

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

**APPLYING THE CONTACT HYPOTHESIS
TO A STUDY OF INTERGROUP RELATIONS IN A
POSTGRADUATE CLASS AT A SOUTH
AFRICAN UNIVERSITY**

**L. BONHOMME
(BNHLAU001)**

A dissertation submitted in partial fulfilment of the requirements for the award of
Master of Commerce in Organisational Psychology

Faculty of Commerce
University of Cape Town
2008

COMPULSORY DECLARATION:

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works of other people has been attributed, and has been cited and referenced.

Signature removed
Signature:

Date: 23/05/2008
Date:

ABSTRACT

The contact hypothesis proposes that under certain optimal conditions, intergroup interaction between members of different groups will result in the reduction of prejudice. Since the 1950's, this framework has guided research that has been conducted around the boundary conditions for ideal contact and the promotion of desegregation. Research of this nature has tended to focus on relations located at the macro-social level of analysis and has experimentally manipulated contact conditions, resulting in unnatural and contrived contact situations. In contrast, this study explored intergroup contact as a natural phenomenon. It observed the patterns of friendship and competence evaluations amongst members of the 2007 Organisational Psychology class over a period of six months. Innovative, non-obtrusive data collection tools were utilised. The resulting data were analysed using correlations, repeated measures ANOVA and chi-square measures. The results suggested that the presence of optimal contact conditions were necessary but not sufficient for improved inter-racial relationships and the subsequent reduction of prejudice that would lead to desegregation. In keeping with a recent focus within contact research to explore wider contextual factors that can facilitate or impede the development of improved intergroup relations, it emerged that the quality of contact between the groups and the presence of anxiety, a concept that has been explored by other researchers, impacted on the formation of inter-racial friendships and competence evaluations. The limitations of the research study and the direction for future research are considered.

ACKNOWLEDGEMENTS

This completion of this project would not have been possible without the contribution of my supervisors, Joha Louw-Potgieter and David Nunez. Professor Louw-Potgieter's support, encouragement and patience were critical in conceptualising and guiding the research process and ensuring the completion thereof. The contribution of David Nunez in designing the data collection tool and his guidance with the statistical analysis is also greatly appreciated.

TABLE OF CONTENTS

	Page
ABSTRACT	ii
ACKNOWLEDGEMENTS	iii
CHAPTER 1: LITERATURE REVIEW	
Background to the study	1
Pettigrew's critiques of Allport's contact hypothesis	4
Pettigrew's revision of Allport's contact hypothesis	7
Shortcomings of Allport's contact hypothesis	11
The contact hypothesis contextualised in South Africa	16
The current study	22
Social distance and political orientation	24
Research questions	25
CHAPTER 2: METHOD	
Participants	27
Data collection	29
Materials	30
CHAPTER 3: RESULTS	
Descriptive statistics	32
Analysis for research question one	32
An analysis for research question two	40
CHAPTER 4: DISCUSSION	
Contact within the large group	44
Contact within the small group	47
Limitations of the study	49
Future research	50
REFERENCES	52
APPENDICES	60

LITERATURE REVIEW

This research applied the contact hypothesis of Allport (1954) and Pettigrew (1998) to a study of the everyday social interactions among a small group of postgraduate students at a South African university.

This chapter details the theoretical background to the research, a critique of Allport's contact hypothesis, a revision thereof, the shortcomings of the contact hypothesis, a contextualisation of the contact hypothesis in South Africa, recent South African contact studies, the context for the research and the research questions.

1.1 Background to the study

Within the field of intergroup relations, in-group bias or in-group favouritism was an established phenomenon and this bias or preference for one's in-group over the out-group was expressed in evaluation, liking or in the allocation of resources and rewards (Cairns, Kenworthy, & Campbell, 2006). The contact hypothesis suggested the possibility of positive social change and had a twofold argument (Foster, 2005). First, that a lack of contact had deleterious consequences. Second, under certain optimal conditions, contact potentially had beneficial effects for both sides of antagonistic group relations. Under fortuitous conditions, contact with members of a negatively stereotyped group resulted in a positive re-valuation of attitudes both toward the specific out-group member or members with whom contact had occurred, and towards the groups as a whole (Werth & Lord, 1992). Longitudinal, experimental and meta-analytic studies conducted over decades had provided evidence that contact could contribute meaningfully to reducing prejudice between groups, particularly when the contact situation was structured to enhance positive inter-group outcomes (Tropp & Pettigrew, 2005).

Interest in intergroup contact developed post World War II in America and Allport's work on specifying the critical situational conditions for intergroup contact to reduce prejudice became the most influential (Pettigrew, 1998). Allport defined prejudice as "an antipathy based on a faulty and inflexible generalisation" (cited in McLaren, 2003, p. 2) and first proposed the contact hypothesis in 1954. He asserted that under certain conditions intergroup contact was effective in the reduction of hostility and prejudice and in the promotion of more positive attitudes between participants (Hughes, 2007). The contact hypothesis was based on attraction theory that claimed that the contact between members of different groups allowed individuals to discover that they had similar attitudes and values (Berryman-Fink, 2006). This discovery led to mutual understanding and liking and, as a result, produced more positive attitudes between groups.

The contact hypothesis was developed in the context of explaining hostility and prejudice towards African Americans and was also used to explain how prejudice could be reduced, thereby improving contentious race relations in the United States. According to Durrheim and Dixon (2005), the contact hypothesis was progressive because it rejected the argument that intergroup conflict was part of human nature and society and it was pragmatic because it suggested a concrete solution to the problem of intergroup conflict.

Alongside the need for contact to be personal and sustained, Allport argued that contact was not sufficient for positive attitude change (Hean & Dickinson, 2005). He qualified his hypothesis with four conditions that he believed were necessary in the reduction of negative intergroup attitudes and stereotypes. Pettigrew and Tropp (2006) pointed out that Allport's formulation of the contact hypothesis held that a reduction in prejudice would result when four features of the contact situation were present: equal status between the groups in the situation; common goals; intergroup cooperation; and the support of authorities, law or custom.

First, it was imperative that there was equal group status within the contact situation. There had to be equal status among the groups who met, or at least among the individuals that were drawn from the group. Contact with members of the in- and out-group who shared equal status would tend to make for lessened prejudice (Allport, 1954). Out-group prejudice might even increase when the intergroup contact was between participants of unequal status, particularly when the person from the out-group was of lower status (Liebkind, Haaramo & Jasinskja-Lahti, 2000). Pettigrew's (1998) review of the contact hypothesis noted that most of the research supported this contention but cited Cagle (1973) and Riordan (1978) who noted that equal status was difficult to define and had been used in different ways.

The second condition for prejudice reduction through contact was the pursuit of common goals or the engagement in an active and goal-orientated effort. According to Allport (1954, p. 276), "only the type of contact that leads people to do things together is likely to result in changed attitudes" Dovidio and Gaertner (1999) reiterated this view and noted that cooperation was effective for reducing intergroup bias when the task was completed successfully, when group contributions to completing the task were seen as different or complimentary, and the interaction among participants during the task was friendly, personal and supportive.

The third condition was that of intergroup cooperation whereby groups engaged in goal-directed activities as an interdependent activity in the absence of intergroup competition. According to Allport (1954), cooperative endeavour would fortify and implement goodwill. Pettigrew's (1998) review on the contact hypothesis highlighted a number of studies that provided evidence in support of this condition, with the strongest being intergroup cooperation in schools (Brewer & Miller, 1984; Deforges et al., 1991; Schofield, 1989; Slavin, 1983; Slavin & Madden, 1979).

Allport's last condition was that of institutional support in which intergroup contact received explicit social sanction and established the norms of acceptance. The contact was given legitimacy by having institutional support (Connelly, 2000). Institutional support meant that those who were in authority should be unambiguous in their endorsement of measures designed to promote greater contact and integration (Liebkind, Haaramo & Jasinskja-Lahti, 2000). Conversely, if the existing social climate and significant reference group defined the contact as being undesirable, within the existing normative structure, then the contact and the resultant attitudes of participants were likely to develop in an unfavourable direction (Robinson & Preston, 1976).

Allport's version of the contact hypothesis was designed to challenge the spurious belief that contact per se could reduce prejudice (Dixon, Durrheim & Tredoux, 2005). He sought to highlight the centrality of the four contextual prerequisites (optimal conditions) in promoting meaningful change and cautioned that theoretically, "every superficial contact we make with an out-group member could by the 'law of frequency' strengthen the adverse mental associations that we have" (Allport, 1954, p. 264). Furthermore, Allport argued that we were sensitised to perceive signs that would conform to our stereotypes. It was this theoretical underpinning that shaped the nature of research that had been conducted on the contact hypothesis.

1. 2 Pettigrew's critique of Allport's contact hypothesis

Pettigrew's (1998) review highlighted that Allport's theoretical position had received continued support across a variety of situations, groups and societies and that most studies reported positive contact effects, even when the specified conditions were lacking. He cited diverse research methods such as field (Meer & Freedman, 1966; Ohm, 1988) archival (Fine, 1979), survey (Jackman & Crane, 1986; Pettigrew 1997; Robinson, 1980; Sigelman & Welch, 1993) and laboratory studies (Cook, 1978, 1984; Desforjes et al., 1991) that all yielded supporting

results and had broadened the application of the hypothesis. However, according to Pettigrew, these investigations raised the question of why it was that intergroup contact had positive effects when the situation did not have all of the specified conditions and failed to address the basic problems with the original contact hypothesis.

The first problem that Pettigrew (1998) highlighted with the original contact hypothesis was that of causal sequence where instead of reducing prejudice, the opposite causal sequence could be in operation because prejudiced people may avoid contact with out-groups. According to Pettigrew and Tropp (2006), prejudiced people avoided contact and tolerant people sought contact with out-groups. Pettigrew (1998) provided three methods to overcome this limitation, namely, finding intergroup situations that limited choice to participate, utilising statistical methods borrowed from econometrics that allowed researchers to compare reciprocal paths with cross-sectional data and the use of longitudinal studies.

The second problem that was highlighted was that of the independent variable specification problem whereby "Allport's hypothesis risks being an open-ended laundry list of conditions – ever expandable and thus eluding falsification" that threatened to remove interest from the hypothesis (Pettigrew, 1998, p. 69). It was Pettigrew's contention that confusion abounded around the distinction between facilitating and essential conditions and, as a result, many factors that were suggested for optimal contact might relate to underlying mediating processes, but might not be necessary.

The second problem led to the third, the problem of unspecified processes of change (Pettigrew, 1998). The original contact hypothesis was silent on the processes by which contact changed attitudes and behaviour. It predicted when contact would lead to positive change but not how and why the change occurred.

As a result, Pettigrew called for a broader theory of intergroup contact that explicitly specified the processes involved.

The fourth problem related to the generalisation of effects and referred to the manner in which the original hypothesis did not specify how the effects of intergroup contact generalised beyond the immediate context. Pettigrew (1998) noted that there were three distinct types of generalisation, namely situational, individual to group and to uninvolved groups. The problem of generalisation across situations (situational) occurred when "only the cumulative effect of repeated optimal situations altered the attitudes of rival groups" (Pettigrew, 1998, p. 74). Werth and Lord (1992) pointed out that previous investigation was primarily concerned with the alleviation of intergroup conflict in a specific setting. As a result, these investigations seldom included a measure of change in more general attitudes. These studies assessed specific attitude change through friendship choices, social distance, liking and respect for members of a specific setting.

Generalisation from the out-group individual to the out-group (individual to group) involved the problem of generalising the effects between interpersonal and intergroup phenomena. The idea was that pleasant and cooperative contact with members of a negatively stereotyped out-group could generalise to a positive attitude change about the whole outgroup (Nielsen, Nyland, Smyth, Zhang & Zhu, 2006). Werth and Lord (1992) highlighted that in the few studies that measured changes in behaviour or attitudes toward group members other than those involved in the contact situation, the overarching conclusion was that interactants changed their attitudes towards those specific individuals with whom they had contact, but did not change their attitudes toward the larger social groups to which the individuals belonged.

Generalisation from the immediate out-group to other out-groups (uninvolved groups) occurred at the highest level and had as its precedents the other two

forms. Pettigrew (1998) highlighted that the problem was that many (Reich & Purbhoo, 1975; Weigert, 1976) regarded it as unlikely and, as a result, it was seldom studied. However, in the review the he conducted, the European surveys showed that such generalisation was possible.

Because of the generalisation of effects problem, Pettigrew (1998) argued for a broader theory of intergroup contact that provided explicit predictions of how contact effects would generalise and suggested that four interrelated processes operated through contact and mediated attitude change.

1. 3 Pettigrew's revision of Allport's contact hypothesis

The first process in Pettigrew's (1998) revision of Allport's contact hypothesis was learning about the out-group and, according to the original theory, contact would reduce prejudice because new learning would correct negative views of the out-group. Contact theorists and cognitive analysts were at odds as to the likelihood of positive effects from contact but Pettigrew (1998) noted that research literature suggested that positive effects were more likely than either predicted. He argued that the contradiction resulted because of an incomplete understanding of the other processes involved in effecting positive change.

