.45 (0.71)	4.21 (0.64)	-	4.33 (0.67) ^a	-	-
Self-Disclosure during Task (1 item)	3.57 (0.61)	3.59 (0.47)	-	3.58 (0.54) ^a	-	-
Category Salience of Confederate (1 item)	2.33 (0.99)	2.13 (0.89)	-	2.23 (0.94) ^a	.60 ^a	55.93
Attitude towards Confederate (1 item)	8.86 (0.85)	8.14 (1.11)	-	8.50 (1.04) ^a	-	-
Intergroup Anxiety (Africans) (3 items)	3.21 (1.53)	3.30 (1.15)	3.71 (1.80)	3.38 (1.48)	.83	75.08
Outgroup Attitudes (Africans) (1 item)	6.76 (1.92)	6.29 (1.42)	6.13 (1.89)	6.41 (1.74)	-	-
Outgroup Trust (African) (3 items)	3.59 (0.96)	3.51 (0.67)	3.10 (0.86)	3.43 (0.85)	.77	68.69
Outgroup Attitudes (Indians) (1 item)	6.29 (1.68)	6.38 (1.32)	6.19 (1.68)	6.29 (1.53)	-	-
Outgroup Trust (Indians) (3 items)	3.40 (0.82)	3.79 (0.73)	3.40 (0.80)	3.54 (0.79)	.74	65.72

DC = Direct contact condition; EC = Extended contact condition; * $p < .05$, ** $p < .01$, *** $p < .001$

Notes: ^a combined statistics calculated for participants in the direct and extended contact conditions only (N = 42);

[†] Internal consistency evaluated calculating the Pearson product-moment bivariate correlation between two-items; all scales calibrated such that higher mean values denote higher levels of a particular construct. Cross-group friendships, Contact Quantity, Contact Quality, and Extended Contact were scaled from 0 to 6; Intergroup Anxiety was scaled from 1 to 7; Outgroup Attitudes and Attitudes towards the confederate were scaled from 0 to 10; Outgroup Trust, Task Success, Self-Disclosure, and Category Salience was scaled from 1 to 5.

Table 2

Composite Means, Standard Deviations, Reliability and Explained Variance for all Constructs at Time 1, 2 and 3 (Continued).

	Condition Mean (SD)				Combined Sample (N = 58)	
	DC (N = 21)	EC (N = 21)	Control (N = 16)	Combined Sample (N = 58)	Reliability (α)	Variance Explained (%)
Time 3						
Outgroup Attitudes (Africans) (1 item)	6.57 (1.83)	6.67 (1.46)	6.06 (2.11)	6.47 (1.78)	-	-
Outgroup Trust (African) (3 items)	3.25 (0.94)	3.41 (0.72)	2.96 (1.00)	3.23 (0.89)	.73	65.11
Outgroup Attitudes (Indians) (1 item)	6.38 (1.56)	6.52 (1.54)	6.13 (1.86)	6.36 (1.62)	-	-
Outgroup Trust (Indians) (3 items)	3.40 (0.77)	3.54 (0.78)	3.35 (0.91)	3.32 (0.66)	.77	68.80

DC = Direct contact condition; EC = Extended contact condition; * $p < .05$, ** $p < .01$, *** $p < .001$

Notes: ^a combined statistics calculated for participants in the direct and extended contact conditions only (N = 42);

[†] Internal consistency evaluated calculating the Pearson product-moment bivariate correlation between two-items; all scales calibrated such that higher mean values denote higher levels of a particular construct. Cross-group friendships, Contact Quantity, Contact Quality, and Extended Contact were scaled from 0 to 6; Intergroup Anxiety was scaled from 1 to 7; Outgroup Attitudes and Attitudes towards the confederate were scaled from 0 to 10; Outgroup Trust, Task Success, Self-Disclosure, and Category Salience was scaled from 1 to 5.

Main Analyses

Characteristics of the experimental task.

The intraclass correlations (ICC) between the two experimental conditions (direct versus extended contact) along each of the four key measures assessing the characteristics of the experimental manipulation, namely task success were assessed to confirm the extent of interdependencies between the data across the experimental condition participants in the friendship pairs (see Table 3 below). Given the small sample size and the bias that interdependencies introduce to the analyses, a significance level of $p = .10$ was set for evaluating the significance of the intraclass correlations (see Judd, McLelland, & Ryan, 2009). The results confirmed that there were no interdependencies along these four dimensions between the two conditions. A MANOVA revealed significant multivariate differences between these two conditions along these four variables, Pillai's Trace = .25, $F(4, 37) = 3.16$, $p = .03$, $\eta^2_{\text{partial}} = .25$.

An inspection of the univariate estimates showed that participants in the direct contact condition reported significantly more positive attitudes towards the black (African) South African confederate ($M = 8.86$, $SD = 0.85$) than did participants in the extended contact condition ($M = 8.14$, $SD = 1.11$), $F(1, 40) = 5.36$, $p = .02$, $\eta^2_{\text{partial}} = .12$. These findings suggest that participants in the extended contact condition experienced the key characteristics of the experimental manipulation *vis-à-vis* the success of the closeness induction task, reciprocal self-disclosure, and the salience of the black (African) South African confederate in a statistically similar way to those participants in the direct contact condition, although the closeness induction task led to significantly more positive attitudes towards the black (African) South African confederate amongst participants in the direct contact condition than amongst participants in the extended contact condition.

Experimental changes in intergroup anxiety, outgroup attitudes and outgroup trust towards black (African) South Africans.

Intergroup anxiety.

The intraclass correlations for the measure of intergroup anxiety towards black (African) South Africans in general showed that the data from participants in the two

Table 3

Intraclass Correlations (ICC) between Direct and Extended Contact Conditions at Time 1, 2, and 3.

	ICC	<i>p</i> - value
Time 1		
Intergroup Anxiety	.04	.46
Feeling Thermometer (African)	.45	.10
Outgroup Trust (African)	.40	.13
Time 2		
Task Success	.05	.46
Perceived reciprocal Self-Disclosure	.43	.11
Attitudes towards the Confederate	-1.01	.94
Category Saliency of the Confederate	-2.28	1.00
Intergroup Anxiety	-.32	.73
Feeling Thermometer (African)	-.09	.58
Outgroup Trust (African)	.20	.31
Time 3		
Feeling Thermometer (African)	-.25	.69
Outgroup Trust (African)	.47	.09

experimental conditions were predominantly interdependent at both Time 1 and Time 2 (see Table 3). I therefore used a 2 (Time: Time 1 vs Time 2) by 3 (Condition: Direct vs Extended vs Control) mixed factor ANOVA approach, using a Bonferonni correction. In these analyses, the first factor (Time) was treated as a within-subject factor and the second factor (Condition) was treated as the between-subjects factor. Direct and extended contact with black (African) South Africans reported at Time 1 were included as control variables. This analysis did not yield a significant main effect for Time or for the TimeXCondition interaction effect. As illustrated in Figure 4 below, participants in the direct contact and extended contact conditions each experienced a reduction, albeit non-significant, in intergroup anxiety after the experimental manipulation, while participants in the control condition did not.

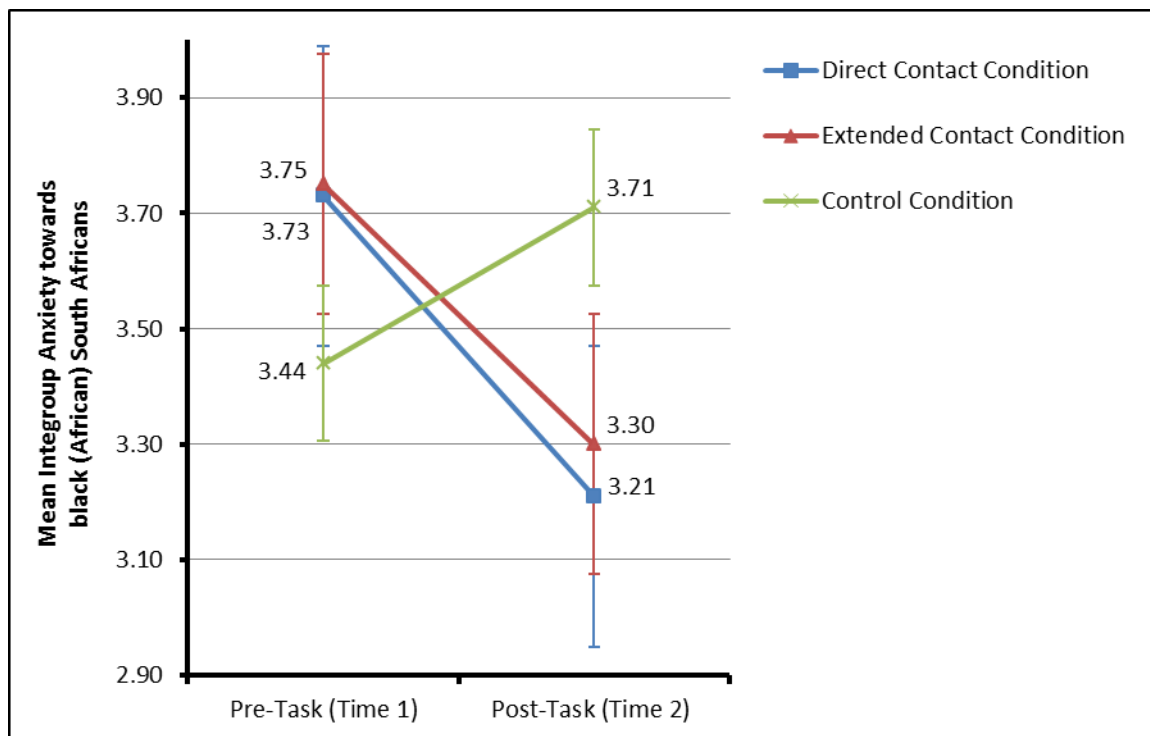


Figure 4. Mean intergroup anxiety scores of participants in the direct, extended, and no contact (control) conditions at Time 1 (baseline) and Time 2 (post-task).

This analysis was followed up by taking a closer look at the change in intergroup anxiety scores from Time 1 to Time 2 (i.e., pre- and post-experimental manipulation). A change-score was created to reflect the change in intergroup anxiety scores from Time 1 to Time 2 (score at Time 2 minus the score at Time 1) for participants in each condition. I computed an ANOVA with a Bonferonni adjustment and planned contrasts to compare the change in intergroup anxiety across the three conditions, while controlling for prior direct and extended contact with black (African) South Africans.