The second process involved changing behaviour, in which behaviour modification was a result of optimal intergroup contact. According to this view, it was common for behaviour change to become the precedent for attitude change because disjuncture between new behaviours, such as acceptance of the outgroup and old prejudices were corrected with attitude change.

The third process involved generating affective ties and was concerned with the importance of intimacy in intergroup contact. Positive emotions that resulted from optimal contact could mediate intergroup contact effects and positive emotions that resulted from intergroup friendship could result in a reduction in affective

prejudice. Pettigrew (1998) referred to extensive data on intergroup friendships obtained from surveys in Western Europe (Pettigrew, 1997; Pettigrew & Meertens, 1995) that indicated that Europeans with intergroup friendships reported significantly more often that they had felt sympathy and admiration for the out-group.

The fourth process involved in-group reappraisal through which a new perspective developed that involved the realisation that in-group norms and customs were not exclusive in making sense of one's social world and this resulted in a less parochial view of the out-group. Categories were formed based on learning the relevant functional, perceptual or other sorts of attributes that members of a category shared (Schiappa, Gregg & Hewes, 2005). When majority group members who believed that people defined by a category were different to them in ways that they perceived to be negative, the resulting attitudes that they developed constituted prejudice. Categorisation was considered to be the process underlying and responsible for stereotyping. It was these categories that were reappraised with optimal intergroup contact.

Pettigrew (1998) proposed that there were three categories to improve generalisation, namely decategorisation, salient group categorisation and recategorisation. With regards to salient group categorisation, he cited Hewstone and Brown (1986) who theorised that it was only when group membership was salient that contact effects generalised to the outgroup. Supporting research (Johnstone & Hewstone, 1992; Vivian et al., 1995; Weber & Crocker, 1983; Wilder, 1984) indicated that it was when the individuals that were involved were typical group members that stereotype change generalised best to the intergroup level.

Dixon and Durrheim (2005) cited Brewer and Miller (1988) who advocated decategorisation strategy, which was the opposite of the former strategy and contended that when group salience was low, intergroup contact was most

effective. According to Dovidio and Gaertner (1999), factors of the intergroup contact reduced prejudice by reducing the salience of the intergroup boundaries, through decategorisation.

Recategorisation strategy was from the common in-group identity model and according to this theory, after extended contact people had begun to think of themselves in a larger group perspective because similarities among participants were highlighted and differences were obscured. Participants thought of membership not in terms of several distinct groups, but in terms of one, more inclusive group (Dovidio & Gaertner, 1999). However, Lipponen and Leskinen (2006) cited a recent version of this model that did not require that groups eliminated their subgroup distinctions or that subgroups abandoned their earlier categorisation either. Instead, the model was reliant on the relative salience of common in-group identity over the differentiated categories. Contact conditions such as cooperative interdependence, equal status, supportive norms and the degree of interaction influenced the extent to which members of different groups perceived that they share a common in-group identity or continued to have completely separate group identities (Lipponen & Leskinen, 2006). Intergroup bias was reduced by producing more positive feelings towards the former outgroup members when the representation was changed from two groups to one.

The considerations that Pettigrew (1998) highlighted provided him with the direction for the reformulation of the traditional contact hypothesis that indicated that at least four processes were involved that overlapped and interacted in complex ways. He argued for the inclusion of intergroup friendship because it had the potential to encompass all four mediating processes, suggesting that optimal contact was more closely related to long-term close relationships than initial acquaintances. Tendayi Viki, Culmer, Eller and Abrams (2006) noted that, in a way, Allport's original conditions were a prerequisite for the last condition of

friendship because in the absence of equal status groups, common goals and cooperation it was unlikely that friendships would develop.

The new inclusion represented a radical shift in traditional contact research and indicated that in order for intergroup contact to be optimised, the contact situation must provide the participants with the opportunity to become friends to in order for the full decategorisation, salient recategorisation and recategorisation process to be enabled. This recommendation provided an antecedent that became a new and fifth condition of the contact hypothesis

A study conducted by O' Driscoll, Haque and Ohsako (1983) amongst students in Australia, Japan and Pakistan supported the contention that intimacy might be one of the critical mediators of the effects of intergroup contact. Aberson, Shoemaker and Tomolillo (2004) highlighted two recent studies that had demonstrated the value of intergroup friendship. In the first study, intergroup friendship related significantly to reduced bias toward ethnic minorities in several European nations and in the second, a longitudinal study, intergroup friendship at the start of a Mexican course reduced bias towards Mexicans one week later.

Pettigrew (1998) proposed a longitudinal model of intergroup contact that involved the meso-level of analysis, but that was placed within the micro-level and macro-level contexts of the interactants' experiences and characteristics, as well as the broader social context in which the interactants functioned. The meso-level of analysis related to manner in which groups operated as a subset of a larger organisational entity. Hughes (2007) noted that the theory that Pettigrew evolved focused more on process or intervening variables during contact and wider contextual factors that facilitated or impeded the development of improved intergroup relations. This reformulated version of the hypothesis distinguished between essential and facilitating situational factors and emphasised a time dimension, with different outcomes predicted for different stages of the intergroup contact. Allport's four conditions and friendship potential were essential

situational factors for positive intergroup outcomes and an array of additional factors that assumed different levels of importance at different stages in the contact, acted as facilitating factors for such effects. Stages overlapped and groups broke off contact at any point.

In his reformulation of the contact hypothesis, Pettigrew (1998) argued that sequencing was paramount and proposed a strategy to enhance generalisation in such a way that it would minimise group categorisation during the initial stages of contact, with the gradual introduction of the intergroup dimension as interpersonal friendships become more established (Hughes, 2007). Three stages were identified in the sequential model, each with different outcomes.

The first stage was decategorisation during which the likelihood of anxiety was high. Interpersonal interaction was emphasised and a predicted outcome was increased liking but in the absence of generalisation. Contact was more established in stage two and was characterised by salient categorisation and the outcome was reduced prejudice that generalised beyond the immediate situation. In the third stage, recategorisation was enabled after extended contact and participants began to perceive themselves as part of a larger redefined group that comprised all participants irrespective of group membership.

1. 4 Shortcomings of the Allport's contact hypothesis

Hopkins and Kahani-Hopkins (2006) noted that while some progress had been made in developing a deeper social psychological understanding of contact, the knowledge remained one-sided and that recent meta-analytic reviews (Pettigrew & Tropp, 2006) revealed that whilst contact had a reliable impact upon intergroup perceptions, this effect was more pronounced for majorities. When optimal contact occurred and positive intergroup outcomes resulted, minorities showed less change than majorities. In addition, for majority group samples, optimal contact conditions predicted stronger contact-prejudice relations, but that there

was no such effect for minorities. As a consequence of minorities being viewed as the objects of discrimination, little attention has been paid to their perceptions and interactional concerns or how these shape intergroup interactions. This was reiterated by Poore, Gagne, Barlow, Lydon and Taylor (2002) who noted that contact theory had traditionally focused on perpetrators of the discrimination, emphasising how intergroup contact facilitated a decrease in prejudice.

Hopkins and Kahani-Hopkins (2006) pointed to recent work which showed that minorities typically anticipated prejudice from majorities and that the potential therefore existed for a divergence between the participants' experience of the interaction. They cited a review by Pettigrew and Tropp (2006) who observed that while researchers had historically construed the theory's specified optimal conditions as intrinsic features of the situation itself, we should recognise that perception and interpretation of the situation happened in differing ways. Hopkins and Kahani-Hopkins (2006) argued for a more politically sophisticated conception of intergroup attitudes that should guide studies of both majority and minority theories of social organisation.

Hughes (2007) pointed to several major issues regarding the integrity of the theory that had arisen out of critical discussions of the contact hypothesis. Of central importance was the oversimplification of the causal connection presented between intergroup contact and improved intergroup relations, with the key concern being disagreement amongst researchers as to what situational factors were necessary for optimal contact. Failure to take account of mediating factors such as threat and anxiety through which attitudinal change was generated and the generalisability of effects beyond the immediate contact situation were other problems that had been highlighted. In addition, there were questions about the potential of micro-level contact interventions to improve relations between groups in the absence of change at the macro-societal level.

Central to the contact hypothesis was the proposal that contact between different ethnic and/or racial groups would result in a reduction of prejudice between these groups and an increase in positive and tolerant attitudes. According Connolly (2000), even though there was a shopping list of criteria that had to be met in terms of the recommended type of contact that should take place, this did not detract from the overarching message that intergroup contact reduced prejudice. However, it was the premise that overcoming individual ignorance and misunderstanding would reduce prejudice that was contentious as it appeared to restrict the nature and causes of racism and ethnic divisions. Contact initially ameliorated individual attitudes towards members of the out-group. In the long-term such attitudinal change was translated into more general attitudes towards the out-group as a whole. Such theoretical individualism served to rule out any analysis of the broader social processes, institutions and structures that helped to create and sustain those divisions. Connolly further argued that this perspective not only absolved the state of responsibility for racial and ethnic relations, but that it could also provide the ideological basis for racist policies and practices.

In response to calls to reject the contact hypothesis and replace it with a clear focus on power relations and broader structure, Connolly (2000) noted that this would be premature. He acknowledged that while there was certainly a need to maintain a clear focus on the role played by broader structures and institutions, it was imperative that the more micro, interpersonal processes and practices that helped to sustain and reproduce divisions were not overlooked. He therefore argued that in attempting to theorise the influence and effects of intergroup contact, it was clear that they could not be understood “without a proper understanding of the broader social contexts within which participants are located and the various factors that help construct and sustain racial and ethnic division” (Connolly, 2000, p. 175).

For Dixon and Durrheim (2005), the study of contact was complicated by a paradox in which prejudice was explained as a lack of contact with members of the out-group and was also explained as the result of the presence of such contact. The basis of their critique of the contact paradigm was based on a particular methodological and conceptual response to the aforementioned paradox which they labeled the optimal strategy. Their critique of the optimal strategy was based on the preoccupation with the contact literature to create an optimal set or blueprint of ideal conditions for intergroup contact. As a consequence of the proliferation of optimal conditions, there was the danger that the contact hypothesis would no longer be applicable to real-world situations. As such, a number of limitations existed as to the applicability of the optimal strategy and Dixon, Durrheim and Tredoux (2005) cautioned that there was the danger that the field of contact research succumbed to a form of Utopianism.

Dixon et al. (2005) argued further that through a focus on rarefied forms of interaction, social psychologists had inadvertently widened the gap between theory and practice. In prioritising the study of optimal contact, researchers had produced a picture that obscured the stark realities of everyday interactions between members of different groups. The focus of these studies bore very little resemblance to the ordinary interactions of different groups and in historically divided societies such as South Africa and Northern Ireland, ideal conditions for contact proved difficult to create. Dixon and Durrheim (2005, p. 31) noted that there is a "stark gap between idealised forms of contact studied by social psychologists and the mundane interactions that characterise everyday encounters". As a result of the overemphasis on optimal conditions, social psychologists had overlooked the bulk of the contact experiences that were predominant in diverse and multicultural societies. If the contact hypothesis was to have broader utility, it had to begin to address the pervasive and under examined features of social relations.

Dixon and Durrheim's (2005) second critique was that the quest for optimal conditions sustained a reified conception. Specifying conditions for optimal contact resulted in reductionism through which contact was stripped of its situated meanings and was converted into something that was abstracted, generalised and decontextualised. Dixon et al. (2005) reiterated this view and noted that the quest for optimal contact led to a conception that was so generic that it was almost devoid of meaning. By compressing complex social relations and interactions into a conventional framework for measurement, the contextual specificity of contact was underplayed; researchers failed to recognise that the meaning and significance of contact was contested; researchers failed to explain why contact failed and by neglecting individual constructions of contact, researchers overlooked how such constructions might sustain wider ideologies of race (Dixon & Durrheim, 2005).

The third critique (Dixon & Durrheim, 2005) was related to the prejudice problematic, an explanation of how contact resulted in a reduction in prejudice, and theoretical individualism that served to dilute the contact hypothesis as a theory of social change. The contact theory as a theory of social change was restricted by the prejudice problematic and, as a result, produced recommendations that were of little value. The burden of explanation for racism shifted into an intra-psychic level at which racism was a derivative of individual defects and frailties. As a result, the emphasis was on changing the intellectual and emotional reactions of individuals as opposed to the structures that perpetuated racism in societies.

Based on these critiques, Durrheim and Dixon (2005) called for a substantive revision of the contact hypothesis, entailing a shift beyond optimal strategy as the primary conceptual and methodological framework for research. As a corrective to the tendency to prioritise ideal forms of contact, Dixon et al. (2005) proposed that more research be conducted on the mundane, seemingly unimportant encounters that constituted the overwhelming majority of everyday contact

experiences. This type of research entailed detailed descriptions of interactions between groups in ordinary situations. Within this revised contact paradigm, Durrheim and Dixon (2005) argued for research in South Africa that investigated institutional and collective processes that acted against social change and which tapped into the manner in which ordinary people engaged with their social contexts to rationalise and participate in race relations.

1.5 The contact hypothesis contextualised in South Africa

Smith, Stones and Naidoo (2003) pointed out that despite social and political change in South Africa post-1994, racism continued to be a central feature of the South African landscape. Local research on the contact hypothesis had used the continuing racial segregation in the absence of officially sanctioned segregation as a central theme, by exploring contact in naturalistic settings (Dixon & Durrheim, 2003; Tredoux, Dixon, Underwood, Nunez & Finchilescu, 2005; Schrieff, Tredoux, Dixon, & Finchilescu, 2005).

One of the reasons for this trend was forwarded by Dixon and Durrheim (2003), who argued that the exclusive reliance on the revised contact hypothesis weakened contact research in two ways: first, as an account of social change its application might encourage the neglect of the historical and current realities of segregation that continued to shape intergroup contact; second, as a contribution to the psychology of group processes in everyday life by its focus on optimal conditions, thereby under-specifying the significance of segregation in shaping everyday relations and perceptions between groups.

In an attempt to understand the tenacity of racism in post-apartheid South Africa Dixon, Tredoux and Clack (2005) argued that even though researchers had recognised that segregation operated at various levels, they concentrated almost exclusively on processes that were located at a macro-sociological level. In addition, research had focused on social contexts in which intergroup boundaries

were formally demarcated and thereby presented “comparatively stable and institutionalised barriers to interaction” (Dixon et al., 2005, p. 399). The counter-argument that they presented was that segregation could be treated successfully as a micro-ecological practice in which a phenomenon was sustained by boundary processes that operated on an intimate scale in everyday life spaces where relations were brief, informal and constantly realigned. Collectively, a number of small acts of division that occurred with spontaneity and without centralised control, constituted segregation. This collective acted to replicate unobtrusively systems of social isolation and profoundly shaped the daily lived experience of race. Segregation existed within everyday life spaces and was upheld, consciously or not, by ordinary people in their mundane daily activities.

Durrheim (2005) noted that if it was true that the micro-ecology of racial interaction gave rise to the representations of racial differences and hierarchy, this perspective provided a way of understanding the tenacity of racism in post-apartheid South Africa. As such, transformation should not be limited to a process of desegregation by which different race groups were allowed access to the same places. The focus should also be on how these arenas of contact were used, in racial terms, in interaction, to preserve patterns of exclusion and hierarchy. This referred to the manner in which public spaces were used over time by different race groups and how these patterns of social interaction could be used to gain a deeper understanding of race relations in South Africa.

Therefore, the micro-ecological dimension of segregation had considerable social psychological significance and future research endeavours might yield unique insights into the nature, extent and causes of racial isolation in everyday life (Dixon et al., 2005). Related to this was the need to develop new techniques of data collection and analysis, as the methods that dominated the social science literature on segregation were not appropriate to the dynamic features of micro-ecological relations. Methodological innovation was suggested in order to document the dynamic production of micro-segregation in everyday life spaces.

1.6 Recent contact studies in South Africa

The recent liberation of South Africa from years of institutional and legally enforceable racism provides the platform for a new analysis of racialised separation and isolation. Recent research on intergroup contact within this context serves to provide a “stock take of where we are in racialised terms” (Foster, 2005, p. 495) after more than a decade of democracy. As such, focus has been placed on the most recent contact studies that have been conducted in South Africa which served to add to the knowledge that was gathered in this particular area of social psychology. The current study was intended to contribute to this body of knowledge.

The most recent published contact studies in South Africa have begun to address the challenge of developing data collection tools that were more appropriate to the dynamic features of micro-ecological relations. Naturalistic settings with a micro-level focus of analysis were chosen as representations of everyday life spaces. The reformulation of the contact hypothesis to incorporate mediators and moderators of efficacy raised some important and unanswered questions that were not easily addressed by the traditional laboratory-based techniques (Hughes, 2007). The experimental manipulation of conditions in order to determine optimal combinations when studying the effects of contact between racial groups had resulted in unnatural and contrived constructions of the contact situation.

It was therefore proposed that an approach be adopted that examined contact as natural phenomenon (Schrieff et al., 2005). This was because conditions that were studied primarily through experimental manipulation had questionable relevance to the concrete processes of interaction in everyday settings. According to Tredoux et al. (2005), intergroup contact had been conceptualised in a decontextualised manner and, as a result, much of the research on contact had occurred under artificial and idealised circumstances. Furthermore, there

was very little research that examined contact as a behavioural phenomenon in natural settings.

Dixon and Durrheim (2003) noted that intergroup contact rarely occurred under ideal circumstances and optimal contact existed primarily in the forms of laboratory experiments or as a phenomenon imagined in the pages of social psychology journals. By focusing on factors within the immediate environment that were easily manipulated and measured, research on the contact hypothesis had created a tendency to detach intergroup dynamics from their social context. They forwarded an argument that the kinds of contact that social psychologists had written about and encouraged did not correspond with the lived experiences of the majority of people. In addition, in the American society in which the contact hypothesis had emerged and the most research had been conducted, the decline of official segregation had not lead to the widespread integration of racial groups. An underestimation of the pervasive nature of segregation was forwarded as a possible explanation for this phenomenon. However, if contact researchers were to make a meaningful contribution to social change, they should be able to explain the persistence of social segregation and the extent to which superficial and infrequent contact experiences occurred.

1.5.1. A contact study at a beach

Dixon and Durrheim (2003) aimed to contribute to the social psychology of informal segregation by investigating its behavioural manifestations in a public, recreational context. Foster (2005) credited their work as landmark research that opened up new spaces and new methodologies for a reconsideration of what contact involved and meant. The research aim was to investigate the patterns of racial interaction on an open beach in the new South Africa where desegregation was officially endorsed.

The desegregated beach was expected to encourage positive contact and to improve intergroup relations, in that it provided a relaxed non-competitive environment in which people engaged in pleasant activities together. In explaining their choice of the beach as a research context, Dixon & Durrheim (2003) noted that it was a revealing context in which to observe group processes in the new South Africa. First, beaches represented public spaces in a post-apartheid society and were marked by their accessibility to all citizens. Second, they were marked by the freedom of movement, assembly and association that they afforded users.

An observational study was carried out and the distribution of members of different racial categories in different areas and sub-areas of the beach were plotted over time on aerial images of the beach and its surrounds. The aim of the endeavour was to chart the nature and extent of informal segregation. In addition, interviews were used as a supplementary source to explore white holidaymakers' opinion about changing relations on South African beaches.

It became apparent that three types of informal segregation were operational in the racial interaction on Scottborough's beachfront. The first operated on a micro-territorial level whereby segregation generally approached 100%. A second level of segregation was manifest within broader patterns of racial distribution on the beachfront with indices of dissimilarity that revealed that the proportion of white and black occupants across different sectors of the beach was uneven. The third and most dramatic practice of segregation was evident on Boxing and New Year's Day when an influx of black holiday-makers was accompanied by a corresponding withdrawal of white holidaymakers.

These three levels of interaction represented examples of informal segregation and were part of the new segregation in South Africa. The practices that were highlighted were representations of a systematic process through which racial divisions were being reproduced in new forms.

1.5.2 Contact studies at a South African university

According to Odell, Korgen and Wang (2005), following Pettigrew's updated contact hypothesis, one expected levels of social distance among races to decrease amongst students at colleges and universities as this context provided situations with cross-racial potential for friendship, promoted positive interactions between racial groups, and established goals that required students of different races to work together. Schrieff et al. (2005) and Tredoux et al. (2005) conducted two separate contact studies at the University of Cape Town to determine if this was the case or not.

In the Schrieff et al. (2005) study, contact was examined as a natural phenomenon and they reported on a naturalistic, observational study of contact between students in university residence dining-halls. Seating patterns of students were observed for a month and analysed along the dimensions of spatial variation. Student's seating patterns were observed in order to reflect the organisation or spatial arrangement of the racial groups in the dining-halls. The data-capture tool that was utilised was a simple approximate sketch of the dining-halls. The sketches were analysed along dimensions of spatial variation.

The focus of the study was on how the social space of the dining-hall was occupied, used and organised, based on a belief that the spatial organisation of everyday relations was central to understanding the nature of the contact in the situation. The results showed a specific spatial configuration that represented the manifestation of high levels of informal segregation by suggesting that segregation of an informal type was clearly evident amongst Black and White students in the dining-halls. The spatial pattern of segregation appeared to be consistent with White and Black students regularly occupying the same tables and there was a tendency for the white minority to frequent the same side of the dining-halls.

In the Tredoux et al. (2005) study, it was argued that in naturalistic studies it was important to preserve both spatiality and temporality when studying intergroup contact, particularly when the focus was on varieties of informal contact and segregation and when the method was observational. As conventional methods did not facilitate the preservation of both the spatiality and temporality of contact data, photographs were taken of a public space with a fixed periodicity and vantage point, and with knowledge of the physical layout of the space, three-dimensional, time-marked data points were recorded for each inhabitant. Jameson steps, a public space that students occupy, was used as a test bed and the utility of this selection was highlighted in the data that was collected.

The data allowed for new insights into the nature of segregation and integration in informal spaces and provided evidence in support of taking temporality into account. It showed that in the public space selected for observation, when the space was relatively empty students self-segregated and when the space filled up, and there was competition for seats and less choice, the seating pattern became less segregated. In addition, certain spaces were consistently preferred by race groups, implying a process of spatial organisation at an intergroup level.

1.6 The current study

The current study represented an addition to the research on the contact hypothesis that had been conducted at the University of Cape Town to date. It was an attempt to explore the micro-ecology of racial relations further and embodied the study of persons in interaction rather than individuals in isolation (Foster, 2005). In keeping with the previous studies, it used innovative approaches for data collection. It shared the common methodological characteristic of being non-obtrusive.

Foster (2005) noted that the two studies conducted by Schrieff et al. and Tredoux et al. at the University of Cape Town were primarily descriptive in nature and that there was relatively little work on micro-interactions in South Africa. This study represented a step in overcoming the shortage of research of this nature as it examined the micro-interactions in everyday life of a small group of postgraduate students.

It is generally accepted that the University of Cape Town (UCT) is a politically liberal university with an integrated student population. The micro-interactions of the Organisational Psychology Honours class formed the basis of this contact study.

The study was a longitudinal study that occurred over a period of 6 months, with the small and the large group each having three measures taken during this period. The large group condition consisted of the entire 2007 Honours class of 33 students. The 2007 Honours class was selected from a third year class on the basis of academic merit and the Employment Equity policy requirements. As such, students moved from a big group environment to a smaller, more intimate group environment in which contact with fellow students would be easier. As part of their degree requirements, the students had to work together in groups to complete a research project. Students were allocated into their respective research groups by the department and had no input in the selection process.

The small group conditions were created by the course convenor, for purposes other than the study. For the purposes of the course, students were assigned to small, mixed groups (in terms of race and gender), and these groups were used to examine the effects of students working in mixed groups. All students had to rate themselves in terms of literacy and numeracy competence, and indicate their race and sex on a piece of paper. A facilitator set up a process where eight students were randomly selected from the class and were given copies of the self-ratings/identifications of the rest of the class. The eight students were

instructed to select a diverse research group, based on the information they had. This research group had to work together to produce a research project which contributed 50% towards their degree.

In order for contact between the members of the different social groups to yield positive effects in terms of the contact hypothesis, Allport's four optimal conditions and Pettigrew's friendship conditions were met:

- Within the specific contact situation, students enjoyed equal status as they were all studying at the same level and the course requirements applied to each of them in the same way.
- They pursued common goals as they all wished to complete their degree and the group research project within the prescribed timeframes and at a level expected of postgraduate students.
- Intergroup cooperation was in place as students had to work collaboratively in their research groups in order to successfully complete the group research project. The material consequence of their ability to work successfully together was the group mark that they would receive for the completed project.
- Institutional support for integration was in place through the strategy and policies of the University.
- Pre-existing friendships existed amongst some of the students who had studied together for three years and who were in their fourth year of study together. There was also the potential to become friends as close contact was required between the members of each research group. Furthermore, the smaller class setting was more conducive to the formation of friendships than the larger undergraduate class setting.

1.7 Social distance and political orientation

In addition to the use of race as a categorical variable in the study, the effects of social distance and political orientation on contact were measured. Bogardus (1933) defined social distance as “the systematic understanding that exists between persons, between groups, and between a person and each of his groups..... (Social distance) may take the form of either farness or nearness. Where there is little sympathetic understanding, social farness exists. Where sympathetic understanding is great, nearness exists” (cited in Siegel & Sheperd, 1959, p. 336). Social distance became a measure of how willing individuals are to associate with out-group members.