These univariate analyses confirmed that the change in intergroup anxiety scores from Time 1 to Time 2 were non-significant across all three conditions. The pairwise contrasts between these conditions showed that the reduction in intergroup anxiety from Time 1 to Time 2 for participants in the direct contact condition ($\Delta M_{T2-T1} = -0.52$, $SD = 1.50$) was not significantly different from the reduction reported by participants in either the extended contact condition ($\Delta M_{T2-T1} = -0.44$, $SD = 1.38$) or the increase in intergroup anxiety reported in the control condition ($\Delta M_{T2-T1} = 0.27$, $SD = 1.13$). Similarly, the reduction in intergroup anxiety scores for

participants in the extended contact condition did not differ significantly from the increase in intergroup anxiety scores experienced by participants in the control condition. These findings are illustrated in Figure 5 below

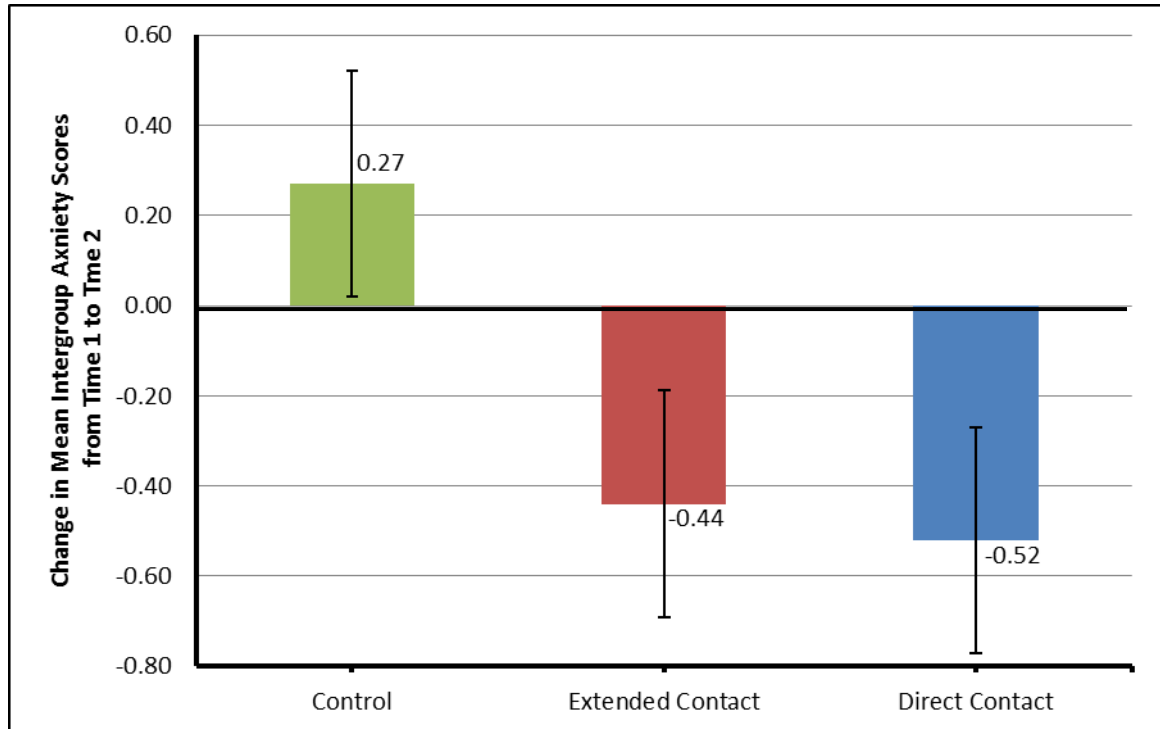


Figure 5. Change in mean intergroup anxiety scores ($\Delta M_{T_2-T_1}$) from Time 1 (baseline) to Time 2 (post-task) across conditions.

Outgroup attitudes.

The ICC for the single-item attitude measure towards black (African) South Africans in general and for the measure of trust towards black (African) South Africans in general showed that the data from participants in the two experimental conditions were predominantly not interdependent at all three time points (see Table 2). Therefore, a 3 (Time: Time 1 vs Time 2 vs Time 3) by 3 (Condition: Direct vs Extended vs Control) mixed factor ANOVA approach, using Bonferonni correction was used.

In these analyses, the first factor (Time) was treated as a within-subject factor and the second factor (Condition) was treated as the between-subjects factor. Direct and extended contact with black (African) South Africans reported at Time 1 were included as control variables. This analysis did not yield a significant main effect for

Time, although the TimeXCondition interaction effect approached significance, Pillai's Trace = .16, $F(4, 106) = 2.32$, $p = .06$, $\eta_{\text{partial}} = .08$.

A decomposition of this interaction effect showed that, while there were no differences in Attitude scores towards black (African) South Africans across the three conditions at any of the three measurement points, participants in the direct contact condition experienced a significant ($p < .01$) increase in positive attitudes towards black (African) South Africans from Time 1 ($M = 5.81$, $SD = 1.96$) to Time 2 ($M = 6.76$, $SD = 1.92$); Cohen's $d = 0.55$, suggesting that this is a medium size effect. Their attitudes towards black (African) South Africans at Time 3 ($M = 6.57$, $SD = 1.83$) did not differ significantly from their attitudes at Time 2, although the difference between attitudes at Time 3 and Time 1 approached significance ($p = .09$, Cohen's $d = 0.44$).

Participants in the extended contact condition showed an improvement in their attitudes towards black (African) South Africans over time. In spite of this improvement, however, their attitudes at Time 1 ($M = 6.10$, $SD = 1.48$), did not differ significantly from their attitudes at Time 2 ($M = 6.29$, $SD = 1.42$) or Time 3 ($M = 6.67$, $SD = 1.46$; all p 's $> .20$). Similarly, the difference in their attitudes from Time 2 to Time 3 was also non-significant ($p = .34$). These trends in changes in attitudes towards black (African) South Africans over time for each of the three conditions are illustrated in Figure 6 below.

This analysis was followed up by taking a closer look at the change in attitudes towards black (African) South Africans from Time 1 to Time 2 (i.e., pre- and post-experimental manipulation). A change-score was created to reflect the change in attitude scores from Time 1 to Time 2 (score at Time 2 minus the score at Time 1) for participants in each condition. I computed an ANOVA with a Bonferroni adjustment and planned contrasts to compare the change in attitudes towards black (African) South Africans across the three conditions, while controlling for prior direct and extended contact with black (African) South Africans.

These univariate analyses revealed a significant difference in the change in attitudes towards black (African) South Africans from Time 1 to Time 2 as a function of condition, $F(2, 55) = 4.61$, $p = .02$, $\eta_{\text{partial}} = .11$. A closer look at the pairwise contrasts between these conditions showed that the change in attitudes from Time 1 to Time 2 for participants in the direct contact condition ($\Delta M_{T2-T1} = 0.91$, $SD = 1.64$) was significantly larger ($p = .03$) than the change in attitudes experienced by

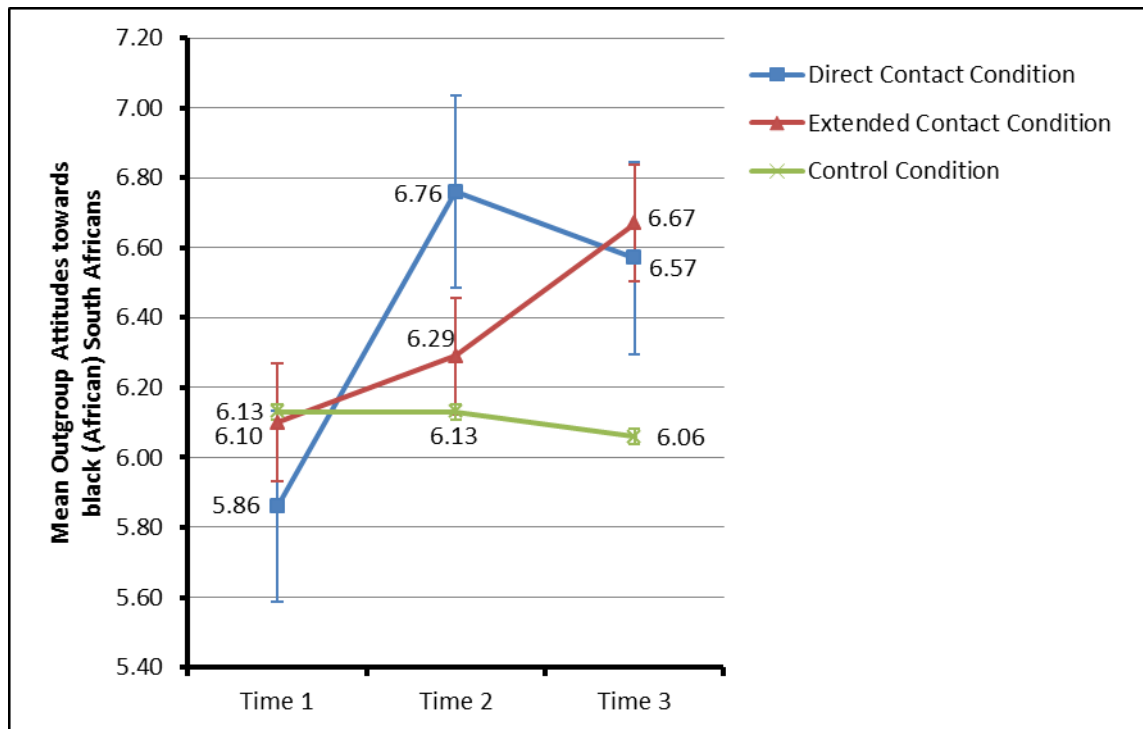


Figure 6. Mean outgroup attitude scores of participants in the direct, extended, and no contact (control) conditions at Time 1 (baseline), Time 2 (post-task), and Time 3 (1-week post-task).

participants in the control condition ($\Delta M_{T2-T1} = 0.00$, $SD = .73$). The change in attitudes from Time 1 to Time 2 for participants in the direct contact condition was also larger than the change in attitudes experienced by participants in the extended contact condition from Time 1 to Time 2 ($\Delta M_{T2-T1} = 0.19$, $SD = .81$), a difference that approached significance ($p = .08$). There was no significant difference ($p = 1.00$) in the change of attitudes from Time 1 to Time 2 when comparing participants in the control and extended contact conditions. These findings are illustrated in Figure 7 below.