The Social Distance Scale that Bogardus published yielded a ranking of various groups in terms of the social distance at which the subject would prefer to hold them. Cover (1995) noted that the Social Distance Scale was one of the oldest attitude measures in survey research and that it consists of a sequence of progressively more intimate relationships. It measures people’s willingness to participate in social contact of varying degrees of closeness with members of the out-group. The differences in intensity of contact presumed that if the respondent is willing to accept a given kind of association, he/she would be willing to accept all those preceding it in the list of questions. The results indicated the degree to which members of groups desire to interact with members of other groups.

With regards to political orientation, the understanding was that a left wing political orientation indicated a willingness to engage in relationships with members of different race groups. Conversely, a conservative political orientation indicated an avoidance of contact with individuals from different race groups. Fiske (2002) noted that in contrast to well-intentioned moderates, extremists openly resented out-groups and rejected any possibility of intimacy with them

because they believed that out-groups and the in-group could never be comfortable together.

1.8 The research questions

There were two primary research questions that underpinned this study. They were as follows:

Research question 1

Part 1: Does prolonged voluntary contact in a larger classroom situation lead to the development of cross race friendships?

Part 2: Does social distance and political orientation influence patterns of making other race friends within the large group?

Research question 2

Part 1: Does socially engineered, prolonged contact in a small group situation influence team member selection and does political orientation and social distance have an influence?

Part 2: Does this type of contact influence the comfort, confidence and competence evaluations of group members and predicted performance?

In addition, it must be noted that students were in the large and the small groups simultaneously as they were part of the larger class but were separated into research groups for the purposes of completing their research projects.

METHOD

2.1 Participants

The Organisational Psychology Honours class of 2007 was used as the population for this study. There were 33 subjects, the total number of Organisational Psychology Honours students at UCT. There were a total of 27 women and 6 men. There were 18 White students and 15 black (African, Coloured, Indian students) in total in the class.

A longitudinal research design was chosen as the researcher wished to obtain information from a group of participants over time (Smith & Davis, 2003). According to Anderson (1991), it was an investigation in which responses were observed for the same study unit on more than one occasion but that the term should be reserved for studies in which time effects were intrinsically of interest. This applied to the current study as it examined the effect of friendship on intergroup contact over the period. This type of design allowed the researcher to establish change in individuals over time as the population experienced an identifiable alteration in intergroup experiences. Breakwell and Rose (2006) noted that a longitudinal design involved data being collected from the same sample or population on at least two occasions. The interval between the data collections and the number of collections varied greatly and the research could be contained in a few days or spread over several decades. In the case of the current study, information was obtained over a period of six months.

A common within-subjects or repeated measures design was chosen in which every participant was provided with the same opportunity to provide data for each treatment condition. Spatz and Kardas (2007, p. 283) referred to a longitudinal design as a "within-subjects design in which the participants contribute dependent variables scores to every level of the independent variable". A repeated measures design in which each participant provided data for every

treatment condition was the most common within-subjects design. Data was repeatedly obtained from each participant, but the conditions differed each time. In this study, each participant was involved in each measure and as such, the treatment occurred within one subject.

The main advantage of using a within-subjects design was that by comparing each participant with him or herself, even subtle treatment effects might be statistically significant. The same group of people received all the various conditions or levels of the independent variable (Davis & Bremner, 2006). Choosing this design had the advantage of each individual being tested under all the conditions of the study. Students were selected to participate on the basis of their membership to the Organisational Psychology Honours class and their willingness to participate in all the measures that comprised the study.

Mitchell and Jolley (1996) noted that the major reason for the within-subjects design's popularity was that it increased power in two ways. First, it helped to eliminate random error due to individual differences. Participants were not compared to one another, but were instead compared to each participant's score under one condition with that same participant's score under another condition. Second, the design increased the number of observations. The greater the number of observations, the more random error tended to balance out, and the greater the resulting power.

The longitudinal study ran over a period of 6 months and consisted of three measurement conditions each for the large and small groups respectively. The response rate for each of the three measurement conditions for the small and large groups was high and at the end of the data collection period, only complete data sets that included all the measurement variables were selected. Of the available data that was collected over the entire data collection period, 19 complete data sets were available for use. This represented a rate of 58% of complete data sets from the entire population.

The total number of complete data sets that were received could have been influenced by the problems of participant attrition and participant non-compliance. The former refers to participants who dropped out of the study while it was still in progress and the latter refers to participants who did not comply with the research procedure (Barrett, 2006). In the case of the current study, participants could have dropped out during the course of the study or it was possible that they did not participate in all the measurement conditions as required. Each of these possibilities provided a valid reason as to why from the initial high response rate, complete data sets were obtained from 58% of the total population of Honours students.

2.2 Data collection

Prior to the completion of each round of data collection, participants from both the large and small groups were provided with a brief explanation of the data collection tools and their associated scales, when applicable. Measures were completed electronically by participants and data was recorded by the computer program that had been designed.

With the large group, the first measure had a web page that displayed photographs of the Honours class, with no names and competencies. Through drag and drop options, students were requested to indicate the type of interaction that they had with each of their classmates. They were then requested to select, from the group of unknown classmates, who they wished to form friendships with. In addition, they were requested to complete the political orientation and a social distance scales. In the second measure the students were requested, through the use of vignettes (web page displaying photographs) to indicate their current interactions with their classmates. In the third measure students were requested to complete the same measures that were used during the first round of measurement.

The following time line, depicted in Table 1 below, was used to collect data for the large group over a period of six months:

Table 1. Time line for data collection

Condition	Photo selection task	Questionnaires	Demographic Data
Large group (Appendix B): First measure (Induction week February)	Current friendships Potential friendships	Social distance (Bogardus) Political orientation	Race, sex, nationality, UCT Undergraduate, socio economic class
Large group (Appendix C): Second measure (April)	Current friendships		
Large group (Appendix D): Third measure (August)	Current friendships Potential friendships	Social distance (Bogardus) Political orientation	

With the small group, in the first measure a web page displayed photographs of all the students, with no names or competencies listed and students were requested to select four people with whom they wished to do research with for the year. The students were then requested to complete a 5 point Likert scale. This was followed up with vignettes that displayed the chosen research group and students had to chose team members based on English writing skills, data analysis and time management. Last, students were requested to provide their demographic variables. In the second measure, students were requested to answer questions about satisfaction, comfort and confidence with their selected research group. They were also requested to completed vignettes relating to English writing skills, data analysis and time management. In the third measure students were required to use the same data collection tools that were used in the second measure.

The following time line, depicted in Table 2 below, was used to collect data for the small group over a period of six months:

Table 2. Time line for data collection

Condition	Photo selection task	Questionnaires	Demographic Data
Small group (Appendix E): First measure (Induction week)	Current friendships Selection of desired research group	Attitudes towards desired group members	Race and sex
Small group (Appendix F): (February – after research group selection week)	Current friendships	Attitudes towards real research group members	
Small group (Appendix G): Second measure April after literature review)	Current friendships	Attitudes towards real research group members	

2.3 Materials

The study used custom-written software which contained photographs of the participants and questionnaire items. All the measurements were web-based which allowed the students to respond to the measures in their own time. Students provided the researcher with written permission to use their photographs in the study. Students were also informed that participation in the study was voluntary, that there was no risk associated with participation and that there would be no consequences for them, should they choose not to participate in the study (Appendix A).

Students logged on to the data collection tool by using their student numbers. These numbers were stripped from the data by the webmaster so that anonymity was guaranteed. Ethical clearance for the use of this tool was obtained from the Commerce Faculty's Ethics Committee. All photographs were full frontal colour

portraits, showing head and shoulders. The photographs were taken under studio conditions and size, lighting, background and quality of the images were standardised.

Data were collected over time and repeatedly in two conditions: a large group condition (where photographs of the whole class were displayed after log on, see Appendix B, C and D) and a small group condition (where photographs of a four or five-person research group was displayed only to members of that group, see Appendix E, F and G).

The data collection tools were essentially the same for the subsequent data collection events, with small changes in the wording to fit in with the time of the data collection.

RESULTS

In this chapter the results of the data analysis are reported and presented. The statistical package used for the analyses in this research is Statistica release 7.

For all tests of statistical analysis, alpha was set at 0.05.

3. 1 Descriptive statistics

The total number of students who participated in all the measurements are displayed in Table 3. The descriptive data shows that the majority of students who completed all the measures were White, almost 58%. The data indicates that there were noticeably lower proportions of African and Coloured students who did so (10% and 32% respectively), but this value rose significantly when their proportions were combined. Therefore, for the purposes of analysis, the African and Coloured race categories were combined to create the category of generic Black. The Indian students chose not to participate in the study.

Table 3. Racial composition of students who participated in all measurement conditions

Category	Count	Percentage
White	11	58%
Black	8	42%

3. 2 Analysis for research question one

Part 1: Does prolonged voluntary contact in a larger classroom situation lead to the development of cross race friendships?

Factorial analysis of variance (ANOVA) was computed to determine whether voluntary contact led to the development of inter-racial friendships. ANOVA was used to determine whether statistical differences were present between the group means for the large group. The number of other race friends (actual and desired) was analysed.

The categorical independent variable generic race (White and generic Black combined) and the single metric dependent variable, the desired number of other race friends expressed as a proportion of the number of other race friends indicated at Times 1 and 3, were considered. Analysis of these variables over the two measurement conditions yielded significant results ($df = 1$; $F = 14.76358$; $p = 0.0013$). The results indicated that at Time 1 the proportion of White students who desired to make other race friends was higher than that of the Black students. At Time 3 the proportion of both the White and Black students who desired to make new other race friends decreased significantly. The proportion of Black students that desired new friendships with other race students was slightly higher than that of the White students. The results of this analysis are indicated in Figure 1.

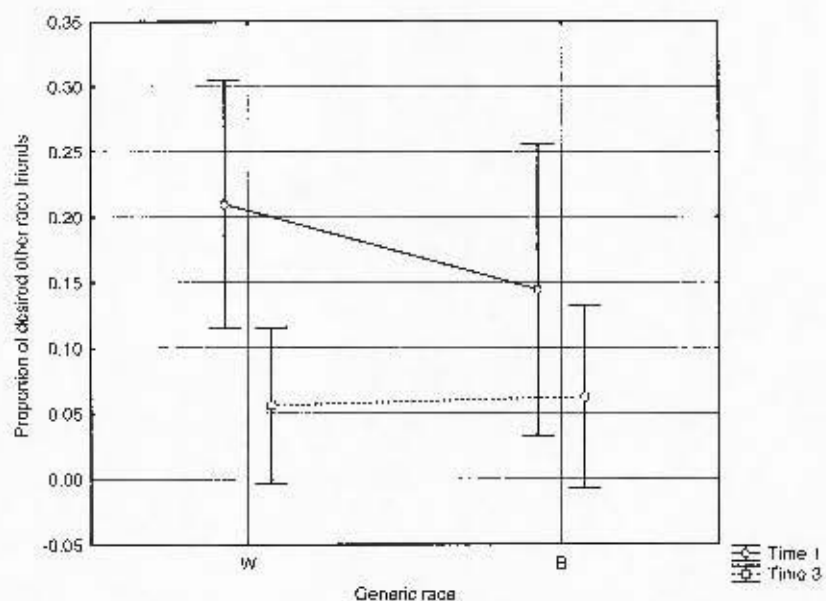


Figure 1. Proportion who desired other race friends at Times 1 and 3

The results for an analysis of actual inter-racial friendships that were formed over the three measurement conditions with race as a categorical factor produced significant results ($df = 2$; $F = 13.9112$; $p = 0.000039$). The results indicated that number of actual other race friends for both White and Black students increased over the three measures. The results also indicated that the Black students formed a larger number of other race friendships than the White students. The results are displayed in Figure 2 below.

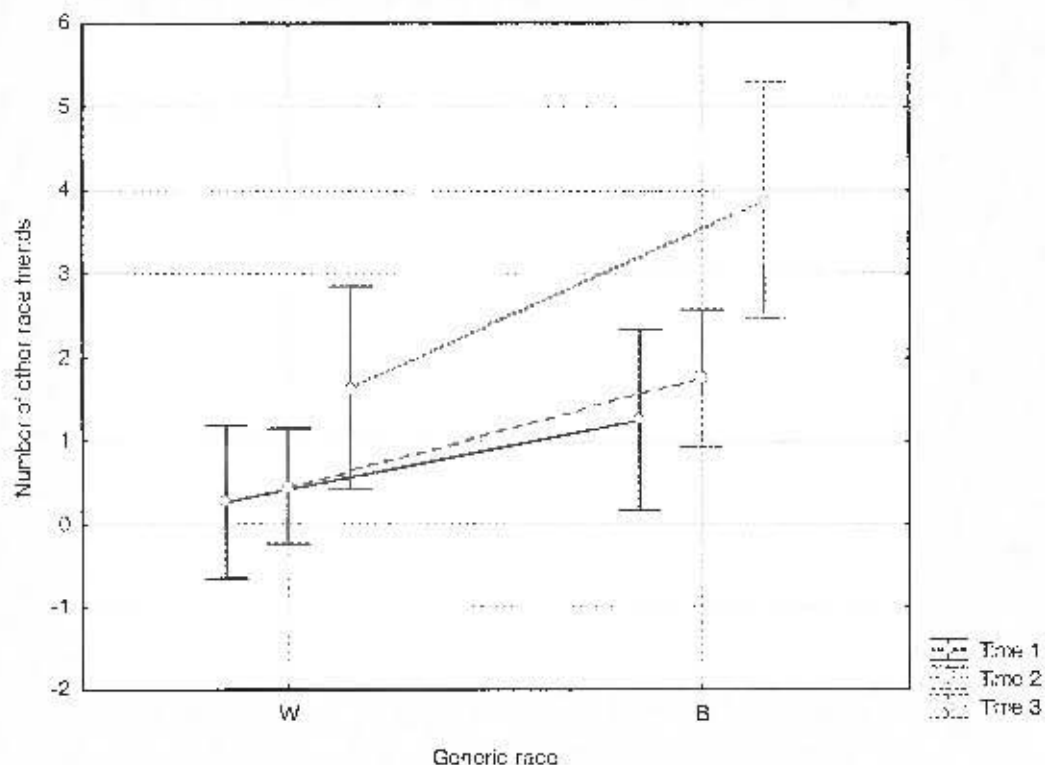


Figure 2. The actual number of actual other race friends chosen at Times 1, 2 and 4

The number of actual other race acquaintances at Time 1 and Time 3 was analysed with race as a plain categorical factor and significant results were yielded ($df = 1$; $F = 15.6856$; $p = 0.0010$). At Time 1 the White students had a lower number of other race acquaintances than the Blacks student. There was a

significant increase in the number of other race acquaintances for both groups at Time 3, with little difference between the number of other race acquaintances between White and Black students. The results are displayed in Figure 3.

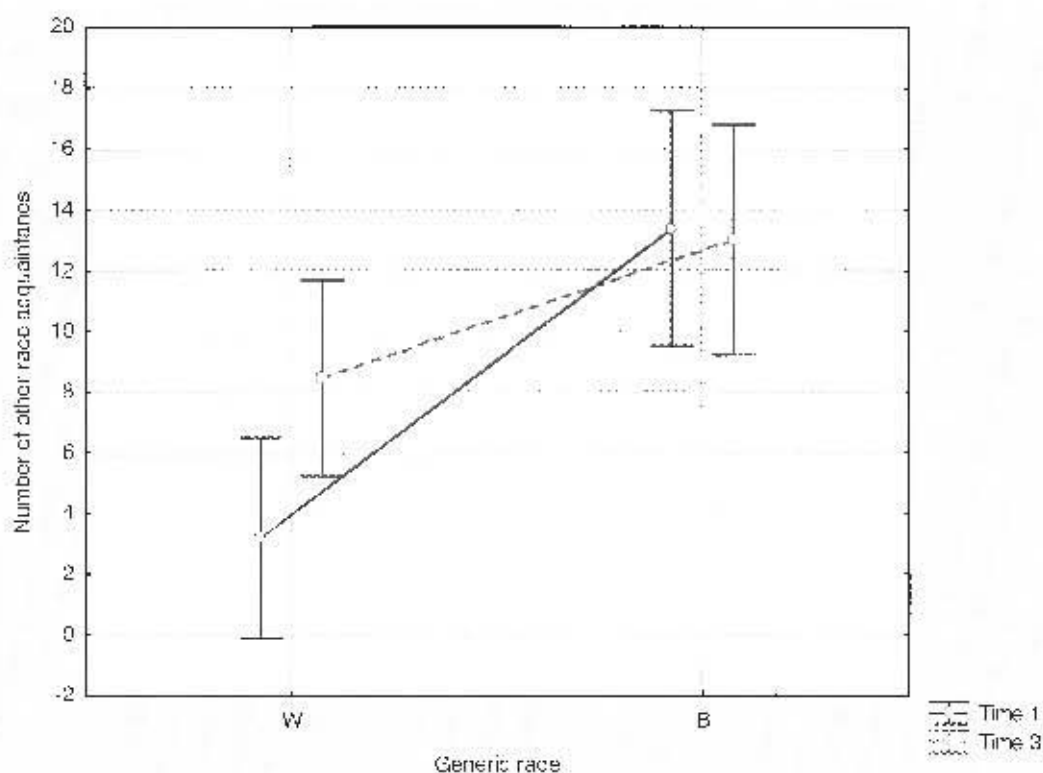


Figure 3. Number of actual other race acquaintances at Time 1 and Time 3

A more detailed analysis of inter-racial friendships and acquaintances that were formed over the period was undertaken. Race and the variable desired contact, the extent to which students wanted to form friendships with students from other racial groups within the population, were analysed together as categorical variables. The researcher built the variable desired contact by calculating the median for the proportion of desired other race friends and acquaintances that were chosen. Those below the median were split into those who avoided contact and those who were higher than the median were indicated as wanting contact. This analysis was conducted in order to assess whether the students who indicated that they desired contact with other race students did indeed seek out

other race friends and acquaintances and whether those who indicated a lack of desire to form inter-racial friendships experienced a change in the number of new inter-racial friendships that were formed.

The number of desired other race friends at Times 1 and 3 was analysed with generic race and desired contact as categorical variables and the analysis yielded significant results ($\chi^2 = 1$; $F = 9.8665$; $p = 0.0067$). The proportion of White and Black students who desired contact at Time 1 was almost the same. At time 3, the number of White students who desired contact remained unchanged and there was a significant increase in the number of Black students who desired inter-racial friendships.

Overall, the analysis indicated that the proportion of Black students who did not desire inter-racial friendships was higher than the White students. The proportion of Black and White students who indicated that they did not desire contact at Time 3, decreased when compared to Time 1. The results of the analysis are indicated in Figure 4 below.

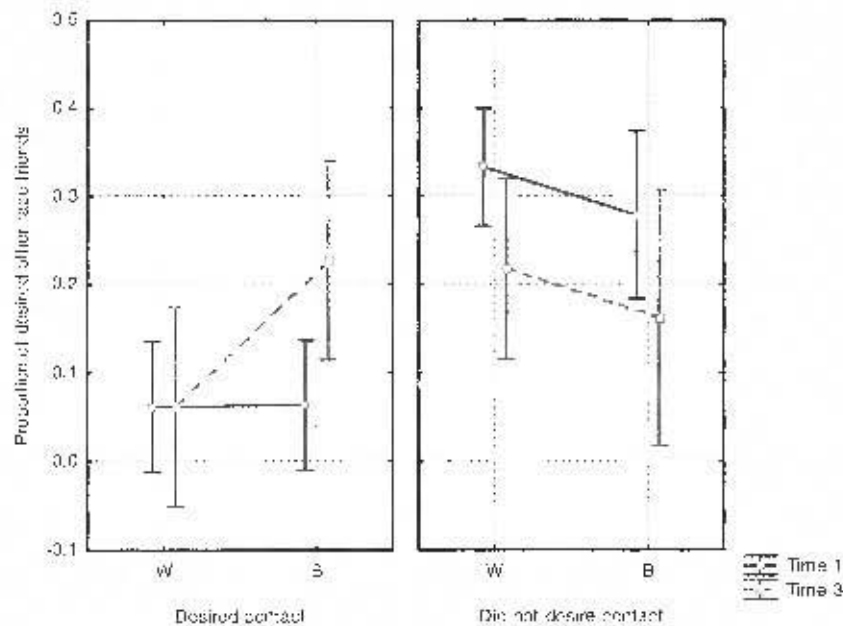


Figure 4. The proportion of desired other race friends analysed with race and the desire for contact

The number of actual other race friends at Times 1 and 3 was analysed with generic race and desired contact as plain categorical variables in order to determine if the variable desired contact would provide an indication of the extent to which new other race friendships would be developed. The analysis produced significant results ($df = 1; F = 19.3536; p = 0.0005$). The results indicated that overall the White and Black students who indicated that they desired inter-racial at Time 1 developed more other race friendships at Time 3.

For the White students, the number of actual inter-racial friendships decreased from Time 1 to Time 3 for those students who indicated that they did not desire inter-racial contact. For the Black students, the number of inter-racial friendships increased. The results of the analysis are displayed in Figure 5 below.

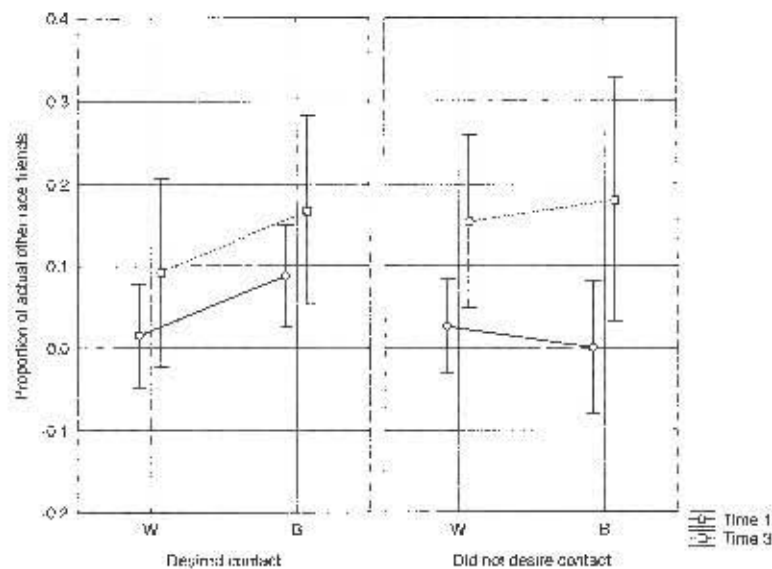


Figure 5. Analysis of actual other race friends and generic race and desired contact at Times 1 and 3

In conclusion, the results indicated that over time, the number of inter-racial friendships and acquaintances increased in a context in which contact was voluntary. This provided support for answering the first part of research question one in terms of the patterns of friendships and acquaintances that were formed within this particular group.

Part 2: Does social distance and political orientation influence patterns of making other race friends within the large group?

Correlations were conducted to assess whether social distance and political orientation influenced the patterns of making other race friends. They were used to determine the relationships between political orientation (1 = conservative; 10 = left wing) and inter-racial friendships and the Bogardus social distance scale for own and other race (0 = high social distance; 4 = low social distance) and patterns of making other race friends within the large group.

Number of friends over time is an exact measure as it relates to a physical count and is not based on an opinion scale. Number of friends was therefore measured in support of the research question. Political orientation was correlated with the number of actual and desired number of other race friends at Times 1 and 3 in order to determine whether it predicted inter-racial friendships. Correlations with political orientation and the actual number of other race friends at Time 1 ($r = 0.31$) and Time 3 ($r = 0.37$) and the number of desired other race friends at Time 1 ($r = 0.19$) and Time 3 ($r = -0.01$) served to indicate that in the case of this study, political orientation was not a strong predictor of inter-racial friendships.

Social distance was also correlated with the number of actual inter-racial friendships at Time 1 ($r = 0.22$) and Time 3 ($r = 0.14$) and the desired other race friends at Time 1 ($r = 0.28$) and Time 3 ($r = 0.27$) in order to determine whether it predicted inter-racial friendships. The results indicated that in the case of this study, social distance was not a strong predictor of inter-racial friendships.

In response to the second part of research question one, the Bogardus Social Distance Scale and political orientation did not correlate with the number of other race friends and this is consistent with the literature (Cover, 1995; Pettigrew, 1960; Siegel & Sheperd, 1959).

3.3 Analysis for research question 2

Part 1: Does socially engineered, prolonged contact in a small group situation influence team member selection and does political orientation and social distance have an influence?

Part 2: Does this type of contact influence the comfort, confidence and competence evaluations of group members and predicted?

Correlation coefficients were computed to describe how strongly variables were related to each other. Political orientation and Bogardus Social Distance were correlated with the number of other race people chosen in the ideal team. Correlations were used to determine the relationships between political orientation (1 = conservative; 10 = left wing) and the Bogardus social distance scale for own and other race (0 = high social distance; 4 = low social distance) and team member selection.

Correlations were computed for the relationship between political orientation and the number of other race people chosen in the ideal team ($r = -0.12$) at Time 1 and social distance with the number of other race people chosen in the ideal team at time 1 ($r = 0.02$). The lack of correlation between political orientation and anything else in this section is also not unexpected.