Outgroup trust

The ICC for outgroup trust towards black (African) South Africans at Time 3 was significant at the conservative threshold of $p = .10$ ($ICC = .40$, $p = .09$). I therefore decided to undertake the comparison between direct and extended contact participants using a fully-within subjects, 3 (Time: Time 1 vs Time 2 vs Time 3) by 2 (Condition: Direct vs Extended) ANOVA. Given the reduction in power for these

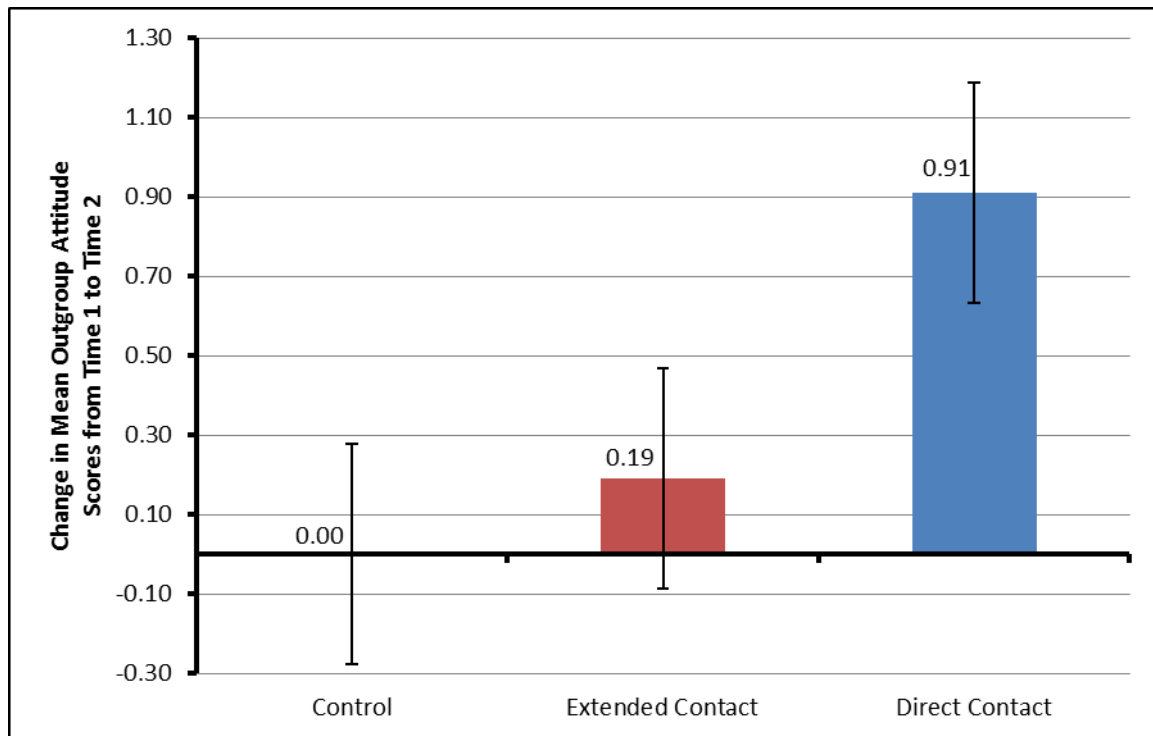


Figure 7. Change in mean outgroup attitude scores (ΔM_{T2-T1}) from Time 1 (baseline) to Time 2 (post-task) across conditions.

analyses (the control subjects could not be included in this analysis, while the effective sample size in the experimental conditions is halved using a fully-within subjects design), a Bonferonni correction was not applied, and direct and extended contact with black (African) South Africans reported at Time 1 were not included as control variables.

This analysis yielded a main effect for Time 1, Pillai's Trace = .29, $F(2, 19) = 3.83$, $p = .04$, $\eta_{\text{partial}}^2 = .29$. There was no significant main effect for Condition or for the TimeXCondition interaction. The main effect for Time shows that, collapsing across the two experimental conditions, outgroup trust scores at Time 2 ($M = 3.55$, $SD = 0.82$) and Time 3 ($M = 3.33$, $SD = 0.83$) were statistically comparable to trust scores at Time 1 ($M = 3.36$, $SD = 0.79$; $p = .10$ and $p = .86$, respectively), while trust scores at Time 3 were significantly lower than trust scores at Time 2 ($p = .02$). The partial eta-squared associated with the significant main effect for Time is large when considering the fact that halving the sample size by running a fully-within subjects ANOVA leads to a reduction in power. I therefore

chose to decompose the TimeXCondition interaction effect to see if there were any effects that may have been missed due to the reduced sample size.

A decomposition of the TimeXCondition interaction showed that for participants in the direct contact condition there was a significant improvement in trust from Time 1 ($M = 3.25$, $SD = 0.81$) to Time 2 ($M = 3.59$, $SD = 0.96$, $p = .05$, Cohen's $d = .49$). Participants in the direct contact condition experienced a significant decrease in trust scores from Time 2 to Time 3 ($M = 3.25$, $SD = 0.94$, $p = .02$, Cohen's $d = .43$). In the extended contact condition, there was no reliable change in trust scores across all three time points (Time 1: $M = 3.46$, $SD = 0.77$; Time 2: $M = 3.51$, $SD = 0.67$; Time 3: $M = 3.41$, $SD = 0.72$, all p 's $> .28$). Moreover, there were no significant differences in trust scores over time between these two experimental conditions (all p 's $> .21$). Each of these significant effects disappeared when undertaking a re-analysis of the data and including direct and extended contact with black (African) South Africans at Time 1 as controls. The trends of the initial analysis are illustrated in Figure 8 below.

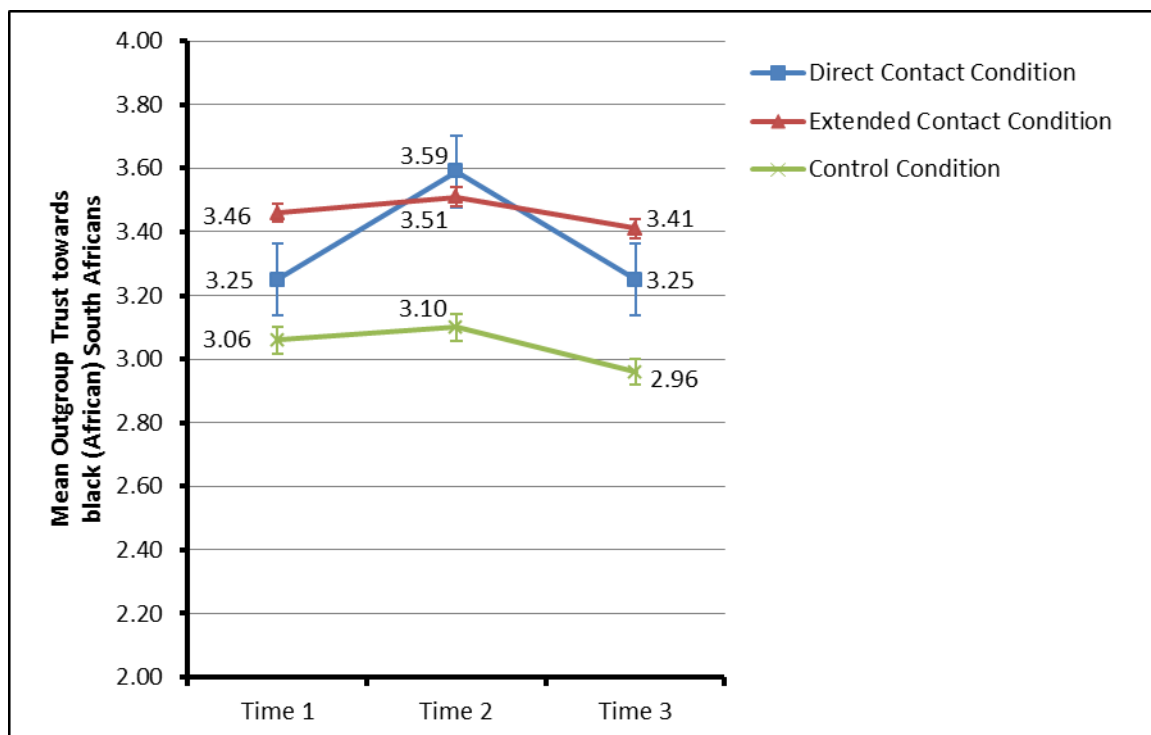


Figure 8. Mean outgroup trust scores of participants in the direct, extended, and no contact (control) conditions at Time 1 (baseline), Time 2 (post-task), and Time 3 (1-week post-task).

This analysis was followed up by taking a closer look at the change in trust towards black (African) South Africans from Time 1 to Time 2 (i.e., pre- and post-experimental manipulation). A change-score (trust score at Time 2 minus the trust score at Time 1) was created, reflecting the change in trust scores from Time 1 to Time 2 for participants in each condition. Since these analyses only include trust scores from Time 1 and Time 2, for which there were no interdependencies between participants in the direct and extended conditions (see Table 2), I undertook these analyses using participants from all three conditions (as I did when analysing the change in attitude scores). I undertook an ANOVA with a Bonferonni adjustment, and with planned contrasts to compare the change in trust towards black (African) South Africans across the three conditions, while controlling for prior direct and extended contact with black (African) South Africans.

These univariate analyses revealed a non-significant difference in the change in trust towards black (African) South Africans from Time 1 to Time 2 as a function of condition, $F(2, 53) = 1.20$, $p = .02$, $\eta_{\text{partial}} = .11$ (see Figure 9 below). An inspection of the pairwise comparisons across the three conditions showed that the change in

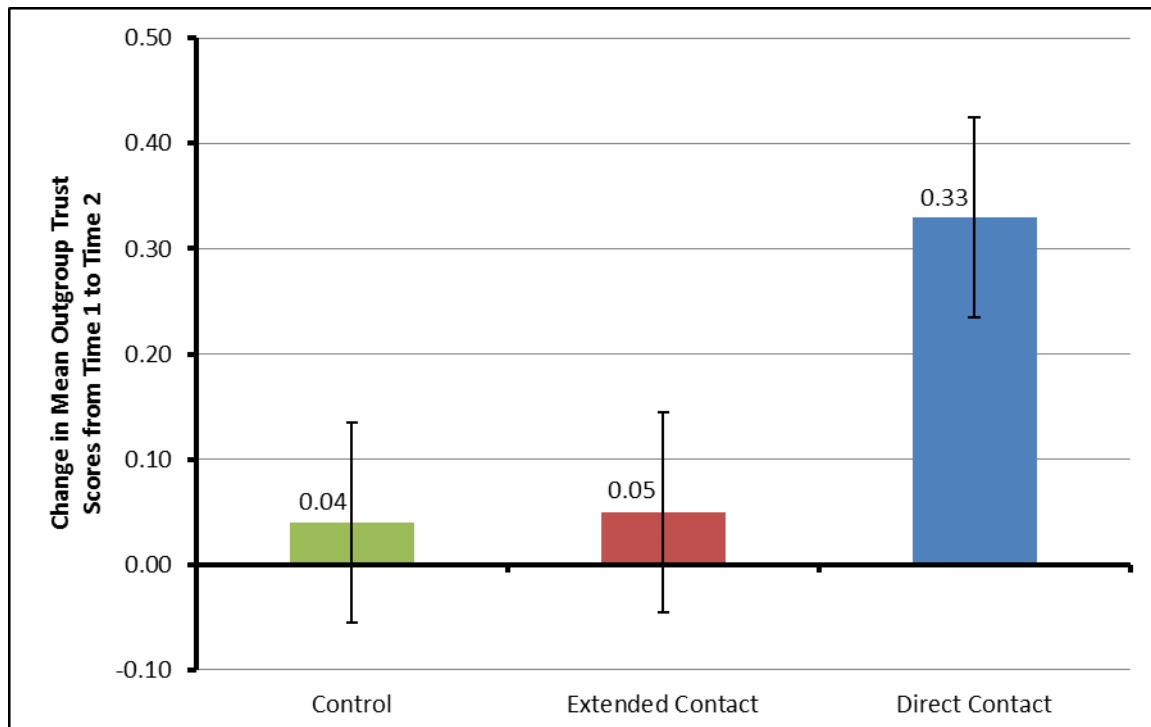


Figure 9. Change in mean outgroup trust scores (ΔM_{T2-T1}) from Time 1 (baseline) to Time 2 (post-task) across conditions.

trust scores for participants in the direct contact condition from Time 1 to Time 2 ($\Delta M_{T2-T1} = 0.33$, $SD = 0.72$) was not significantly different from the change in trust scores shown by participants in either the extended contact condition ($\Delta M_{T2-T1} = 0.05$, $SD = 0.73$, $p = .55$) or the control condition ($\Delta M_{T2-T1} = 0.04$, $SD = 0.48$, $p = .59$). The change in trust scores from Time 1 to Time 2 between participants in the experimental condition was not significantly different to that of participants in the control condition ($p = 1.00$).