Vignettes were used to measure perceived competence based along racial lines. This was of relevance to the research question because initially the researcher

thought that it would have an effect on the way in which competence would be perceived by the different race groups. The vignettes were used to gather data to assess whether this effect would hold or not. Chi-square analysis was conducted to test the statistical significance between the frequency distributions of White and generic Black students on questions that related to competence, comfort and confidence assessments in the small group. The tests were applied to test the relationship between race as a categorical factor and the number of own race vignettes chosen at Times 1, 2 and 3 when evaluating competence (English writing skills, data analysis and time management).

The chi-square test for English writing skills did not yield a significant result ($\chi^2 = 1.6830$, $df = 2$, $p > 0.05$), indicating that increased and prolonged contact had no significant impact in improving the number of other race choices made over the three measurement conditions.

Table 4. Own race choices for English writing skills (vignette 1)

Race	Time 1	Time 2	Time 3
White	10	10	9
Black	2	1	0

The chi-square tests for data analysis ($\chi^2 = 1.3333$, $df = 2$, $p > 0.05$). For the Black students, the number of own race choices decreased at Time 3. Table 5 indicates the results of this analysis.

Table 5. Own race choices for data analysis (vignette 2)

Race	Time 1	Time 2	Time 3
White	5	7	6
Black	3	1	2

The chi-square test for time management ($\chi^2 = 1.2489$, $df = 2$, $p > 0.05$) did not yield a significant result either. For the Black students, the number of own race choices decreased at Time 3. Table 6 indicates the results of this analysis.

Table 6. Own race choices for time management (vignette 3)

Race	Time 1	Time 2	Time 3
White	8	6	8
Black	5	6	3

Related to the second part of question two, repeated measures ANOVA was used to analyse confidence in the group, which was measured over the three conditions, and race as a plain categorical factor. The analysis yielded no significant results. Comfort in working with the group that was chosen was analysed with race and the results were significant ($df = 2$; $F = 3.3370$; $p = 0.0475$). This indicates that there was a decrease in the comfort levels experienced at Time 2 when the group selection had taken place in February and at Time 3 in April after the literature review for the research project had to be written and the group had worked together.

Confidence measures over the three conditions were analysed with race and desired contact as categorical variables and there were no significant results for the variables. As discussed in the analysis of research question one, desired contact is a variable that was constructed by the researcher. Students were not asked if they wanted it directly. It was inferred from their responses and a two-level variable was built from that. The lack of significance indicates that there is no effect between the independent variables and measures of confidence.

Estimated future competence as rated by each participant, based on English writing skills, data analysis and time management was analysed with race as a plain categorical variable. The analysis with time management produced no

significant results. The analyses with English writing skills ($df = 1; F = 40.1111; p = 0.00001$) and data collection ($df = 1; F = 5.92593; p = 0.0278$) produced significant results. This indicates that there is a strong effect between the race of the group member and evaluations of competence based on English writing ability and data analysis.

DISCUSSION

The purpose of this study was to examine whether contact outcomes varied across the large and small group contexts. First, the study examined the effect of voluntary intergroup contact and the effect that social distance and political orientation had on making other race friends within the large group. Second, the study examined whether socially engineered, prolonged contact in a small group situation resulted in the development of intergroup friendships and whether this type of contact influenced competence evaluations of group members. The aim of the study was to observe intergroup contact within an ordinary day to day setting. The expectation was that improved contact would lead to an increase in friendships and more positive evaluations of the competence of the mixed group.

4.1 Contact within the large group

The results of the data analysis revealed that with regards to part one of research question 1, prolonged voluntary contact in the larger classroom situation led to the development of an increased number of inter-racial friendships and acquaintances, with Black students forming a larger number of these relationships than White students. The analysis also revealed that a higher proportion of the Black students expressed the desire to form inter-racial friendships. With regards to part two of research question one, the Bogardus Social Distance Scale and political orientation did not correlate with the number of actual other race friends and this was consistent with the literature (Cover, 1995; Pettigrew, 1960; Siegel & Sheperd, 1959).

Tropp and Pettigrew (2005) in their meta-analytical review of the contact hypothesis offered an explanation of the contact hypothesis that differed from the results that were obtained from the large group analysis. They found that recent research had begun to consider the distinct ways in which members of minority and majority status groups responded to intergroup contact given their varying

experiences in the broader society. Contact prejudice relationships were generally weaker for members of minority status groups than for members of majority status groups. Therefore, for minority status groups, the constant recognition that their group was denigrated inhibited the potential for positive contact outcomes and exposure from the majority status group provoked more negative intergroup attitudes. Such an effect was unlikely to occur with members of majority status groups. In the current study, the minority status group formed more inter-racial friendships over the period of the study than the majority status group, which served as an indication of a positive rather than a negative intergroup experience.

A possible explanation for the White students forming less other race friendships than the Black students, and hence experiencing a less positive contact outcome, was offered by Finchilescu (2005). She noted that an observation of inter-race relations and public institutions in South Africa indicated that apartheid segregation was still in operation. The contact studies that were conducted at UCT by Schrieff et al. (2005) and Tredoux et al. (2005) reported on the racialisation of communal spaces and Finchilescu (2005) served to outline some of the factors that might account for this informal segregation. She focused on the construct of the meta-stereotype.

Finchilescu (2005) cited research conducted by Stephan and Stephan (1985) who located the avoidance of contact in a phenomenon that they termed intergroup anxiety. This type of anxiety stemmed from contact with out-group members and resulted in range of destructive outcomes in addition to the avoidance of contact. A number of antecedent conditions and perceptions were identified. With respect to prior intergroup relations, the critical issue was the amount and the nature of the contact. High anxiety occurred if there was negligible contact in the past or a history of conflict. Secondly, the greater the inequity between the groups in terms of status, the greater the anxiety that was experienced. Lastly, the nature of the contact situation was an important

determinant of anxiety. Greater anxiety resulted when there was competition, the situation was unclear or when the situation established unequal status between the interacting groups.

According to Finchilescu (2005), within the South African context, the amount of contact that race groups had was small and limited to asymmetrical, superficial types of contact. Post-apartheid policies of redress such as affirmative action between member groups and cultural differences between race groups contributed to perceptions of dissimilarity. She argued that intergroup anxiety that resulted from these differences might have been experienced in many situations of intergroup contact in South Africa and could be the basis of observed formal segregation, yet there was another factor that contributed to intergroup anxiety, that of meta-stereotypes. Meta-stereotypes were introduced as another antecedent factor that led to anxiety and were "stereotypes that members of a group believe that members of an out-group hold of them and carry a range of emotional and behavioural consequences" (Finchilescu, 2005, p.465). For a meta-stereotype to exist there had to be the common belief that that out-group saw the in-group as having possessed a certain characteristic. The experience of being stereotyped was unpleasant, especially if the content of the stereotypes was thought to be negative.

A South African contact study conducted by Finchilescu, Hunt, Mankge and Nunez (2002) with White and African students examined the effect of endorsed negative meta-stereotypes that were moderated by a level of prejudice, on the anxiety that was experienced by the participants. Of particular relevance was the finding that the low-prejudice White students who believed that the African students held negative stereotypes of Whites, displayed the most anxiety. The result of the heightened intergroup anxiety was avoidance of contact and hostility towards the out-group. According to Foster (2005), the consequence of being stereotyped by others was retreat to places of safety or comfort zones, away from the threat which resulted in the reproduction of segregation. This result

offered a plausible explanation of the results that were obtained for the White students in the large group situation.

4.2 Contact within the small group

With regards to part one of research question two, there was a lack of correlation between political orientation and social distance. These factors did not impact on who the students in the small group selected to be on their team. Assessments based on race of how comfortable students were in working in their research groups indicated a decrease over time of the levels of comfort that was felt. The analysis of confidence measures indicated that there were no significant results for the variables. For estimated competence as rated by each participant, the analysis between race and time management yielded no significant results. The data analysis indicated a significant relationship between the race of the group member and competence evaluations based on English writing skills and data analysis with Whites consistently making own race choices with the vignettes. Black students increasingly chose other race vignettes over the three measurement conditions.

These findings were contrary to the meta-analysis conducted by Tropp and Pettigrew (2005) who found that optimal contact conditions yielded different patterns of contact-prejudice relationships for minority and majority status groups. The patterns suggested that contact-prejudice relationships were generally weaker for members of minority status groups, even when the contact situation was structured to maximise positive outcomes. From this they concluded that the traditional focus of establishing optimal conditions might be insufficient to promote positive inter-racial relationships between in- and out-groups. Researchers should pay greater attention to perceptions and experiences that are likely to shape the manner in which group members conceive of intergroup relations.

A possible explanation of the results achieved for the White students is offered by Berryman-Fink (2006) who noted that for students who interacted solely on the basis of role-related behaviours or who were placed together in competitive situations, or who perceived differences between themselves and others, intergroup contact might actually have exacerbated the conflict. Research conducted by Bornman (1992) on factors affecting ethnic relations in the South African workplace supported the view that contrary to the contact hypothesis, contact could result in more negative attitudes.

Research that was conducted by Tendayi Viki, Culmer, Eller and Abrahams (2006) indicated that there were important theoretical implications concerning the contact hypothesis and the exacerbation of conflict. First, the quality of contact was useful in predicting attitudes and prejudice and also intentions to behave in particular manner towards the out-group. In the research study, it could be that forced rather than voluntary contact between students and/or the intention of the White students to behave in a particular way towards the Black students mitigated against the reduction of prejudice towards the Black students. This view was supported by Robinson and Preston (1976) who noted that equal status inter-racial contact appeared to be a necessary but not sufficient basis for the reduction of prejudice and that contact was unlikely to yield favourable results when members are involved in involuntary contact situations.

Second, contact had to be positive in nature to be useful in improving intergroup relations. The time spent with each other and the presence of the optimal conditions was insufficient to have positive effects on intergroup relations. It was imperative that good quality contact had to be established for contact to have positive effects on intergroup relations. If this contact was absent in the small group, it offered a possible explanation as to why it was that despite prolonged contact with the Black students, the White students were unchanging in their own race choices. This view also fitted in with the research conducted by O' Driscoll, Haque and Ohsako (1983) whose data indicated that the amount of

contact by itself might not have substantially altered perceptions of similarity and that other aspects of the contact experience, such as intimacy and the type of contact situation, mediated the effects of intergroup contact.

4.3 Limitations of the study

Consideration must be given to the size of the group as group size can influence in-group bias and relatively smaller groups may be inclined to perceive the aggregate as two separate groups and thereby yield a situation that may be predictive of bias (Lipponen & Leskinen, 2006). The trade off of the small research group and the associated biases versus a larger sample size with reduced biases is the ability to conduct a longitudinal study with repeated measures of the same instrument. However, the smaller sample size does mean that the results cannot be generalised to other Organisational Psychology Honours students in South Africa or elsewhere. As such, the results that were obtained are only applicable to the population in which the study was conducted. A more variable geographical, educational and socio-economic sample may have produced different contact experiences.

There could also have been an intervention effect or measurement sensitisation on the part of the students who completed the same measure on more than one occasion. The within-subjects design with its serial nature of testing could have given rise to an order effect. This effect results when doing one task first and another second influences personal performance (Davis & Bremner, 1996). Familiarity with the set-up and procedure could result in a distortion of the interpretation of the results.

In addition, the study is limited by the fact the subjects were both in the large and small groups simultaneously, thus making it difficult to extract which effects were as a result of membership of the small group and which were as a result of large

group membership. However, this situation was unavoidable for both ethical and practical reasons.

Lastly, an assumption made with the use of the political orientation scale was that left wing political orientation indicated a willingness to engage in relationships with members of different race groups while a conservative political orientation indicated an avoidance of contact with other race groups. However, within the South African context, political orientation could mean different things for different people and the manifestation thereof could be different in different communities. In a society in which equity and transformation are highlighted and endorsed, it could be that contact with other race groups in the public sphere is practiced in order to be perceived as being politically correct as opposed to being an indication of political orientation.

4.4 Further research

Dixon and Durrheim (2003) noted that most work on segregation had studied social relations at a macro-sociological level and that there was currently a shortage of techniques for gathering and analysing data about segregation operating at more intimate levels. This view was reiterated by Dixon, Tredoux and Clack (2005) who believed that the careful observation of processes of contact and segregation as they unfolded was the necessary first step towards research on micro-ecological processes.

Through adopting innovative and unobtrusive data collection techniques to explore segregation at the intimate levels that Dixon and Durrheim (2003) referred to, the current study sought to examine whether the diversity that was reflected in the student numbers at the University of Cape Town would be reflected in the diversity in the social interactions amongst the 2007 Organisational Psychology Honours students. Contact research had suggested that direct contact and the presence of optimal conditions were necessary for the

reduction of prejudice. However, the results obtained from this study indicated that creating opportunities for inter-racial friendship formation were impacted upon by two factors.

The first factor was that the quality of the contact experienced by the small and large groups respectively impacted on the extent to which inter-racial friendships developed. The second factor that emerged was that meta-stereotypes possibly acted as an antecedent in heightening intergroup anxiety, particularly amongst the White students. The longitudinal study allowed for the careful observation of the process of contact and segregation that Dixon et al. (2005) referred to.

There are a number of recent ground-breaking contact studies that have been conducted in South Africa and the challenge is to continue with research within this tradition, to delve beneath the surface, in order to understand how it is that people make sense of their social reality through their daily lived experiences. This is of particular relevance in the South African context in which formal segregation is no longer sanctioned but in which daily examples of informal segregation abound. In keeping with Pettigrew and Tropp's (2006) recommendation, further attention must be granted to the negative factors that prevent intergroup contact from reducing prejudice because such an emphasis would facilitate the understanding of the conditions that promote and inhibit the potentially positive effects of contact and lead to the development of a more comprehensive theory of intergroup contact.

With regards to the current study, it presents the possibility that under the current political and social dispensation, the political shift in power from Whites to Blacks and the emerging wealth amongst the Black middle class, has shifted the traditional boundaries of Whites as the majority, in terms of political and economic power, and Blacks as the minority, in terms of political and economic power. These changes have resulted in a lack of clearly defined distinctions between the minority and the majority. If we consider blacks to be the majority

group and Whites to be the minority group, the results confirm Tropp and Pettigrew's (2005) analysis. The results could pose the possibility that Blacks now comprise the majority group and Whites the minority group and presents the opportunity for further exploration of the topic.

REFERENCES

Aberson, C.L., Shoemaker, C. & Tomollillo, C. (2004). Implicit bias and contact: The role of interethnic friendship. *The Journal of Social Psychology, 144*(3), 335-347.

Allport, G.W. (1954). *The nature of prejudice*. Massachusetts: Addison-Wesley Publishing Company.

Anderson, A. (1991). Repeated measures: Groups x occasions designs. In Lovie, P. & Lovie, A. D. (Eds.). *New developments in statistics for psychology and the social sciences*. London: BPS Books.

Barrett, M. (2006). Practical and ethical issues in planning research design. In Breakwell, G.M., Hammond, S., Fife-Schaw, C. & Smith, J. (Eds.), *Research methods in psychology*, (pp. 2-23). London: Sage Publications.

Berryman-Fink, C. (2006) Reducing prejudice on campus: The role of inter-group contact in diversity education. *College Student Journal, 40*.

Bogardus, E.S. (1933). *Social distance*. Ohio: Antioch.

Bornman, E. (1992). Factors influencing ethnic attitudes in South African work situations. *The Journal of Social Psychology, 132*(5), 641-653.

Breakwell, G.M. & Rose, D. (2006). Theory, method and research design. In Breakwell, G.M., Hammond, S., Fife-Schaw, C. & Smith, J. (Eds.), *Research methods in psychology*, (pp. 2-23). London: Sage Publications.

Brewer, M.B. & Miller, N. (1984). Beyond the contact hypothesis: Theoretical perspectives on desegregation. In Miller, N. & Brewer, M.B. (Eds.). *Groups in*

contact: The psychology of desegregation, (pp. 281-302). New York: Academic Press.

Cagle, L.T. (1973). Interracial housing: A reassessment of the equal-status contact hypothesis. *Sociology and Social Research*, 57, 342-355.

Cairns, E., Kenworthy, J. & Campbell, A. (2006) The role of in-group identification, religious group membership and intergroup conflict in moderating in-group and out-group effect. *British Journal of Social Psychology*, 45, 701-716.

Connolly, P. (2000) What now for the contact hypothesis? Towards a new research agenda. *Race Ethnicity and Education*, 3.

Cook, S.W. (1978). Interpersonal and attitudinal outcomes in cooperating interracial groups. *Journal of Research and Developmental Education*, 12, 155-185.

Cook, S.W. (1984). Cooperative interaction in multiethnic contexts. In Miller, N. & Brewer, M.B. (Eds.). *Groups in contact: The psychology of desegregation*, (pp. 281-302). New York: Academic Press.

Cover, J.D. (1995). The effects of social contact on prejudice. *The Journal of Social Psychology*, 135(3), 403-405.

Davis, A. & Bremner, G. (2006). The experimental method in psychology. In Breakwell, G.M., Hammond, S., Fife-Schaw, C. & Smith, J. (Eds.), *Research methods in psychology*, (pp. 2-23). London: Sage Publications.

Desforges, D.M., Lord, C.G., Ramsey, S.L., Mason, J.A. & Van Leeuwen, M.D. (1991). Effects of structured cooperative contact on changing negative attitudes

toward stigmatised social groups. *Journal of Personality and Social Psychology*, 60, 531-544.

Dixon, J. A. & Durrheim, K. (2003). Contact and the ecology of racial division: Some varieties of formal segregation. *British Journal of Social Psychology*, 42, 1-23.

Dixon, J.A. & Durrheim, K. (2005). Studying talk and embodied practices: Toward a psychology and materiality of race relations. *Journal of Community and Applied Social Psychology*, 15, 446-460.

Dixon, J., Durrheim, K. & Tredoux, C. (2005). Beyond the optimal contact strategy: A reality check for the contact hypothesis. *American Psychologist*, 60 (7), 697-711.

Dixon, J., Tredoux, C., & Clack, B. (2005) On the micro-ecology of racial division: A neglected dimension of segregation. *South African Journal of Psychology*, 35 (3), 395-411.

Dovidio, J.F. & Gaertner, S.L. (1999) Reducing prejudice: Combating inter-group bias. *Current Directions in Psychological Science*, 101-105.

Durrheim, K. (2005) Socio-spatial practice and representations in a changing South Africa. *South African Journal of Psychology*, 35(3), 444-459.

Durrheim, K., & Dixon, J.A. (2005) *Racial Encounter: The social psychology of contact and desegregation*. London: Psychology Press.

Finchilescu, G. (2005). Meta-stereotypes may hinder inter-racial contact. *South African Journal of Psychology*, 35(3), 460-472.

Finchilescu, G., Hunt, K., Mankge, K. & Nunez, D. (2002, June). Meta-stereotypes, attitudes and anxiety in a situation of inter-racial interaction. Paper presented at the 13th Meeting of the European Association of Experimental Social Psychology, San Sebastian, Spain.

Fine, G.A. (1970). The Pinkston settlement: A historical and social psychological investigation of the contact hypothesis. *Phylon*, 40, 229-242.

Fiske, S.T. (2002). What we know about bias and intergroup conflict, the problem of the century. *American Psychological Society*, 123-128.

Foster, D. (2005). Racialisation and the micro-ecology of contact. *South African Journal of Psychology*, 35(3), 494-504.

Hean, S. & Dickinson, C. (2005). The contact hypothesis: An exploration of its further potential in interprofessional education. *Journal of Interprofessional Care*, 19, 480-491.

Hewstone, M. & Brown, R. (1986). Contact is not enough: An intergroup perspective on the contact hypothesis. In Hewstone, M. & Brown, R. (Eds.). *Contact and conflict in intergroup encounters*, (pp.1-44). Cambridge: Basil Blackwell.

Hopkins, N. & Kahani-Hopkins, V. (2006) Minority group members' theories of intergroup contact: A case study of British Muslims' conceptualisations of 'Islamophobia' and social change. *British Journal of Social Psychology*, 45, 245-264.

Hughes, J. (2007) Mediating and moderating effects of inter-group contact: Case studies from bilingual/bi-national schools in Israel. *Journal of Ethnic and Migration Studies*, 33, 419-437.

Jackman, M.R. & Crane, M. (1986). "Some of my best friends are Black....": Interracial friendship and White's racial attitudes. *Public Opinion Quarterly*, 50, 459-486.

Johnston, L. & Hewstone, M. (1992). Cognitive models of stereotype change: Subtyping and the perceived typicality of disconfirming group members. *Journal of Experimental Social Psychology*, 28, 360-386.

Liebkind, K., Haaramo, J. & Jasinskja-Lahti, I. (2000) Effects of contact on intergroup attitudes of different professionals. *Journal of Community & Applied Social Psychology*, 10, 171-181.

Lipponen, J. & Leskinen, J. (2006) Conditions of contact, common-in group identity and in-group bias toward contingent workers. *The Journal of Social Psychology*, 146, 671-684.

Mclaren, L.M. (2003) Anti-immigrant prejudice in Europe: Contact, threat perception and preference for the exclusion of migrants. *Social Issues*, 81.

Meer, B. & Freedman, E. (1966). The impact of Negro neighbours on White home owners. *Social Forces*, 45, 11-19.

Mitchell, M. & Jolley, J. (1996). *Research design explained*. Florida: Harcourt Brace College Publishers.

Nielsen, I., Nyland, C., Smyth, R., Zhang, M. & Zhu, C.J. (2006) Effects of intergroup contact on attitudes of Chinesees urban workers to migrant workers. *Urban Studies*, 43, 475-490.

O' Driscoll, M., Haque, A. & Ohsako, T. (1983) Effect of contact and perceived attitude differences on social distance among Australian, Japanese and Pakistani students. *The Journal of Social Psychology*, 120, 163-168.

Odell, P., Korgen, K. & Wang, G. (2005) Cross-racial friendships and social distance between racial groups on a college campus. *Innovative Higher Education*, 29, 291-305.

Ohm, R.M. (1988). *Constructing and reconstructing social distance attitudes*. PhD thesis. Arizona State University, Tempe.

Pettigrew, T.F. (1960). Social distance attitudes of South African students. *Social Forces*, 38, 246-253.

Pettigrew, T.F. (1997). Generalised intergroup effects on prejudice. *Personality and Social Psychology Bulletin*, 23, 173-185.

Pettigrew, T.F. (1998) Intergroup contact theory. *Annual Review Psychology*, 49, 65-85.

Pettigrew, T.F. & Meertens, R.W. (1995). Subtle and blatant prejudice in western Europe. *European Journal of Social Psychology*, 25, 57-75.

Pettigrew, T.F. & Tropp, L.R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90(5), 751-783.

Poore, A.G., Gagne, F., Barlow, K.M., Lydon, J.E. & Taylor, D.M. (2002) Contact and the personal/group discrepancy in an Inuit community. *The Journal of Psychology*, 136, 371-382.

Reich, C. & Purbhoo, M. (1975). The effect of cross-cultural contact. *Canadian Journal of Behavioural Science*, 7, 313-327.

Robinson, J.L. (1980). Physical distance and racial attitudes: A further examination of the contact hypothesis. *Phylon*, 41, 325-332.

Robinson, J.W. & Preston, J.D. (1976) Equal-status contact and modification of racial prejudice: A reexamination of the contact hypothesis. *Social Forces*, 54, 911-924.

Riordan, C. (1978). Equal-status interracial contact: A review and revision of the concept. *International Journal of Intercultural Relations*, 2, 161-185.

Schiappa, E., Gregg, P.B. & Hewes, D.E. (2005) The parasocial contact hypothesis. *Communication Monographs*, 1, 92-115.

Schrieff, L., Tredoux, C., Dixon, J. & Finchilescu, G. (2005) Patterns of racial segregation in university residence dining-halls. *South African Journal of Psychology*, 35(3), 433-443.

Schofield, J.W. (1989). *Black and White in School: Trust, tension or tolerance?* New York: Teachers' College Press.

Siegel, S. & Sheperd, I.L. (1959). An ordered metric measure of social distance. *Sociometry*, 22(4), 336-342.

Sigelman, L. & Welch, S. (1993). The contact hypothesis revisited: Black-White interaction and positive racial attitudes. *Social Forces*, 71, 781-795.

Slavin, R.E. (1983). *Cooperative learning*. New York: Longman.

Slavin, R.E. & Madden, N.A. (1979). Social practices that improve race relations. *American Education Research Journal*, 16, 169-180.

Smith, R.A. & Davis, S.F. (2003). *The psychologist as detective*. New Jersey: Prentice Hall.

Smith, T.B., Stones, C.R. & Naidoo, A. (2003) Racial attitudes among South African young adults: A four year follow-up study. *South African Journal of Psychology*, 33, 39-43.

Spatz, C. & Kardas, E. (2007). *Research methods: Ideas, techniques and reports*. New York: McGraw Hill.

Stephan, C.W. & Stephan, W.G. (1985). Intergroup anxiety. *Journal of Social Issues*, 41, 157-175.

Tendayi Viki, G., Culmer, M.J., Eller, A. & Abrams, D. (2006) Race and willingness to cooperate with the police: The roles of quality contact, attitudes towards the behaviour and subjective norms. *British Journal of Social Psychology*, 45, 285-302.

Tredoux, C., Dixon, J. Underwood, S., Nunez, D. & Finchilescu, G. (2005) Preserving spatial and temporal dimensions in observational data of segregation. *South African Journal of Psychology*, 35(3), 412-432.