Testing the secondary transfer effect: The generalisation of outgroup attitudes and outgroup trust.

A series of bootstrapped (1000 resamples) mediation analyses were run to test whether positive intergroup contact with a black (African) confederate (i.e., Condition: control vs direct contact vs extended contact) predicted more positive attitudes and greater trust towards Indian South Africans in general, via the mediation of changes in attitudes towards black (African) South Africans and trust towards black (African) South Africans respectively. Condition was coded as follows: Control = 1, Extended Contact = 2, Direct Contact = 3. Due to the complexity of these analyses, in combination with the relatively small overall sample size ($N = 58$), I decided to test the less strict secondary transfer effect between change in attitudes and trust towards black (African) South Africans from Time 1 to Time 2, and attitudes and trust towards Indian South Africans at Time 2 (and not Time 3, which would have provide a more stringent longitudinal test of STE). Quantity and quality of contact with Indian South Africans reported at Time 1 and attitudes towards Indian South Africans at Time 1 were included as control variables.

These mediation analyses were run using the *Indirect* Macro for SPSS developed by Preacher and Hayes (2008). Condition was significantly positively associated with a positive change in attitudes towards black (African) South Africans in general from Time 1 to Time 2 ($b = .48$, $p = .017$), which in turn significantly predicted more positive attitudes towards Indian South Africans at Time 2 ($b = .40$, $p = .007$; see Figure 10 below). Joint significant testing (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; see also Fritz & MacKinnon, 2007) supports the significance of the indirect effect of condition on attitudes. The significance of the indirect effect is further supported by the bootstrapped estimates ($b = .21$, 95%CI: .00, .66). This model explained 46% of the variance in attitudes towards Indian South

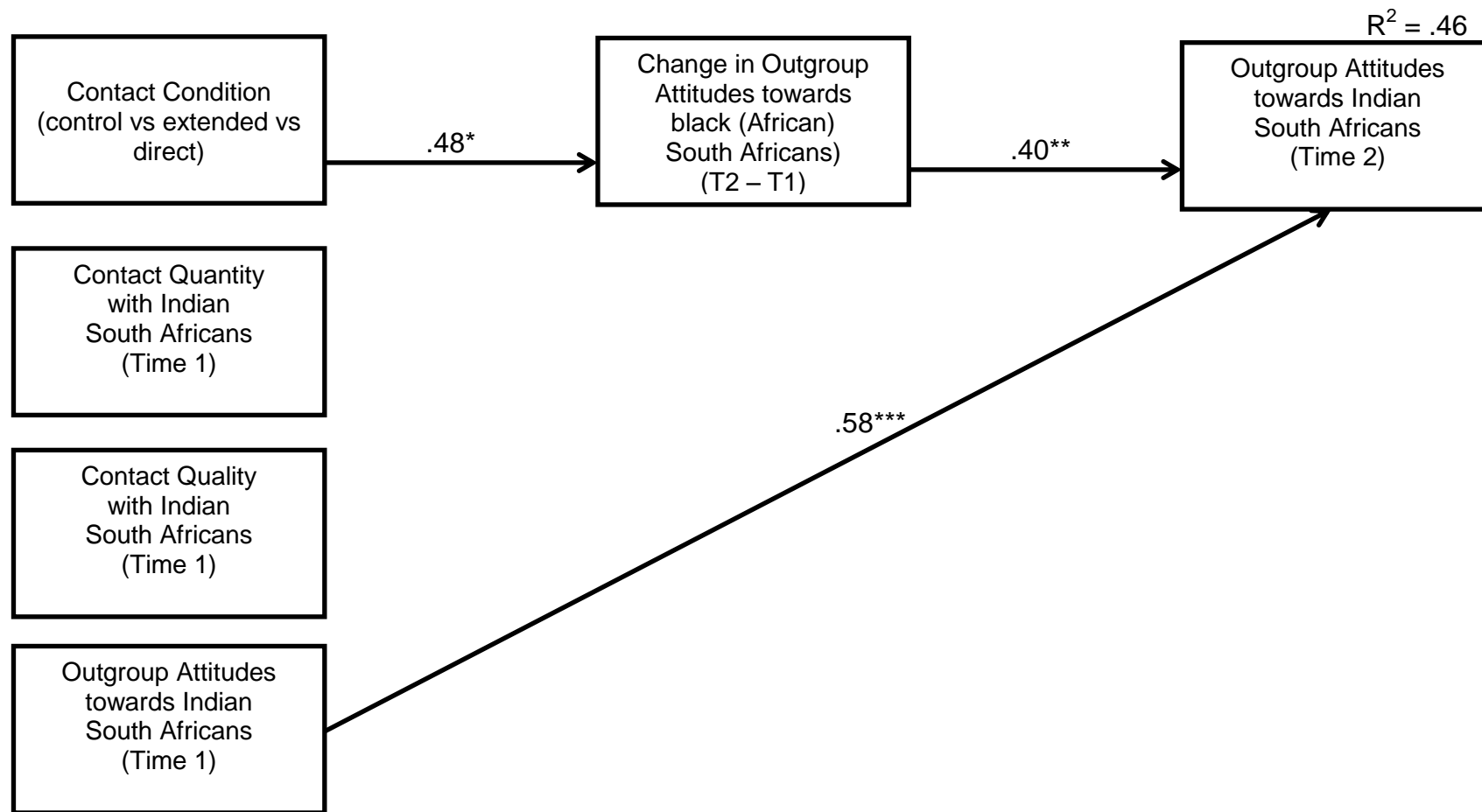


Figure 10. Multiple regression model illustrating the longitudinal secondary transfer effect of no contact versus extended contact versus direct contact with a black (African) South African (primary outgroup member) and attitudes towards Indian South Africans (secondary outgroup) via attitude generalisation amongst white South Africans (N = 58).

* $p < .05$ ** $p < .01$ *** $p < .001$; unstandardised regression coefficients; only significant paths are reported.

Africans at Time 2.

Similar mediation analyses were run to test whether Condition had an indirect effect on trust towards Indian South Africans at Time 2 via the mediation of changes in trust towards black (African) South Africans between Time 1 and Time 2. Both the relationship between condition and changes in trust towards black (African) South Africans, and between changes in trust towards black (African) South Africans and trust towards Indian South Africans at Time 2 were non-significant. As such, there was no secondary transfer effect observed for trust.

Summary

In terms of the original *a priori* hypotheses made, the first hypothesis did not receive full support, although the change in intergroup anxiety towards the primary outgroup (Hypotheses 1a, 1b, and 1c) was in the predicted direction. Participants across the two experimental conditions (direct and extended) reported non-significant reductions in levels of intergroup anxiety towards the primary outgroup subsequent to the experimentally manipulated contact experience.

The second hypothesis, that participants in the experimental conditions (direct and extended) would report significantly more positive outgroup attitudes towards the primary outgroup after the experimentally manipulated contact (Hypothesis 2a - 2c) experience received full support. Experimentally manipulated direct and extended contact were each associated with a significant increase in positive outgroup attitudes towards the primary outgroup at Time 2. This second hypothesis did not receive support in relation to increases in outgroup trust, although the change in outgroup trust towards the primary outgroup was in the hypothesised direction (Hypotheses 2a-2c). Participants across the two experimental conditions reported non-significant increases in outgroup trust towards the primary outgroup subsequent to the experimentally manipulated contact experience.

Finally, the third hypothesis, that positive direct and extended contact with the primary outgroup would predict more positive attitudes towards a secondary outgroup (after controlling for prior contact with the secondary outgroup; Hypothesis 3) received strong support. These findings confirm the operation of the secondary transfer effect of contact for outgroup attitudes. However, this hypothesis was not supported in relation to outgroup trust. Each of these findings are discussed in more detail in the following chapter.

CHAPTER FIVE

Discussion

It is well established in the social psychological literature that intergroup contact is important for the development of positive intergroup relations (Pettigrew & Tropp, 2006) and research into the secondary transfer effect of intergroup contact is at the forefront in theoretical developments of contact research (Lolliot et al., 2013). The present study used a three-wave longitudinal experimental design with two experimental groups to manipulate intergroup contact between white South African students and a black (African) South African confederate. It aimed to investigate whether direct and extended contact yields any changes in attitudes towards the black (African) South Africans (the primary outgroup) and Indian South Africans (the secondary outgroup).

Three main hypotheses were tested in the present study. First, that direct and extended contact with a black (African) South African confederate would lead to reduction in intergroup anxiety towards black (African) South Africans over time. Second, that direct and extended contact with a black (African) South African confederate would promote more positive attitudes towards black (African) South Africans over time. Third, that direct and extended contact with a black (African) South African would also promote more positive attitudes towards Indian South Africans, eliciting the secondary transfer effect of contact. Overall, the findings of the present study are in line with these hypotheses, with changes in intergroup anxiety, outgroup attitudes, and outgroup trust observed in the anticipated direction. A lack of power, however, meant that in most instances, these effects failed to fully achieve significance. However, robust support was found for the secondary transfer effect relating to the generalisation of outgroup attitudes, but not for outgroup trust.

Below I begin with a discussion of the findings relating to the reduction of intergroup anxiety via direct and extended contact, before exploring the findings relating to the improved outgroup attitudes. I then focus on the findings relating to the promotion of intergroup trust, before turning to the generalisation of outgroup attitudes and trust across outgroups. Finally, the limitations of the present study are discussed and directions for future research are put forward.

Reducing Intergroup Anxiety via Direct and Extended Contact

Intergroup anxiety has been identified by Stephan and Stephan (1985) as a predictor of prejudice (see also Brown & Hewstone, 2005; Pettigrew & Tropp, 2008). Stephan and Stephan (2000) suggest that negative intergroup contact will increase intergroup anxiety and later prejudice, whereas positive intergroup contact can decrease intergroup anxiety and improve intergroup attitudes (e.g., Pettigrew & Tropp, 2008; Swart et al., 2011a).

Comparing the state anxiety scores of direct and extended contact participants, pre- and post-manipulation, analyses revealed that the pre-manipulation state anxiety scores were not significantly different for participants in the direct and extended contact condition. Moreover, the state anxiety scores of both direct and extended contact participants were significantly higher at pre-task than at post-task. West and Dovidio (2013) have offered convincing evidence that personal anxieties could have an effect on one's partner's anxiety, and in this case one's friends' anxiety. They argue that anxiety is in effect contagious, and if one of the friendship pair shows signs of anxiety prior to their participation in the experimental manipulation, their friend might register greater anxiety too.

The first hypothesis, predicting a significant reduction in intergroup anxiety over time for participants in the direct and extended contact conditions was not supported. However, participants in both these groups experienced a reduction (albeit non-significant) in their intergroup anxiety scores immediately after the experimental manipulation. Both participants in the direct and extended contact conditions reported lower intergroup anxiety scores immediately after the experimental manipulation than they did at Time 1 (baseline). Moreover, participants in the direct condition reported less intergroup anxiety post-manipulation than participants in the extended contact condition. These results correspond with a number of studies that have shown that positive intergroup contact is reliably linked with reduced intergroup anxiety (Islam & Hewstone, 1993; Swart et al., 2011a; Turner et al., 2007a; Voci & Hewstone, 2003). While the results of the present study in relation to intergroup anxiety were in the hypothesised direction, the reduction of intergroup anxiety over time did not achieve significance. It is likely that the inability for these results to achieve statistical significance is due to the small sample size (N=21), which possibly left this experimental study underpowered.

Nevertheless, these findings are very encouraging as they illustrate the potential for even a brief, positive intergroup encounter to reduce intergroup anxiety. Intergroup anxiety could impede or even cause the avoidance of intergroup encounters, which in turn could increase levels of prejudice. The experimental manipulation in the present study managed to bring about a reduction in intergroup anxiety for both direct and extended contact participants (participants in the control condition experienced a marginal increase in intergroup anxiety from Time 1 to Time 2).

Given South Africa's history of intergroup conflict, a certain level of intergroup anxiety is to be expected amongst young South Africans with a history of limited positive intergroup encounters. The present findings suggest that intervention strategies at Stellenbosch University could be designed to encourage more positive direct, face-to-face contact between students on campus, because such contact experiences are capable of reducing intergroup anxiety. Moreover, such interventions might include activities aimed at promoting greater acquaintance potential, such as the closeness induction task employed in the experimental manipulation of the present study. Opportunities for reciprocal self-disclosure on relatively non-threatening areas of personal interest will allow the participants to get to know one another better and to identify common interest. The present findings suggest that such opportunities for self-disclosure are important for the reduction of intergroup anxiety (note that the intergroup anxiety for participants in the control condition, who did not engage in any self-disclosure activities with an outgroup member, did not decrease over time). Once the initial anxiety for intergroup contact has dissipated students might engage in more voluntary, spontaneous intergroup contact across a wider variety of situations.

Improving Outgroup Attitudes via Direct and Extended Contact

The second hypothesis (in relation to outgroup attitudes) was partially supported for participants in the direct contact condition, but not for participants in the extended contact or control conditions. Outgroup attitudes of white South Africans were found to improve significantly towards black (African) South Africans from Time 1 (pre-manipulation) to Time 2 (post-manipulation) as a function of condition (direct contact, extended contact, no contact). Participants in the direct contact condition reported significantly more positive outgroup attitudes at Time 2 compared to Time 1, while the change in outgroup attitudes experienced for

participants in the extended contact condition approached significance. For participants in the control condition the change in attitude scores from Time 1 to Time 2 were non-significant.

Direct contact effects are known to be stronger than those of extended contact effects (e.g., Pettigrew et al., 2011). This was augmented by the design of the experimental manipulation. Participants in the direct contact condition engaged in a positive, direct, face-to-face contact encounter with a black (African) confederate allowing them to engage with this outgroup member on an equal status basis, whilst getting to know each other through the closeness induction task. Participants in the extended contact condition could only observe this direct, face-to-face interaction on CCTV camera. This might explain why the arguably underpowered experimental manipulation was still able to lead to a significant improvement in outgroup attitudes for participants in the direct contact condition, while being unable to do so for participants in the extended contact condition. Nevertheless, the findings of the present study are encouraging insofar as they show the same trends observed in other experimental research using a similar design. For example, Page-Gould et al. (2008) used a similar “fast friendship procedure” in their study amongst students, wherein they attempted to develop intimacy between white and Latino participants under experimental conditions. They found that being partnered with an outgroup member led to reduced intergroup anxiety and more positive outgroup attitudes towards the outgroup over the course of the experimentally manipulated intergroup encounter.

There are a number of possible reasons why participants in the direct and extended contact conditions experienced more positive attitudes towards black (African) South Africans (though none of these were explicitly measured in the present study). Positive contact and self-disclosure between the participant in the direct contact condition and the black (African) South African confederate could possibly have led to more empathy and perspective-taking which in turn could have stimulated more positive attitudes (Galinsky & Moskowitz, 2000). Empathy and perspective-taking are often forerunners to intimacy and self-other overlap with an outgroup member (Aberson & Haag, 2007). Through the closeness induction task direct contact participants were provided with an opportunity to engage with an outgroup member, whilst asking each other questions. Both the participant and the confederate had equal opportunity to ask questions and were allowed to determine

how intimate their answers would be. Intimacy in friendships has been established as a contributor to positive intergroup relations (e.g., Pettigrew et al., 2011) and friendship contact provides the opportunity for self-disclosure and the development of greater trust (Turner et al., 2007a).

Participants in the extended contact condition had the opportunity to observe this closeness induction task and their friend engaging in positive intergroup contact with a member of an outgroup. This indirect form of contact offered participants in the extended contact condition the opportunity to see their friend engage positively with an outgroup member in a process where positive norms about intergroup contact and friendships were communicated. Although direct face-to-face contact provides the strongest intergroup friendship opportunities, extended contact participants in the current study experienced an improvement in outgroup attitudes towards black (African) South Africans that approached significance.

Participants in the direct contact condition experienced a slight decline in their outgroup attitudes from Time 2 to Time 3, whereas participants in the extended contact condition continued to show an (non-significant) improvement in outgroup attitudes from Time 2 to Time 3. The outgroup attitudes of participants in the control condition were stable across all three waves of data collection. Three points are worth noting here. Firstly, the most likely explanation for the discrepancy in the trends observed for outgroup attitudes across the direct and extended contact condition is that the attitudes of participants in the direct contact condition may have reached a ceiling at Time 2, whereas the attitudes of participants in the extended contact condition were lower than those of participants in the direct contact condition at Time 3, and therefore still had some room for improvement. It might also suggest that gains in positive outgroup attitudes as a function of extended contact experiences take time to accumulate in comparison to the more rapid gains experienced as a function of direct contact. Secondly, in spite of this drop in outgroup attitude scores from Time 2 to Time 3, the outgroup attitude scores for the direct contact participants at Time 3 remained significantly higher than their baseline scores at Time 1. Thirdly, these findings suggest that the gains in positive outgroup attitudes for participants in the direct contact condition were essentially retained over a 1-week period after their contact experience.

Together, the present findings highlight the importance of prioritising positive, face-to-face encounters between young South Africans from different groups, as

these encounters are able to bring about improved attitudes (as originally suggested by Allport, 1954). Moreover, these findings illustrate that the gains in positive attitudes brought about by such interventions have the potential to be long-lasting, especially if the positive intergroup encounters take place on a regular basis. Finally, these findings suggest that such interventions may even benefit ingroup members who were not involved in those interventions, but perhaps come to learn of the positive interactions in these interventions from their ingroup friends who were involved in the intervention itself. In such cases, however, the indirect benefits of the interventions (by way of extended contact) on intergroup relations may take more time to manifest.

Promoting Outgroup Trust via Direct and Extended Contact

The second hypothesis, in relation to outgroup trust, predicted a significant improvement in outgroup trust for direct and extended contact participants over time, and received partial support. In the present study, participants in the direct contact condition showed a significantly higher outgroup trust score at Time 2 than at Time 1. Thus, positive direct contact with the black (African) confederate stimulated greater trust towards the outgroup in general. The increase in trust is possibly as a result of the reciprocal self-disclosure experienced in the direct contact experimental task, where the participant and the confederate engaged in asking each other questions that became of a more intimate nature as they progressed in time. The task might have induced a sense of intimacy in the contact encounter, which stimulated this sense of trust (Turner et al., 2007a).

Self-disclosure provides ingroup members with the means of controlling how others see them, and offers ingroup members with the opportunity to share with outgroup members how they see the world around them and how they see and understand themselves (Swart, Hewstone, Turner, & Voci, 2011b). The receiver of the self-disclosures not only feels more interpersonal attraction towards the self-discloser, such self-disclosures also encourages the receiver to reciprocate with self-disclosure of their own (Berg & Wright-Buckley, 1988). Participants in the direct contact condition were provided with an opportunity to disclose information of a personal nature with the confederate, which potentially uncovered previously unknown similarities between themselves and the black (African) South African they were interacting with. This, no doubt, would have served to heighten the

interpersonal attraction leading between them and the outgroup member, increasing the perceived self-other overlap (Aron, Aron, & Smollan, 1992).

The outgroup trust scores for participants in the direct contact condition peaked at Time 2 (post-manipulation), and then almost returned to baseline levels by Time 3 (one week after the direct contact experience with the black (African) South African confederate). Studies have shown that multiple positive encounters are necessary to instigate and promote trust between members of different groups (e.g., Rothbart & Park, 1986; Worchel, Cooper, & Goethals, 1991). Rothbart and Park (1986) are also of the opinion that several trustworthy deeds need to be demonstrated before an individual is considered trustworthy, while only one untrustworthy deed could result in labelling a person untrustworthy. Trust can therefore be seen as fragile, and the need for multiple trustworthy deeds could explain why participants in the direct condition experienced elevated levels of trust only immediately after the positive intergroup encounter. This is in contrast to the trend observed for the outgroup attitude scores amongst the direct contact participants, which increased significantly after the positive intergroup contact with the confederate as compared to baseline levels, and maintained these elevated levels one week after the encounter. This discrepancy suggests that more sustained positive intergroup encounters are required to sustain gains in trust towards the outgroup over time as compared to that which is required to sustain positive outgroup attitudes. Nevertheless, in spite of the challenges associated with promoting and sustaining outgroup trust, interventions aimed at achieving greater trust are particularly worth implementing amongst young adults. This is because young adults are going through a process of identity formation, exploring the meaning and implications of their group membership (Phinney & Chavira, 1992; Turner, Hewstone, Swart, Myers, & Tausch, 2010), meaning that their ingroup and outgroup attitudes are arguably more fluid and malleable to change during this stage of their life (Cairns, Leung, Buchanan, & Cairns, 1995).

The outgroup trust scores for participants in the extended contact condition remained statistically constant across all three time points. This is not surprising considering the fact that these participants did not have the opportunity to personally engage with the outgroup member face-to-face, reciprocally disclosing personal information necessary in establishing a sense of friendship (Turner et al., 2007a). The induction task included question lists that became of a more intimate nature as

the induction task progressed and the participant in the extended condition was more of an outsider to this intimate discussion, only hearing the answers of the direct contact condition participant and the confederate, but having no significant personally vested interest in the conversation they were observing. Given the challenges of promoting outgroup trust within a positive, direct encounter, it would be misguided to believe that extended contact would perform at a comparable level to that of direct contact. However, extended contact remains an essential means for impacting positively on outgroup attitudes (if not outgroup trust).

These findings suggest that, whereas contact interventions might impact outgroup attitudes in a more lasting way after only a few encounters, this might not be the case for the development of outgroup trust. The promotion of outgroup trust (especially in post-conflict societies characterised by distrust, like South Africa; IJR, 2013) arguably requires interventions that are structured to include multiple positive, face-to-face encounters between ingroup and outgroup members over a period of time. This may encourage the formation of intergroup trust through the development of interpersonal friendships, which might develop into more intimate cross-group friendships. These findings highlight the importance of tailoring interventions to the outcomes (outgroup attitudes vs outgroup trust) they are attempting to achieve.