Tropp L.R., & Pettigrew, T.F., (2005) Relationships between intergroup contact and prejudice among minority and minority status groups. *American Sociological Society*, 16, 951-957.

Vivian, J., Brown, R. & Hewstone, M. (1995). Changing attitudes through intergroup contact: The effects of group member salience. University of Kent and Cardiff, Wales. Unpublished manuscript.

Weber, R. & Crocker, J. (1983). Cognitive processes in the revision of stereotypic beliefs. *Journal of Personality and Social Psychology*, 45, 961-977.

Weigert, K.M. (1976). Intergroup contact and attitudes about third-group: A survey of Black soldiers' perceptions. *International Journal of Group Tension*, 6, 110-124.

Werth, J.L. & Lord, C. G. (1992) Previous conceptions of the typical group member and the contact hypothesis. *Basic and applied social psychology*, 13, 351-369.

Wilder, D.A. (1984). Intergroup contact: The typical member and the exception to the rule. *Journal of Experimental Social Psychology*, 20, 177-194.

APPENDIX A

Contact Study [Front page]

Dear Participant

Each year we notice shifting friendship patterns in the Honours class. The aim of this study is to investigate systematically how and when friendship patterns change during the year. As an Honours student, we request you to take part in this study. Please note that participation is voluntary – you are not assessed on your participation and you will in no way suffer if you do not participate. We would like to recommend your participation, simply because in June you are going to ask students to participate in your own research. Taking part in our study will provide you with the experience of being a research participant and will sensitise you to what kind of questions to ask and what to avoid.

The information we gather from you will be treated in the strictest confidence. We use electronic questionnaires and request the webmaster to strip all identifiers from the Excel spreadsheet on which your data is saved. We are going to collect data from you at three different times – at the beginning, middle and end of the year. We have to group your data together across time; for this purpose the computer will assign you a code to which the researchers do not have access. The code will serve to group your data, gathered over time, together in one folder.

We have already requested your permission to use your photograph on the electronic data collection tool. Please note that the photograph is simply used to make the study more realistic and when you make choices (drag and drop photographs of fellow students), only the codes for these students will be available to the researchers. In other words, nobody will identify which of your

classmates you selected as the selection will only be indicated by means of a code.

You will notice that you are requested to provide demographic details in this questionnaire. Once again, your responses will remain strictly confidential but these details are essential to the success of the research project as we used them as independent variables.

There are no known risks or dangers associated with this study. The researcher will not attempt to identify you with the responses to your questionnaire, or to name you as a participant in the study, nor will they facilitate anyone else's doing so.

By submitting the questionnaire to the researcher, you acknowledge that you are participating in the study of your own free will.

PROF J LOUW-POTGIETER

Research Project Leader

APPENDIX B

Large Group: Time 1

[web page displaying photographs of the Honours class – no names, no competencies]

Please indicate the type of interaction you have with each of your classmates on this page: [drag and drop Unknowns, pull through to the next page so that only the interactive classmates are displayed]

- Romantic Partner (I am romantically involved with this person)
- Friend (I see this person at least every three months and we do social thing together)
- Acquaintance (I know this person but do not see him/her socially)
- Unknown (I do not know this person and do not see him/her socially)

The screenshot shows a web browser window with a title bar at the top. The main content area contains the following text:

Please indicate the type of interaction you have with each of your classmates on this page:

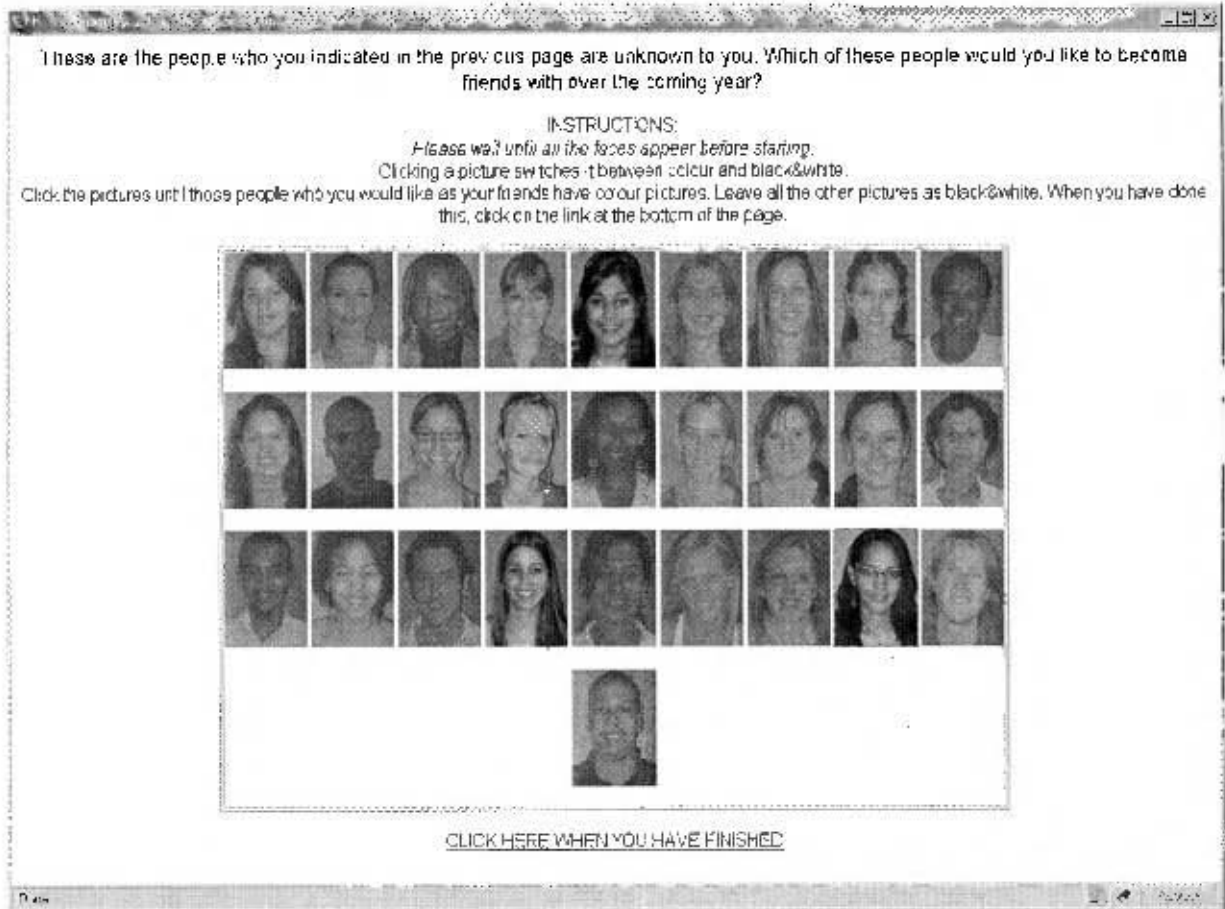
INSTRUCTIONS:
For each person, use the drop-down list to indicate if you consider that person to be
Unknown (I do not know this person and do not see him/her socially)
Acquaintance (I know this person but do not see him/her socially)
Occasional friend (I see this person at least every three months and we do social things together)
Friend (I see this person at least twice a month and we do social things together)
Romantic Partner (I am romantically involved with this person)

Faces of students unknown to you are in black & white - they turn to colour when you mark them as known to you.

When you have marked all the people you know, click on the link at the bottom of the page.

Below the text is a grid of 30 student portraits arranged in 5 rows and 6 columns. Each portrait is in a black and white box with a drop-down menu below it. The drop-down menus are currently set to 'Unknown'. The first row has 6 'Unknown' menus. The second row has 'Occasional friend', 'Unknown', 'Unknown', 'Unknown', 'Occasional friend', and 'Unknown'. The third row has 'Unknown', 'Friend', 'Acquaintance', 'Unknown', 'Unknown', and 'Unknown'. The fourth row has 6 'Unknown' menus. The fifth row has 6 'Unknown' menus.

Who would you like to become friends with?



OTHER INFORMATION

Sometimes not only friendships change, but general opinions also change. Could you please complete the following questions to give us an idea of how you view politics and specific South African groups.

Please mark your political viewpoint on the following continuum.

I would describe my political orientation as [10-point scales with notches]

Conservative _____ | Middle of the road _____ | Left wing _____

First reaction to other groups

Please give your first reaction to every case.

Give your reaction to each group *AS A GROUP*. Do not give your reactions to the best or worst members of that group, but think of the picture that you have of the group as a whole.

Put a cross in as many of the boxes as your first reaction dictates.

How would you feel about having members of the following groups?

	Africans	Coloureds	Indians	Whites
As family by marriage				
As personal friends				
On my street as neighbours				
Working alongside me in my job				

Thank you very much for providing us with this information.

Please note that by submitting this form you acknowledge that you are a voluntary participant in this study.

APPENDIX C

Large Group: Time 2

Vignette (current interactions with classmates):

- Unknown
- Acquaintance
- Occasional friend
- Friend
- Romantic partner

Thank you very much for providing us with this information.

Please note that by submitting this form you acknowledge that you are a voluntary participant in this study.

APPENDIX D

Large Group: Time 3

Vignette (current interactions with class mates):

- **Unknown**
- **Acquaintance**
- **Occasional friend**
- **Friend**
- **Romantic partner**

Vignette (Who would you like to become friends with?)

Political orientation (1 = conservative, 10 = left wing)

Bogardus (social distance), for own and other race (0 = high soc distance, 4 = low soc distance).

Thank you very much for providing us with this information.

Please note that by submitting this form you acknowledge that you are a voluntary participant in this study.

APPENDIX E

Small Group: Time 1

Vignette (You have to form a diverse research group. Please select four other people with whom you would like to do your research this year) [All students are displayed, no names, no competencies]

Follow with this questionnaire (5 point Likert scale):

- How satisfied are with the composition of your research group?
- How confident are you that your research group will produce an acceptable research project?
- How well do you think your research group will work as a group?

Follow up with vignettes [display chosen research group]

- You have to hand in the first draft of your literature review to your supervisor. You need someone with good English writing skills to help you write this review. Which of your team members would you choose?

The screenshot shows a web browser window with the following content:

File://chausky-out-06-Moodle-Franke

Your research group has just been assessed on the literature review you handed to your supervisor. For the next part of the project you have to submit the method section. You need someone with good English writing skills to help you write the method section. Which one of your team members would you choose?

INSTRUCTIONS:
When you select a group member by clicking on his/her picture, the picture changes from black and white to colour. So when you do your selection, please click on a picture and see that it changes to a colour picture.

Four small, square, black and white portrait photographs of people are displayed in a horizontal row.

ONCE YOU ARE SATISFIED WITH YOUR CHOICE, CLICK HERE TO CONTINUE.

- You have to hand in the first draft of your results section. This section requires you to analyse the data you have collected by means of statistical procedures. Which one of your team members would you choose to help you?
- Your group has decided that is going to manage deadlines well – you are going to plan ahead and not do any last minute, through-the-night work. Which one of you team members would you choose to take up the role to help you meet deadlines?

DEMOGRAPHIC VARIABLES

Please indicate the following about yourself:

Gender	Female		Male	
Race	African	Coloured	Indian	White

Thank you very much for providing us with this information.

Please note that by submitting this form you acknowledge that you are a voluntary participant in this study.

APPENDIX F

Small Group: Time 2

- How satisfied are you with the composition of your research group?
- How comfortable do you feel working with this group?
- How confident are you that your research group will produce an acceptable research project?
- How confident are you that your research group will work well together?
- How confident are you that your research group will do well in writing the report?
- How confident are you that your research group will do well in analysing the data from your project?
- How confident are you that your research group will do well in presenting your report at the colloquium?
- Who will emerge as the leader of the group?
- How much influence do you think you will have over the group's decisions and actions?

Vignette 1 (You need someone with good English writing skills to write this review)

Vignette 2 (This section requires you to analyse the data you have collected by means of statistical procedures.)

Vignette 3 (Which one of your team members would you choose to take up the role to help your group meet deadlines?)

Thank you very much for providing us with this information.

Please note that by submitting this form you acknowledge that you are a voluntary participant in this study.

APPENDIX G

Small group: Time 3

- How satisfied are you with the composition of your research group?
- How comfortable do you feel working with this group?
- How confident are you that your research group will produce an acceptable research project?
- How confident are you that your research group will work well together?
- How confident are you that your research group will do well in writing the report?
- How confident are you that your research group will do well in analysing the data from your project?
- How confident are you that your research group will do well in presenting your report at the colloquium?
- Who will be the group leader?
- How much influence will you have over the group?

Vignette 1 (You need someone with good English writing skills to help you write the method section.)

Vignette 2 (This section requires you to analyse the data you have collected by means of statistical procedures.)

Vignette 3 (Which one of your team members would you choose to take up the role to help you meet deadlines?)

Thank you very much for providing us with this information.

Please note that by submitting this form you acknowledge that you are a voluntary participant in this study.