The Generalisation of Outgroup Attitudes and Trust across Outgroups

Contact researchers have extensively focused on the generalisation of contact effects from the outgroup individual to the outgroup as a whole, neglecting the generalisation of contact effects to other outgroups not involved in the contact situation (secondary transfer effect). This is a trend that is slowly being addressed in the contact literature. (e.g., Lolliot et al., 2013; Pettigrew, 2009; Tausch et al., 2010).

The first experimental evidence for the attitude generalisation hypothesis was provided by Harwood et al. (2011), using the imagined contact paradigm. The present study aimed to provide experimental evidence for generalisation of attitudes and trust towards a secondary outgroup (Indian South Africans) via positive intergroup contact with a primary outgroup (black (African) South Africans). The results confirmed the presence of a secondary transfer effect for attitudes towards Indian South Africans, but not for outgroup trust. As such, these findings offer partial support for the third hypothesis.

As highlighted previously in chapter three, perceived outgroup similarity is considered to be an important moderator of the secondary transfer effect, explaining *when* attitudes are more likely to generalise from one outgroup to another. Numerous studies have shown that objects that appear similar to one another are more likely to show stronger attitude generalisation effects than objects that appear dissimilar. Swart (2008) found evidence for a similarity gradient in his South African study. White South Africans enjoying cross-group friendships with black (African) South Africans showed improved attitudes towards coloured (African) South Africans. For the coloured South African sample, however, cross-group friendship with black South Africans did not predict more positive attitudes towards white South Africans. Swart (2008) explained this finding indicating that coloured and white South Africans shared more similar historical and political history than white and black (African) South Africans.

In the present study black (African) and Indian South Africans do not share the same historical and political history, however both black (African) and Indian South Africans were targets or victims of Apartheid legislation (black (African) South Africans arguably more so than Indian South Africans). This similarity (in being discriminated against by the Apartheid government) could explain why the secondary transfer effect was observed on attitudes in the present study. Unfortunately, however, this explanation remains speculative since perceived outgroup similarity between black (African) and Indian South Africans at Stellenbosch University was not measured.

A possible explanation for the lack of support of the secondary transfer effect for outgroup trust lies in the difficulty in achieving and sustaining trust after a single positive intergroup encounter (as described above). If multiple positive encounters with an outgroup member are required to develop trust towards the outgroup over time, it is perhaps too much to ask that contact with one outgroup could stimulate trust in another, completely different and unencountered outgroup. It would therefore be even more difficult to establish and maintain trust towards a different and unencountered outgroup in the absence of any contact with them whatsoever. Outgroup trust appears to require direct positive encounters with the outgroup, as extended contact encounters could not significantly improve intergroup trust in the present study. So, in order to improve intergroup trust towards Indians it would be important to engage in direct contact with Indians.

Attitudes, on the other hand, seem more readily generalisable across objects compared to trust. The Psychological literature shows that explicit attitudes are readily generalisable (see Shook et al., 2007). As such, contact with one group is arguably more able to promote positive attitudes towards a secondary outgroup, than it is to promote trust towards a secondary outgroup.

Contact interventions aimed at promoting intergroup attitudes towards one or more outgroups need to make use of direct contact encounters. This is evident in the regression model of the present study, which shows that the secondary transfer effect was stronger for participants in the direct contact condition, followed by participants in the extended contact condition and it was the weakest for participants in the control condition. Thus, there is a positive relationship between condition (direct, extended or control) and change in black (African) attitudes. If the control condition = 1, the extended = 2 and the direct condition = 3, the higher the value of the condition (e.g. 3) the greater the change in attitude scores towards black (African) South Africans, which then predicted more positive attitudes towards Indians at Time 2. Therefore, direct intergroup encounters promote intergroup attitudes more than extended contact encounters, which in turn promote intergroup attitudes more than no contact. As is the case with promoting intergroup attitudes, interventions directed at improving intergroup trust should also be structured to create multiple opportunities for positive direct intergroup contact with the group concerned and should incorporate trust building mechanisms like self-disclosure, etcetera.

Limitations of the Present Study

The present study makes a significant contribution to the contact literature on the secondary transfer effect. It adds to the limited South African and experimental research on this phenomenon. Nevertheless, despite the contribution made by the present findings, it is important to acknowledge the following four important limitations associated with the present study. Firstly, although many of the experimental effects were in the hypothesized direction (i.e., reduced intergroup anxiety, more positive outgroup attitudes, and increased outgroup trust over time), not all of these effects achieved significance. While there may be a number of reasons for this, arguably the biggest reason is that the small sample size of participants in each condition did not allow for sufficient statistical power to detect

any significant effects. However, an inspection of Cohen's d throughout suggests that most of the effects that were observed were at least medium in size. This suggests that with a bigger sample size some of the effects observed in the present study might have achieved significance.

Secondly, and related to the sample characteristics for the present study, the generalisability of the present findings are limited for a number of reasons. These include the fact that only female friendship pairs were used in the study (necessitated by the inability to find a suitable male black (African) South African confederate), the experimental manipulation of contact a single ingroup and a single outgroup only, and the collection of data from a single university setting. Resource constraints (financial, material, and logistic), however, limited the focus of the present study to the sample used.

Thirdly, the experimental design that was employed further limits the generalisability of these findings beyond the laboratory setting. It may be that the observed effects were driven by the mere fact that participants in the experimental condition had an interaction (irrespective of ethnicity or direct/extended contact) with another person, while participants in the control condition had no interaction with anyone else. This raises the possibility that the observed effects are a function of having had an interaction (experimental conditions) versus not having had an interaction (control condition), and not as a function of varying degrees of intergroup contact (none versus direct versus extended). Moreover, while a significant advantage associated with experimental designs is that they have high internal validity, given all the controls that accompany them, they suffer poor external validity (i.e., validity outside of the laboratory). It is therefore not clear to what extent the effects observed in the present study could be replicated in a more naturalistic setting (e.g., positive intergroup contact between white and black (African) South African in a dining hall or dormitory).

The final limitation I wish to highlight relates to the measures used (or not included) in the present study. The use of a single item measures is ill advised in psychological research, given the substantial measurement error associated with them. Single-item measures of attitudes such as the feeling thermometers have, however, been shown to be more reliable and valid than rating scales such as the 7-point Likert scale (Alwin, 1992, 1997; see also Hayduk & Littvay, 2012). These considerations informed my decision to use the single item feeling thermometer to

measure outgroup attitudes. However, using identical attitude thermometer scales to measure outgroup attitudes towards black (African) and Indian South Africans does increase the risk of shared method variance and inflated correlations. I attempted to minimise this risk by counterbalancing the presentation of the items to all participants at each time point.

Relatedly, the present study did not include a number of measures that would add towards explaining variance in the outcome measures. These include behavioural measures to test whether experimentally manipulated direct and extended contact goes beyond impact explicit attitudes, but changes actual behaviours towards the outgroup as well; measures of affective empathy and perspective-taking to test whether the closeness induction task not only reduces negative affect, but also promotes more positive affect in the form of empathic responding; and measures of perceived outgroup similarity to test whether the secondary transfer effect is moderated by greater perceived outgroup similarity. These measures were considered for inclusion in the present study, however, due to resource and logistic constraints it was decided to omit them from this study.

Directions for Future Research

As mentioned above the generalisation question in contact literature are under researched and provide researchers with exciting questions that still need to be answered. Progress has however been made in our understanding with the current research also making a contribution. More longitudinal studies could provide valuable insights in the lasting and generalising effects of contact and researchers should be encouraged to follow up on their samples over longer periods rather than short periods.

As previously mentioned using a sample consisting of adolescents and early adults provides opportunity to inform and influence attitudes towards outgroups as their intergroup perceptions are not yet fixed. University students spend a considerable amount of time together in classes, dormitories and at extracurricular activities with their peers. These contexts provide valuable opportunities for cross-group interactions which should be utilised and should be informed by policies of the universities. Positive intergroup encounters could potentially lead to better intergroup attitudes and trust, cooperative intergroup contact in the classroom and this could generalise to the community.

As with any research study, results need to be replicated and future research should include both experimental and longitudinal designs to reproduce and even provide stronger evidence for the secondary transfer effect. In addressing methodological concerns (design, sample composition, and measures) mentioned above, future research should explore more natural settings to enabling better generalisation of results to real-world situations. Student cafeterias and dormitories provide real-world settings and should be included in such research.

As described above, the small sample size of participants in each condition did not allow for sufficient statistical power and future studies should therefore aim for larger sample sizes, strengthening effect sizes to attain significance. Changing sample characteristics in the future by including a male, black (African) South African confederate and a female black (South African) confederate could provide more generalisable results suitable to a wider population. Future research could also introduce interactions for the control condition participants, by having participants in the control condition interact with an ingroup confederate in the same way. Furthermore, increasing the focus of future studies to include multiple ingroups and outgroups in more settings, including universities could further assist in generalising results. Finally, future studies should include more behavioural measures that assist in explaining the variance found in the outcome measures, including behavioural measures.

Future studies should include the following theoretical areas: the secondary transfer effect for different group combinations in South African, including, importantly, minority secondary transfer effects – e.g. coloured participants (minority group) interacting with black (African) South Africans (primary outgroup) and measuring their attitudes towards (unencountered outgroup) Indian South Africans. Another theoretical area include taking a closer look at perceived similarity, given the difficulty of defining majority and minority groups in South Africa. Some groups may appear similar at face value, however they may not be similar from a cultural perspective.

Conclusions

The present study aimed at providing support for the secondary transfer effect, using an experimental design with two experimental groups. The findings confirm that both direct and extended intergroup contact are valuable means for reducing

intergroup anxiety and promoting more positive outgroup attitudes and outgroup trust. However, these findings illustrate that outgroup trust is arguably harder to sustain over time than outgroup attitudes in the absence of positive, face-to-face contact. The results of the present study can help to formulate and tailor intergroup encounters and interventions at Stellenbosch University that are designed to achieve specific outcomes aimed at collectively improving intergroup relations at the University.

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Appendix A

Overview of the Experimental Procedure

Direct and Extended Contact Conditions

Step 1:

“Good morning/afternoon. I would like to thank you for your participation. Firstly, you should know that I will not be studying your friendship during the time you spend here today. During the sessions I will be asking each of you to do different activities in separate rooms. Although I will not be present in these rooms I will be overseeing the smooth running of the activities. I have randomly assigned each of you to a particular task, so you [researcher gestures towards a participant; extended contact condition] will complete task A, and you [researcher gestures towards the other participant; direct contact condition] will complete task B”.

Step 2a:

The supervisor will ask the participant in the extended contact condition to accompany her to the observation room (*room B*). Here the participant will be asked to switch off their cellphone and they will be informed of their task using the following pre-determined script:

“[Participant] what I would like you to do is to observe [direct contact participants’ name] having a discussion with the other participant, [black (African) confederate’s name] on the TV monitor in front of you. Their discussion will be based on questions found on these three lists [researcher will gesture to a same set of three lists of questions that the participant and confederate in room A have]. Once they have finished with this task, wait for me and I will come and fetch you. Before we get started with the task, I would like for you to please fill out a few short questions found in the envelope on the table in front of you. Once you have completed the questions, please place them back in the envelope and leave them on the table. Do you have any questions?” If the participant in this condition does not have any further questions, the supervisor will switch on the television in *room B* so that the participant in the extended contact condition can see and hear what the participant and black (African) confederate are doing and saying in adjacent *room A*.

Step 2b:

After a sufficient delay, the researcher will take the participant in the direct contact condition up to a 'waiting room', where the black (African) confederate is already waiting. Both, black (African) confederate and the participant will then be taken to the room where they will engage in the Closeness Induction Task (*room A*). The researcher will introduce the participant to the confederate and will then explain the task they will be completing using the following pre-determined script:

"[Participant's name], *this is [black (African) confederate's name] and [black (African) confederate's name] this is [participant's name]. Thank you both for volunteering to participate in my research project. I would like for you to have a conversation about the items on these three lists [researcher gestures to the lists placed in front of the confederate and participant]*".

Step 3:

"I will give you one minute to ask each other questions from the first list, three minutes to ask each other questions from the second list, and five minutes to ask each other questions from the third list. As I will be keeping time, I will come into the room to let you know when you should switch to the next list. So, for example if I was participating in this exercise, I would ask either of you "What is your name" and you would answer [confederate] or [participant]. Then you would ask me the same question and I would answer [researcher's name]. You will then move onto the next question. Either of you may ask the first question. Is everything clear?"

If everything is clear the researcher will say, *"Right, before we start with the discussion, I would like for you to please fill out a few short questions found in the envelope on the table in front of you. Once you both have completed the questions, please place them back in the envelope and leave them on the table. I will now leave the room and give you a few minutes to complete the questions and to have a look at the questions on the first list. When you hear me knock on the door you may begin with the first list of questions. You have one minute to ask each other the questions on the first list. I will return after one minute and ask you to move onto the next list of questions, for which you will have three minutes. I will then return after three minutes and ask you to move onto the next list of questions, for which you will have five minutes."*

The researcher will enter *room A*, after one minute has elapsed and instruct the participant and black (African) confederate to continue onto the second list of questions provided. They will be informed that they have three minutes to ask each other questions from the second list. The researcher will once again enter *room A*, after three minutes have elapsed. At this time the researcher will instruct the participant and the confederate to move onto the last list of questions. They will have five minutes to ask each other questions from the third and final list. The researcher will enter *room A*, after five minutes have elapsed and switch off the microphone. She will then give the following instruction to the participant and the confederate: *“Alright, we have come to the end of this part of the exercise. I would now like for you both to complete a short questionnaire”*. The supervisor will also ask the participant in the extended contact condition to complete the post-task questionnaire (Appendix G).

Step 4:

After the completion of the second online survey, both participants will be debriefed in the company of the black (African) confederate. The participant in the direct contact condition will be given additional information by the researcher according to the following pre-developed script:

“[Participant’s name], your friend here was watching your discussion with [black (African) confederate’s name] on a television monitor. The reason why we did not tell you this is because we did not want your behaviour to be influenced by this in any way. If you are uncomfortable with the knowledge that your friend was watching your interaction, you have the option to remove yourself from the study. Would you like to remove yourself from the study? Do you have any other questions?”

Participants will also be asked to describe what they think the tasks were trying to explore (any data collected from those participants who correctly guess the true nature of the research questions will be excluded from the final analyses). Once any questions have been answered the participants will be thanked and those participants indicating that they want to remain in the study will be informed that they will be sent a final online questionnaire (Appendix H) in one week’s time. After the completion of this final online questionnaire (Appendix H) they will be entered into the cash prize draw.

Control Condition:***Step 1:***

Participants in the control condition will be welcomed to the session in the same manner as the participants in the experimental conditions.

Step 2:

Participants will be led to the computer room where they will complete the second online survey (Appendix G) independently.

Step 3:

After the completion of the second online survey (Appendix G), both participants will be debriefed. Participants were informed that they will be sent a final online questionnaire (Appendix H). After the completion of this final online questionnaire (Appendix H) they will be entered into the cash prize draw.

Appendix B

Participant Recruitment Class Announcement

“Good morning/afternoon students. My name is Lizelle Openshaw and I am a Masters student in Research Psychology at Stellenbosch University. In order to obtain my degree I am conducting a multi-phase research study, which includes questionnaires as well as an experiment. This research project has been reviewed by, and received ethics clearance from Stellenbosch University’s ethics committee.

This study explores the development of friendships amongst students and I would like for you to participate. I will need pairs of friends of the same sex and ethnicity, who both speak the same language (English or Afrikaans) and who are comfortable communicating in English. The friend you choose to participate with you in the study does not need to be a psychology student (they can be, but they can also be a student in another faculty). Only pairs of friends are eligible for this study and, should you participate in the study, the two of you will be entered into a Cash Prize Draw where you stand the chance of winning a cash prize of R500 each. Your participation in this study will be anonymous and all the questionnaires you complete will be treated with confidentiality. You are under no obligation to participate in the study, as it is not a departmental requirement for your course. Therefore you will not be penalised in any way, should you not wish to partake in the study.

If you are interested in getting more information on my study, please put your email address on a piece of paper and drop it into this box at the front as you leave the lecture hall. I will then contact you to set up a meeting. Thank you.”

Appendix C

Participant Informed Consent Form

STELLENBOSCH UNIVERSITY

CONSENT TO PARTICIPATE IN RESEARCH

Social Relations and Friendship Formation

You are asked to participate in a research study conducted by Ms. Lizelle Openshaw (Masters Student, Stellenbosch University), under the supervision of Dr Hermann Swart (Department of Psychology). You were selected as a possible participant in this study because you are a student enrolled at Stellenbosch University, are over the age of 18, and have volunteered. Participation in this study requires that participants participate together with a same-sex friend of theirs, and that both participants are sufficiently proficient in reading and writing in English, as well as being comfortable having a conversation in English. The results of the study will be used to publish in international journals as well as part of Ms. Openshaw's thesis at Stellenbosch University.

1. PURPOSE OF THE STUDY

This study examines the processes involved in the early stages of friendship formation and how these relate to social relationships in general.

2. PROCEDURES

If you volunteer to participate in this study, we would ask you to do the following things:

1. Fill out an online questionnaire that should not take more than 45 minutes of your time.
2. Come to the Psychology Department with a close friend at a time of your convenience for a 20 minute exercise where we will explore the processes of friendship formation.

3. Fill out an additional two online questionnaires, one directly after the exercise at the psychology department and a final questionnaire approximately one week after the exercise.

3. POTENTIAL RISKS AND DISCOMFORTS

We do not anticipate any risks to you for participating in this research, as similar research has been conducted in the past without adverse reactions. Participants in related studies have found the experience rewarding, but in the unlikely event that your participation leaves you feeling unhappy, throughout the study, we will provide you with pamphlets and contact details for the *Centre for Counseling and Student Development*. Their contact details appear below:

Centre for Counselling and Student Development Contact Details:

Address: 37 Victoria Street, Stellenbosch

Tel: +27 (0)21 808 4707/1626

Tel: 082 557 0880 (for 24 hours emergencies)

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Understanding the mechanisms behind friendship formation (and the possible benefits that result) will allow institutions such as Stellenbosch University to develop programmes that promote a more friendly campus climate. The research may also have wider applicability on the international stage as we hope to publish the results in peer-review journals as well as present our findings at (inter)national conferences.

5. PAYMENT FOR PARTICIPATION

You and your friend will be entered into a cash prize draw to win a cash prize of R500 per participant. To be entered into this cash prize draw you will need to participate in each of the 3 phases of this study (described above) and then provide your e-mail address at the end of the 3rd survey. Your email address will only be used to contact you in the event that you and your friend are the winners of one of the cash prizes. Your e-mail address will be kept separately to your survey data and will be deleted once the cash prize draw has been completed. It will in no way be used to identify you.

6. CONFIDENTIALITY

The only piece of information that we will collect that could potentially identify you is your e-mail address (which will be required to contact you in the event that you are the winner of one of the two cash prizes, as described above). Once the cash-prize winners have been announced, all e-mail addresses and previous correspondence will be deleted.

No other student or staff at Stellenbosch University will have access to the data you provide during the course of this study. The data will be kept in password protected format on the personal, or office computers belonging to the researcher.

Only anonymised, averaged data will be used in any analyses and results will be used for the write-up of a Magister thesis (Lizelle Openshaw), a number of manuscripts for submission to international peer-reviewed academic journals, and presentations at (inter)national conferences. After the study has been completed and the data fully analysed, the data files will be electronically archived. In accordance with American Psychological Association guidelines, the data will be securely archived for up to 5 years after publication and then destroyed.

7. PARTICIPATION AND WITHDRAWAL

You can choose to participate in this study or not. If you volunteer to be in this study, you may withdraw at *any time* without any consequences. You may withdraw from the study during any of the online surveys (simply by closing the web-browser) or during the exercise (by informing the researcher of your desire to withdraw your participation). Please note that if *either* you or your friend chose to withdraw from this study, we will unfortunately be unable to allow the other friend to continue, nor can we allow for a substitute to take the withdrawn participant's place (as this study requires that the friendship-pairs that begin this study should participate and complete each of the phases of this study). You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject contact Ms Maléne Fouché (mfouche@sun.ac.za; 021 808 4622) at the Division for Research Development. The researchers may withdraw you from this study should any circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATOR

If you have any questions or concerns about the research, please feel free to contact either the researcher or her supervisor at the contact details provided below.

Ms. Lizelle Openshaw: Researcher

Position: Magister Candidate, Department of Psychology, Stellenbosch University

E-mail: 16850211@sun.ac.za

Tel: +27 (0)845894949

Dr. Hermann Swart: Supervisor

Position: Lecturer, Department of Psychology, Stellenbosch University

E-mail: hswart@sun.ac.za

Tel: (021) 808 9061

Appendix D

Online Questionnaire Presented at Time 1 (1-week Pre-task)

Please Note: The use of the word “outgroup” in the following document is used to denote which group is specified to the participant, and for this questionnaire “outgroup” was replaced with black (African) South African / Indian South African. Also note that the headings for each of the constructs were not be displayed in the final survey presented to the participants.

Demographics

1. **How old are you?**
2. **What is your home language?** (*English / Afrikaans / IsiXhosa / IsiZulu / Other*)
3. **What is your nationality?** (*South African / Other (please specify)*)
4. **Which broad population group do you identify yourself with?** (*White South African / black (African) South African / Indian South African / Other (please specify)*)

The Department of Psychology does not acknowledge or endorse the legitimacy of these artificial categories, and accepts that individuals might categorise 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.

5. **What year of university are you in?** (*1st year / 2nd year / 3rd year / 4th year / Other*)
6. **What form of accommodation do you live in? Select one:**
(*Private Accommodation, University Accommodation*)

7. *In order to match up your three questionnaires, we will need a unique code for each participant. This code is made up in such a way that there is no way, in which the researchers will be able to trace it back to you.*

The first part of your code: Please enter the LAST four digits of your student number in the first box.

Last four digits of your student number

The second part of your code: Please enter your day of birth (dd) into the box below.

Day of birth (dd)

Cross-group friendships with black (African) South Africans (adapted from Swart et al., 2011a)

1. About how many of your friends at Stellenbosch University are black (African) South Africans?
(0 = None, 1 = Very few, 2 = Some, 3 = About half, 4 = Quite a few, 5 = A lot, 6 = All)
2. How often do you spend time with your black (African) South African friend(s) at your home/flat/res.?
(0 = Never, 1 = Less than once a month, 2 = Once a month, 3 = 2-3 times a month, 4 = Once a week, 5 = 2-3 times a week, 6 = Daily, 9 = I do not have any black (African) South African friends at Stellenbosch University)
3. How often do you spend time with your black (African) South African friend(s) at their home/flat/res.?
(0 = Never, 1 = Less than once a month, 2 = Once a month, 3 = 2-3 times a month, 4 = Once a week, 5 = 2-3 times a week, 6 = Daily, 9 = I do not have any black (African) South African friends at Stellenbosch University)

4. How often do you spend time with your black (African) South African friend(s) at social activities?

(0 = Never, 1 = Less than once a month, 2 = Once a month, 3 = 2-3 times a month, 4 = Once a week, 5 = 2-3 times a week, 6 = Daily, 9 = I do not have any black (African) South African friends at Stellenbosch University)

Please answer the following set of questions thinking about your close white South African friend(s).

1. How many of them have black (African) South African friend(s)?

(0 = None, 1 = Very few, 2 = Some, 3 = About half, 4 = Quite a few, 5 = A lot, 6 = All)

2. How many your family members (including parents, brothers, sisters, cousins, and so forth) have friends who are black (African) South Africans?

(0 = None, 1 = Very few, 2 = Some, 3 = About half, 4 = Quite a few, 5 = A lot, 6 = All)

Intergroup Anxiety (adapted from Stephan & Stephan, 1985; Swart et al., 2011a)

Please imagine that you are the only white South African in a group of black (African) South Africans. With this scenario in mind, please answer the following questions as honestly as possible.

To what extent do you think you would you feel...

1. ...anxious?

(1 = Not at all, 2 = Slightly, 3 = A little, 4 = Somewhat, 5 = Quite a bit, 6 = Considerably, 7 = Extremely)

2. ...comfortable?

(1 = Not at all, 2 = Slightly, 3 = A little, 4 = Somewhat, 5 = Quite a bit, 6 = Considerably, 7 = Extremely)

2. I can rely on black (African) South Africans to look out for my best interest as a white South African.

(1 = Completely disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Completely agree)

3. I am often suspicious when I am in the company of black (African) South Africans.

(1 = Completely disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Completely agree)

Cross-group friendships with Indian South Africans (adapted from Swart et al., 2011a)

Please tell us about your contact and friendships with Indian South African students studying at Stellenbosch University.

1. Overall, how frequently do you have direct, face-to-face contact (e.g., a conversation) with Indian South African students?

(0 = None, 1 = Less than once a month, 2 = Once a month, 3 = 2-3 times a month, 4 = Once a week, 5 = 2-3 times a week, 6 = Daily)

2. How pleasant/unpleasant would you rate your direct, face-to-face interactions with Indian South African students?

(1 = Very unpleasant, 2 = Somewhat unpleasant, 3 = Neither pleasant nor unpleasant, 4 = Somewhat pleasant, 5 = Very pleasant)

3. How positive/negative would you rate your direct, face-to-face interactions with Indian South African students?

(1 = Very negative, 2 = Somewhat negative, 3 = Neither positive or negative, 4 = Somewhat positive, 5 = Very positive)

Outgroup Trust towards Indian South Africans (developed for this study)

Please read the following and indicate best how much you disagree / agree with each statement.

1. I cannot trust Indian South Africans.

(1 = Completely disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Completely agree)

2. I can rely on Indian South Africans to look out for my best interest as a white South African.

(1 = Completely disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Completely agree)

3. I am often suspicious when I am in the company of Indian South Africans.

(1 = Completely disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Completely agree)

Appendix E

Pre- and Post-task State Anxiety Questionnaire

Pre-discussion question:

Direct Contact Condition: Now, before you two start the discussion, to what extent are you feeling...

Extended Contact Condition: Now, before your friend and the other person start with the discussion, to what extent are you feeling...

	not at all	a little	unsure	quite a bit	extremely
...anxious?	1	2	3	4	5
...comfortable?	1	2	3	4	5
...awkward?	1	2	3	4	5

Post-discussion question:

Direct and Extended Contact Condition: Towards the end of the discussion, to what extent did you feel...

	not at all	a little	unsure	quite a bit	extremely
...anxious?	1	2	3	4	5
...comfortable?	1	2	3	4	5
...awkward?	1	2	3	4	5

Appendix F

Closeness Induction Task

List I (one minute)

1. What is your name?
2. How old are you?
3. Where are you from?
4. What year are you at the University of Stellenbosch?
5. What do you think you might major in? Why?
6. What made you come to the University of Stellenbosch?
7. What is your favourite class at the University of Stellenbosch? Why?

List II (three minutes)

1. What do you enjoy doing in your spare time?
2. What would you like to do after graduating from the University of Stellenbosch?
3. What would be the perfect lifestyle for you?
4. What is something you have always wanted to do but probably never will be able to do?
5. If you could travel anywhere in the world, where would you go and why?
6. What is one strange thing that has happened to you since you've been at the University of Stellenbosch?
7. What is one embarrassing thing that has happened to you since arriving at University of Stellenbosch?
8. What is one thing happening in your life that makes you stressed out?
9. If you could change anything that happened to you in high school, what would that be?
10. If you could change one thing about yourself, what would that be?
11. Do you miss your family?
12. What is one habit you'd like to break?

List III (five minutes)

1. If you could have one wish granted, what would that be?
2. Is it difficult or easy for you to meet people? Why?
3. Describe the last time you felt lonely.
4. What is one emotional experience you've had with a good friend?
5. What is one of your biggest fears?
6. What is your most frightening early memory?
7. What is your happiest early childhood memory?
8. What is one thing about yourself that most people would consider surprising?
9. What is one recent accomplishment that you are proud of?
10. Tell me one thing about yourself that most people who already know you don't know.

Appendix G

Online Questionnaire Presented at Time 2 (Post-task)

Please Note: The use of the word “outgroup” in the following document is used to denote which group is specified to the participant and for this questionnaire “outgroup” was replaced with black (African) South African / Indian South African. Also note that the headings for each of the constructs were not be displayed in the final survey presented to the participants.

Demographics

1. **Which broad population group do you identify yourself with?** (*White South African / black (African) South African / South African Indian / Other (please specify)*)

The Department of Psychology does not acknowledge or endorse the legitimacy of these artificial categories, and accepts that individuals might categorise 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.

2. *In order to match up your three questionnaires, we will need a unique code for each participant. This code is made up in such a way that there is no way, in which the researchers will be able to trace it back to you.*

The first part of your code: Please enter the LAST four digits of your student number in the first box.

Last four digits of your student number

The second part of your code: Please enter your day of birth (dd) into the box below.

Day of birth (dd)

Intergroup Anxiety (adapted from Stephan & Stephan, 1985; Swart et al., 2011a)

Please imagine that you are the only white South African in a group of black (African) South Africans. With this scenario in mind, please answer the following questions as honestly as possible.

To what extent do you think you would you feel...

1....anxious?

(1 = Not at all, 2 = Slightly, 3 = A little, 4 = Somewhat, 5 = Quite a bit, 6 = Considerably, 7 = Extremely)

2. ...comfortable?

(1 = Not at all, 2 = Slightly, 3 = A little, 4 = Somewhat, 5 = Quite a bit, 6 = Considerably, 7 = Extremely)

3. ...awkward?

(1 = Not at all, 2 = Slightly, 3 = A little, 4 = Somewhat, 5 = Quite a bit, 6 = Considerably, 7 = Extremely)

3. I am often suspicious when I am in the company of Indian South Africans.
(1 = *Completely disagree*, 2 = *Somewhat disagree*, 3 = *Neither agree nor disagree*, 4 = *Somewhat agree*, 5 = *Completely agree*)

Success of the Task (developed for this study)

Direct Contact Condition

We would now like you to think about the interaction and the person with whom you interacted with.

1. Do you think the conversation you had in the task was a good way to get to know somebody?
(1 = *Completely disagree*, 2 = *Somewhat disagree*, 3 = *Neither agree nor disagree*,
4 = *Somewhat agree*, 5 = *Completely agree*)

Extended Contact Condition

We would now like you to think about the interaction and the person with whom your friend interacted with.

1. Do you think the conversation they had in the task was a good way to get to know somebody?
(1 = *Completely disagree*, 2 = *Somewhat disagree*, 3 = *Neither agree nor disagree*,
4 = *Somewhat agree*, 5 = *Completely agree*)

Disclosure (developed for this study)

Direct Contact Condition

1. When you think about the conversation you just had as a whole (what you shared and what the other participant shared), to what extent do you think the conversation you just had was of a personal/private nature?
(1 = *Not at all personal/private*, 2 = *Hardly personal/private*, 3 = *Somewhat personal/private*, 4 = *Quite personal/private*, 5 = *Extremely personal/private*)

Extended Contact Condition

1. When you think about the conversation you just observed as a whole (what your friend shared and what the other participant shared), to what extent do you think the conversation you just observed was of a personal/private nature?

(1 = Not at all personal/private, 2 = Hardly personal/private, 3 = Somewhat personal/private, 4 = Quite personal/private, 5 = Extremely personal/private)

Category Salience (adapted from Brown & Hewstone, 2005)**Direct Contact Condition**

Please think about the conversation you have just had with the black (African) South African participant. Please answer the following questions:

1. To what extent did you feel as if you were acting/behaving as a typical member of the white South African community during the conversation?

(1 = Not at all, 2 = A little, 3 = Quite a bit, 4- A lot, 5 = Completely)

2. To what extent do you think the black (African) South African participant you had the conversation with is a typical representative/example of the black (African) South African community?

(1 = Not at all, 2 = A little, 3 = Quite a bit, 4- A lot, 5 = Completely)

3. During the conversation, to what extent were you aware that you were a white South African interacting with a black (African) South African?

(1 = Not at all, 2 = A little, 3 = Quite a bit, 4- A lot, 5 = Completely)

Appendix H

Online Questionnaire Presented at Time 3 (1-week Post-task)

Please Note: The use of the word “outgroup” in the following document is used to denote which group is specified to the participant and for this questionnaire “outgroup” was replaced with black (African) South African / Indian South African. Also note that the headings for each of the constructs were not be displayed in the final survey presented to the participants.

Demographics

1. **Which broad population group do you identify yourself with?** (*White South African / black (African) South African / South African Indian / Other (please specify)*)

The Department of Psychology does not acknowledge or endorse the legitimacy of these artificial categories, and accepts that individuals might categorise 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.

Outgroup Trust towards black (African) South Africans (developed for this study)

Please read the following and indicate best how much you disagree / agree with each statement.

1. I cannot trust black (African) South Africans.

*(1 = Completely disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree,
4 = Somewhat agree, 5 = Completely agree)*

2. I can rely on black (African) South Africans to look out for my best interest as a white South African.

*(1 = Completely disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree,
4 = Somewhat agree, 5 = Completely agree)*

3. I am often suspicious when I am in the company of black (African) South Africans.

*(1 = Completely disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree,
4 = Somewhat agree, 5 = Completely agree)*

